Site Suitability Report
C31XB
Car park, St. George’s Square
Please note:

Further details are provided in the Final Report on Site Selection Process (doc ref: 7.05) that can be found on the Thames Tideway Tunnel section of the Planning Inspectorate’s web site.

Correction:

‘Helsinki Square’ in the title and text should read ‘St. George’s Square’.
Site Suitability Report
C31XB

Car park, Helsinki Square
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<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AOD</td>
<td>above Ordnance Datum</td>
</tr>
<tr>
<td>BAP</td>
<td>Biodiversity Action Plan</td>
</tr>
<tr>
<td>BT</td>
<td>British Telecom</td>
</tr>
<tr>
<td>CPO</td>
<td>compulsory purchase order</td>
</tr>
<tr>
<td>CSO</td>
<td>combined sewer overflow</td>
</tr>
<tr>
<td>DLR</td>
<td>Docklands Light Railway</td>
</tr>
<tr>
<td>EA</td>
<td>Environment Agency</td>
</tr>
<tr>
<td>GLA</td>
<td>Greater London Authority</td>
</tr>
<tr>
<td>HGV</td>
<td>heavy goods vehicle</td>
</tr>
<tr>
<td>LNR</td>
<td>local nature reserve</td>
</tr>
<tr>
<td>LPA</td>
<td>local planning authority</td>
</tr>
<tr>
<td>LU</td>
<td>London Underground</td>
</tr>
<tr>
<td>m</td>
<td>metre/metres</td>
</tr>
<tr>
<td>MOL</td>
<td>Metropolitan Open Land</td>
</tr>
<tr>
<td>ONS</td>
<td>Office of National Statistics</td>
</tr>
<tr>
<td>ORN</td>
<td>Olympic Route Network</td>
</tr>
<tr>
<td>PLA</td>
<td>Port of London Authority</td>
</tr>
<tr>
<td>POS</td>
<td>public open space</td>
</tr>
<tr>
<td>PTAL</td>
<td>public transport accessibility level</td>
</tr>
<tr>
<td>SAM</td>
<td>scheduled ancient monument</td>
</tr>
<tr>
<td>SINC</td>
<td>site of importance for nature conservation</td>
</tr>
<tr>
<td>SNCI</td>
<td>site(s) of nature conservation importance</td>
</tr>
<tr>
<td>SSR</td>
<td>site suitability report</td>
</tr>
<tr>
<td>SSSI</td>
<td>site(s) of special scientific interest</td>
</tr>
<tr>
<td>SuDS</td>
<td>sustainable urban drainage systems</td>
</tr>
<tr>
<td>TfL</td>
<td>Transport for London</td>
</tr>
<tr>
<td>TD</td>
<td>tunnel datum</td>
</tr>
<tr>
<td>TLRN</td>
<td>Transport for London Road Network</td>
</tr>
<tr>
<td>TPA</td>
<td>Thames Policy Area</td>
</tr>
<tr>
<td>UDP</td>
<td>unitary development plan</td>
</tr>
<tr>
<td>UXO</td>
<td>unexploded ordnance</td>
</tr>
</tbody>
</table>
1 INTRODUCTION

1.1 Purpose and structure of the report
1.1.1 The Site Selection Methodology (May 2009) paper (paragraphs 2.3.29 - 2.3.34) outlines the process to be used to create the preferred list of shaft sites, and this process also applies to CSO sites. Paragraph 2.3.31 lists the type of general considerations that will be addressed in each site suitability report, but they depend on the relevance to the site and professional judgement made in the assessments.

1.1.2 This report was prepared through the assessment of information from the perspective of a number of technical disciplines: Engineering, Planning, Environment, Property and Community. The reports have been prepared on the basis of the information listed in Appendix 1 - Sources of Information, and this level of information is considered to be appropriate to the current stage.

1.1.3 The Background Technical Paper provides information on the requirements for different site types, their sizes and typical activities/facilities within the sites.

1.1.4 Each site suitability report considers a particular site on its own merits. In addition, an engineering options report was produced. Information from both of these reports will feed into the technical assessment of how well the site may fit in with tunnel design options, ensuring combinations of sites spread across the length of the tunnel route provide a reasonable spatial distribution of sites (that will best assist with the construction of the tunnel, operation and maintenance). This is considered in the Preferred Scheme Report.

1.2 Background
1.2.1 The process for selecting sites is set out in the Site Selection Methodology (May 2009) paper. All sites have previously passed through the following parts of Stage 1:

- Part 1A - Creation of the long list of potential shaft (and CSO) sites
- Part 1B - Creation of a short list of potential shaft (and CSO) sites
  - Table 2.2: Long list of shaft (and CSO) sites - an assessment against set considerations and values
  - Table 2.3: Draft short list of shaft (and CSO) sites - assessment against a list of detailed considerations
  - Workshops to consider each site to arrive at a short list of sites.

1.2.2 The final part of Stage 1 includes this report. The following is an overall summary of all elements that apply to all the sites on the final short list:

- Part 1C - Creation of the Preferred List of shaft (and CSO) sites - site data, site visits, site suitability reports, engineering options report and optioneering workshops that will result in the Preferred Scheme Report.

1.3 Consultation
1.3.1 The Thames Water project team held meetings with London local authorities, statutory and other stakeholders to review the provisional short list of shaft and CSO sites. All general and site specific comments can be found in a separate report titled Consultation on the Short List of Sites: Consultation Feedback Report. These comments were considered to help determine the final short list of sites, but they were also considered at the optioneering workshops.

1.3.2 Further meetings were held with London local authorities, statutory and other stakeholders between January and March 2010. Comments are included in this report.
2 SITE INFORMATION

2.1 Site and surroundings

2.1.1 This site is one of the shortlisted sites for Earl Pumping Station CSO. This section provides an overview of all the site information that will be used by one or more disciplines to assess the site in sections 3 to 9 of this report.

2.1.2 The site C31XB is a parking and seating area known as St George's Square. It is located on the waterfront in the London Borough of Lewisham, adjoining the boundary with the London Borough of Southwark. It is roughly square in shape and is accessed by Helsinki Square and Enterprize Way. A site location plan is attached as Appendix 2.

2.1.3 The site is mainly block-paved, containing walkways with seating and mature trees. There is a path on the bank of the Thames, and parking areas with access roads along the northern and southern edges of the site.

2.1.4 A boatyard is adjacent to the northern site boundary, screened by mature trees. The site's immediate surroundings are predominantly residential: three-storey flats lie to the south of the site and three-storey houses to the west.

2.1.5 The site bounds the River Thames to the east and the Thames Path runs along its eastern boundary.

2.1.6 The site is within a number of Lewisham Unitary Development Plan (2004) designated areas, including the Thameside Policy Area and an archaeological priority area. All the mapped designations are shown on the planning and environment plans in Appendix 3.

2.1.7 Photographs of the site and surroundings, together with an aerial photograph of the site, are attached as Appendix 4.

2.1.8 The site is 2.7km from the TLRN A200, Lower Road. The access route is via Plough Way, which has traffic calming in the form of sleeping policemen. The nearest passenger railway station, South Bermondsey, is located 2.3km from the site. The nearest LU station, Canada Water, is 1.9km and the nearest DLR Station, Cutty Sark, is 3.8km away. Therefore, none of the public transport routes can be classed as local. There are no existing wharfage/jetty facilities at the site. A transport plan for the site is attached as Appendix 5.

2.1.9 Third-party assets and significant utilities are listed below and are shown on the services and geology plan in Appendix 6:

- River wall to the east
- Earl Storm Outlet runs through the north side of the site to a discharge point in the river. This is a 2.74m diameter pipe which changes to twin 1.52 x 0.91m box culverts at the outfall. At the point of change, there is a manhole chamber. This is the sewer to be connected to the shaft.
- There are two- and three-storey apartment blocks to the south and west of the site.

2.1.10 The locations of other third-party assets, such as BT and fibre optic communication cables, are to be confirmed by further studies and utility searches and may not be shown on the services and geology plan.

2.1.11 Information on the geology specific to this site can be found within the services and geology plan, which is in Appendix 6. This plan shows that the shaft would be founded in the Chalk.

2.2 Type of site

2.2.1 The site C31XB is being considered as a CSO site to intercept the Earl Pumping Station CSO (CS31X).
3 PROPOSED USE OF SITE – CONSTRUCTION PHASE

3.1.1 The proposed construction phase layouts for the CSO site are located in Appendix 7 – Construction Phase Layout, and are based on a preliminary assessment.

3.1.2 The construction phase layout drawings are illustrative and show:
- the layout as a CSO site
- potential access point.

3.1.3 These drawings provide initial preliminary schematic layouts that have not been optimised. If the site proceeds to the next stage as a preferred site, construction phase layouts would be optimised to minimise impacts.

3.1.4 Photographs of typical activities associated with the CSO site construction phase are provided in Appendix 7. Potential above ground construction features include:
- approximately 3m high hoarding around the site boundary
- welfare facilities, temporary structures, approximately 3m high
- grout plant, approximately 3m to 5m high, including silos
- mobile crane, approximately 30m high (maximum and not for full construction duration).

3.1.5 Preliminary data associated with the construction phase are provided in Table 3.1.

<table>
<thead>
<tr>
<th>Activity</th>
<th>CSO site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of construction period</td>
<td>0.5 to 2 years</td>
</tr>
<tr>
<td>Likely working hours, ie, (night/day/weekend)</td>
<td>12 hrs from 7am to 7pm</td>
</tr>
<tr>
<td>Working days</td>
<td>Mon to Sat</td>
</tr>
<tr>
<td>Primary means of transporting excavated material away from site</td>
<td>Road*</td>
</tr>
<tr>
<td>Primary means of transporting materials to site</td>
<td>Road*</td>
</tr>
</tbody>
</table>

* There may be feasible opportunities to use barge transport for this site.

4 PROPOSED USE OF SITE – OPERATIONAL PHASE

4.1 Introduction

4.1.1 The indicative operational phase layout for the CSO site is located in Appendix 8 – Operational Phase Layout, and is based on a preliminary assessment.

4.1.2 The generic elevations of structures shown on the operational phase layout are located in Appendix 8 and provide an illustration of typical examples of the permanent structures which are applicable to CSO sites.

4.1.3 The above ground infrastructure at this site is likely to comprise a ventilation column 10m\(^a\) high and 3m diameter, a ventilation building 5m x 15m x 5m high and a 20m x 10m top structure with openings. The top structure is to provide access and egress into the main shaft and flap valve chamber.

\(a\) It was anticipated that the ventilation column at shaft sites would be 10m high when the assessment in this report was undertaken. Although this was subsequently changed to 15m high, the assessment was not revised as it was considered that the difference would not change any discipline’s conclusion on the suitability of the site.
4.1.4 The top structures are envisaged to be finished at a level of 107m<sup>b</sup> tunnel datum (TD) (7mAOD), and since the ground level mean value at this site is 104mTD (4mAOD), the top structures would be raised to approximately 3m above the current ground level. For further information on the generic layout of this top structure, refer to Appendix 8.

4.1.5 A hardstanding would be provided to the top structures. The site would not be fenced.

4.1.6 Preliminary data associated with the operational phase are provided in Table 4.1.

<table>
<thead>
<tr>
<th>Table 4.1 Operational phase data</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of inspections and maintenance and likely working hours, ie. (night/day/weekend) - frequency of visits</strong></td>
</tr>
<tr>
<td><strong>No of traffic movements</strong></td>
</tr>
</tbody>
</table>

4.2 Restoration and after-use

4.2.1 The portion of the site not occupied by the permanent works would be restored to its original condition on completion of the construction works. If any buildings were demolished, these would not be reinstated unless required.

5 ENGINEERING ASSESSMENT

5.1 Access

5.1.1 This section should be read in conjunction with Section 7.2.

Road

5.1.2 There would be road access to the site via Plough Way, which has traffic calming measures installed. Plough Way is off the TLRN A200 Lower Road.

5.1.3 For both the construction and operational phases, access to the site would be directly from Plough Way.

Rail

5.1.4 There is no rail network local to this site. However, rail access is not considered to be a significant factor for CSO sites.

River

5.1.5 River access and jetty/wharfage facilities are not a requirement for CSO sites. However, as the site is adjacent to the foreshore, there may be feasible opportunities to use barge transport.

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<sup>b</sup> It was anticipated that the elevation of top structures at both CSO and shaft sites would be finished at 107mTD when the assessment in this report was undertaken. Although this was subsequently changed to 104.5mTD, the assessment was not revised as it was considered that the difference would not change any discipline’s conclusion on the suitability of the site.
5.2 Construction works considerations

5.2.1 No demolition would be required.

5.2.2 Data available on third-party assets and significant utilities show that the main items of concern in this area are the Earl Storm Outlet which runs through the site, the buildings around St George’s Square and the river wall. Construction methods would be adopted, as appropriate, to mitigate potential settlement of these assets.

5.2.3 It is likely that the proposed works can be constructed within the overall construction programme.

5.2.4 The interception chamber and connection culvert to the drop shaft would both be within the site and therefore require no additional consideration.

5.3 Permanent works considerations

5.3.1 The top structures to the drop shaft and flap valve chamber would be 2m above ground level.

5.4 Health and safety

5.4.1 There are no unusual health and safety issues with this site.

6 PLANNING ASSESSMENT

6.1 Introduction

6.1.1 The planning assessment builds on the advantages and disadvantages reported in Table 2.3 and covers the following areas:

- Planning applications and permissions
- Planning context
- Planning comments.

6.2 Planning applications and permissions

6.2.1 An initial desktop search of the London Borough of Lewisham online planning applications database did not identify any planning applications submitted within the last five years applicable to the site.

6.3 Planning context

6.3.1 The following is a summary of the relevant local planning policies and designations affecting the site and are taken from the current statutory development plans for the boroughs of Lewisham and Southwark. The local plans comprise the policies from the Lewisham Unitary Development Plan, adopted July 2004, and the Southwark Unitary Development Plan, adopted July 2007.

6.3.2 The site is within a wider area of archaeological priority.

6.3.3 Policy URB21, Archaeology, states that the council will promote the conservation, protection and enhancement of the archaeological heritage of the borough and its interpretation and presentation to the public.

6.3.4 The site is located within the Thames Policy Area.

6.3.5 Policy URB24, Thames Policy Area, states that the council will seek a high quality of design respecting the special character of the river within the designated Thames Policy Area shown on the proposals map. Proposals which involve encroachment into the River Thames and its foreshore will be resisted. Thameside proposals should examine opportunities to retreat the flood defence to increase flood storage, wildlife and aesthetic value and visual connections with the river.
6.3.6 The site is located within a strategic wider viewing corridor.

6.3.7 Policy URB23, *Strategic Views*, seeks to protect and enhance the strategic views of St Paul’s Cathedral illustrated on the proposals map, stating the council will protect and enhance the foreground, background and wider setting of the strategic views of St Paul’s.

6.3.8 The site is adjacent to Development Site 12 to the west, which is included in the council’s proposals, in Schedule 1 of the UDP.

6.3.9 The site, listed in Schedule 1 as St George’s Square/Plough Way Grove Street, and which is 0.68 hectare in size, is proposed for B1 Employment, hotels and live/work units.

6.3.10 Policy URB1, *Development Sites and Key Development Sites*, states the council has identified, in the proposals schedule and proposals map, the larger sites which it wishes to see developed. The schedule indicated the uses that the council considers appropriate on these sites. Other uses may also be appropriate, and will be considered against the other policies in this plan.

6.3.11 The site is adjacent to the River Thames, a designated site of nature conservation importance and special character area.

6.3.12 Policy OS12, *Nature Conservation and Designated Sites*, states that development on or within the sites of nature conservation importance, identified as sites of metropolitan, borough or local nature conservation importance by the London Ecology Unit, will not be permitted if it is likely to destroy, damage or adversely affect the protected environment.

6.3.13 Policy OS13, *Nature Conservation* – the council will have regard to the nature conservation value of all sites in the borough that are proposed to be developed and seek to protect and enhance these, either through the imposition of planning conditions or through ensuring alternative equivalent new habitat provision nearby. Development proposals for these sites should be accompanied by an environmental appraisal, including methods of mitigation and proposals for compensation.

6.3.14 The site is adjacent to an area of special character.

6.3.15 Policy URB27, *Areas of Special Character*, states that the council will continue to maintain and enhance the strategic qualities of the designated areas of special character by resisting development proposals which are detrimental to the character of the areas.

6.3.16 The Thames Path runs along the eastern boundary of the site.

6.3.17 Policy URB25, *Thames Footpath*, supports the concept of a continuous Thames Path as part of the Thames National Trail. Opportunities should be taken when and if they arise to realign the Thames Path onto the river front, providing there are no conflicts with river-related operations. Provision should be made, where possible, for both pedestrians and cyclists.

6.3.18 The site is in close proximity to residential properties.

6.3.19 Policies HSG4, ENV.PRO9 and ENV.PRO11 all seek to safeguard the amenity of existing residential uses by, among other things, resisting incompatible development and reducing the effects of nuisance, including that arising from noise and pollution.

6.3.20 The overarching policies according to Southwark UDP are listed below.

6.3.21 The site is in close proximity to residential properties.

6.3.22 Policy 3.2, *Protection of Amenity*, states that planning permission for development will not be granted where it would cause loss of amenity, including disturbance from noise, to present and future occupants in the surrounding area or on the application site.

6.3.23 The site is adjacent to an urban density zone.

6.3.24 Policy 4.1, *Density of residential development*, states that residential density will be expected to comply with the following ranges, taking into account the quantity and impact of any non-residential uses.

6.3.25 The site is adjacent to a proposals site, with ‘uses required’ of a boatyard and ‘other acceptable uses’ listed as A1, A3, A4 and a laundrette, with ‘no other uses allowed’ stated.
6.3.26 Strategic Policy 20, states the uses required within the proposals map schedule (Appendix 3) must be included within any development on sites designated on the proposals map. Planning permission may be granted for other acceptable uses within this schedule, provided that development for the uses required is, has been, or is thereby, secured. Temporary planning permission may be granted to allow good use to be made of a vacant site prior to the commencement of a permanent scheme.

6.3.27 The site is partly within the wider Thames Special Policy Area, within which special controls of developments adjacent to the riverside will be imposed in order to enhance the character of the area and ensure continued and improved access to the river.

6.3.28 Policy 3.29, Development within the Thames Policy Area, states all developments within the Thames Policy Area must reflect the strategic importance of the River Thames and its hinterland, protecting and enhancing the area. Proposals that will have an adverse impact on the Thames and/or the Thameside area, or adversely impact on the character of the Thameside area, will not be acceptable.

6.3.29 The site is adjacent to the wider Borough, Bermondsey and Rivers Archaeological Priority Zone (Site reference: 1A, Appendix 8: Archaeological Priority Areas Schedule, of the Southwark Unitary Development Plan, 2007).

6.3.30 Policy 3.19, Archaeology, requires that planning applications in such sites will include an archaeological assessment and evaluation of the impact of the development. There may subsequently be a requirement for preservation in situ or, where the development is deemed necessary, conditions to secure the excavation and recording of remains before development begins.

6.3.31 The site is located partly within a wider air quality management area.

6.3.32 Policy 3.6, Air Quality, states that planning permission will not be granted for development that would lead to a reduction in air quality.

6.4 Consultation comments

6.4.1 A series of consultations on the shortlisted sites were held with London local authorities, statutory and other pan-London stakeholders during July to September 2009 and January to March 2010. This section summarises factual comments that have been made by consultees, and which have informed the SSR assessments.

London Borough of Southwark

6.4.2 No comment.

English Heritage

6.4.3 No comment.

Environment Agency

6.4.4 No comment.

Port of London Authority

6.4.5 No comment.

Transport for London

6.4.6 No comment.

Other statutory consultees

6.4.7 No comment.
6.5  **Planning comments**

6.5.1  There are several planning designations and policies that are applicable both on and adjacent to the sites. These designations and policies have been identified and described in Section 6.3. Those relating to archaeology, riverside views, nature conservation, residential amenity and adjacent development sites to the west and to the north are of the most relevance to the proposed development.

6.5.2  The site is partly located within a wider air quality management area. Policy 3.6 seeks to prevent development that would lead to a reduction in air quality. Mitigation would be required to ensure the construction works do not lead to a reduction in air quality within the designated area, in accordance with Policy 3.6. A further assessment on this consideration has been made in Section 7.

6.5.3  The proposal site is adjacent to the River Thames, a designated site of importance for nature conservation. This is a general designation, covering the entire River Thames. The purpose of the Thames Tunnel Project is to improve the overall environmental condition of the river which, among other gains, will promote biodiversity. Construction activity adjacent to the river, with the appropriate level of mitigation, is considered unlikely to adversely impact upon or conflict with the aims of this designation. However, a fuller assessment of the likely impact on the immediate location is included in Section 7.

6.5.4  Plant machinery and screening boards required during construction are likely to obscure some views of the river. There may also be reduced access along the river frontage throughout the construction period. This would be contrary to the aims of the Thames Policy Area and would require mitigation.

6.5.5  The site falls within a designated archaeology priority zone. The appropriate level of site investigation should be agreed with the LPA, in accordance with policies URB21 and 3.19. Further appraisal of the archaeological potential on the site is provided in Section 7.

6.5.6  The construction works and remaining onsite after-use structures should not be of a height or scale to result in overly prominent development, in terms of obstructing the strategic viewing corridor of St Paul's Cathedral.

6.5.7  The South Dock Marina boatyard is located to the northwest of the site, and is allocated as a strategic policy proposals site for uses associated with a boatyard and/or other uses within classes A1, A3 and A4. The current status of the redevelopment of the site is uncertain at this stage, since there are no records of planning applications submitted for the site. However, it is unlikely that use of the foreshore would have an unacceptable impact on this land allocation.

6.5.8  The site is adjacent to Development Site 12 to the west, which is included in the council’s proposals in Schedule 1 of the UDP. As before, the status of the development is uncertain at this stage and the use of the site for the Thames Tunnel Project would require further consideration and mitigation to reduce potential visual impacts.

6.5.9  The nearest residential properties are adjacent to the southern boundary of the site and are located approximately 5m from the main working area. This separation distance is unlikely to be considered sufficient to safeguard against impacts on residential amenity and significant mitigation of noise, dust and traffic movements would be required in order to comply with policies HSG4, ENV.PRO9, ENV.PRO11 and 3.2. The hours of operation of the construction works may also be restricted to those normally operated within residential areas, which are typically 8am to 6pm during weekdays, 9am to 1pm on Saturdays and not at all on Sundays.

6.5.10  The Thames Path runs along the eastern boundary of the site, but this route could potentially be redirected to minimise any potential adverse impacts.

7  **ENVIRONMENTAL APPRAISAL**

7.1  **Introduction**

7.1.1  The following sections summarise specialist assessments which are provided in Appendix 9 – Environmental Appraisal Tables.
7.2 Transport

7.2.1 The site is suitable, utilising an existing access for the car park in St George's Square. Use of the site would require the temporary closure of the car park, and the CSO drop shaft would result in the permanent loss of several car parking spaces within the car park. However, alternative parking is available along surrounding roads. The site's interception chamber would result in the diversion of a footpath around the site. A potential road access route to the TLRN (A200) is possible. However, the route contains some traffic calming (speed cushions) and passes through a residential area. An access route to the old London Bridge rail site is also possible, requiring the removal of a raised crossing on St James's Road, and a means of transporting material to the railway would also need to be provided. However, the use of rail transport is unlikely to be required due to the small volumes of excavated material produced by a CSO site. The site is close enough to the river for barge access, although this is not essential for a CSO site. Public transport access for the workforce is limited. Some parking could be provided onsite for the workforce and informal parking on surrounding roads is also available.

7.3 Archaeology

7.3.1 The site is suitable although, due to a lack of previous investigations in the area, the nature and extent of archaeological receptors cannot be confidently predicted. No archaeological receptors within the site have been identified using available information. However, it is possible that archaeological receptors of high or medium value could be present on or near the site. While no direct evidence has been revealed, peat deposits containing archaeological material may be present at depth. These have been commonly recorded throughout London in a similar proximity to the Thames. Given the location of the site and wider evidence for historical occupation along the river, it is a reasonable assumption to suggest that waterlogged remains of archaeological value may be present.

7.4 Built heritage and townscape

7.4.1 This site is suitable because it would result in relatively few impacts upon the built historic environment and although there is the potential for impacts upon the character of the local townscape and the River Thames and its frontage, these could be mitigated. Potential impacts upon the setting of three Grade II listed structures could also be mitigated through the implementation of a high-quality scheme design and/or screening, while impacts upon the character of the local townscape and the River Thames and its frontage could be mitigated through appropriate design details, screening and an integrated landscape scheme. Such mitigation could also enhance the townscape character of the site and its permanent visual amenity.

7.5 Water resources – hydrogeology and surface water

7.5.1 In terms of hydrogeology, this site is suitable because although the construction of the drop shaft would take place within Chalk (major aquifer), the site does not lie within the 400-day capture zone of licensed abstractions. No long-term impact on the Chalk aquifer is expected, although dewatering of the Chalk and Thanet Sand would be required during the construction phase. The Chalk piezometric head is likely to be approximately 37m above the base of construction and should be taken into account in the engineering design. The superficial deposits are alluvium, which is classified as a minor aquifer at the shaft site. There would be a limited impact on flow in the shallow aquifer due to sheet piling.

7.5.2 In terms of surface water resources, this site is suitable because there is no direct pathway to the River Thames for pollution. However, standard mitigation would be required.

7.6 Ecology

7.6.1 This site is suitable, as it presents no evident ecological constraints.
7.7 Flood risk

7.7.1 This site is less suitable because although it is defended from flooding from the River Thames (to the one in 1,000-year flood level), there is limited space for SuDS and the geology is unlikely to be suitable for infiltration SuDS.

7.8 Air quality

7.8.1 This site is less suitable as there is potential for fugitive emissions of dust during construction to have a perceptible impact at residential properties in close proximity. These impacts can be minimised with standard dust control measures. There is potential for HGV movements on the local road network to cause localised air quality impacts in areas of already poor air quality. This can, to some extent, be mitigated by minimising the movement of HGVs during peak hours.

7.9 Noise

7.9.1 This site is less suitable due to the short distances to the nearest residential receptors, which are also relatively high density. The number of vehicles associated with the construction phase is anticipated to be considerably high and is therefore likely to cause an adverse noise impact to properties located on Plough Way. Perimeter hoarding would reduce potential noise impact but would be relatively ineffective at shielding noise from the upper floor properties at the nearest residential dwellings.

7.10 Land quality

7.10.1 The site is considered less suitable, based on the moderate potential for contamination of the site to have occurred, specifically from wharf and railway operations located onsite and metal casting (foundry) operations in the vicinity. This potentially poses a risk to construction workers and adjacent human receptors through direct contact and inhalation exposure pathways, as well as a risk from ground gas. Additionally, the potential exists for contaminants to be drawn to the deeper Chalk aquifer and for migration to surface water receptors to occur through shallow groundwater transport.

8 SOCIO-ECONOMIC AND COMMUNITY ASSESSMENT

8.1 Socio-economic profile

8.1.1 The site is within the Surrey Docks ward of Lewisham. Statistics from the Office of National Statistics (ONS) 2001 Census data show the following indicators for the ward, in comparison to the rest of Lewisham, London and England as a whole:

- Higher rate of economically active, aged people that are full-time employees, with a corresponding lower proportion of unemployed people.
- A higher proportion having achieved Level 4 or 5 educational qualifications and a corresponding high proportion of people in managerial or professional occupations.
- A higher proportion of privately rented households.
- A higher proportion of people aged between 20 and 44.
- A high proportion of people born in the UK and a higher proportion of white British people compared to the borough or London.

8.1.2 These statistics indicate people in this area are mostly highly educated, working professionals.

8.2 Issues and impacts

8.2.1 Due to the proposed location of the engineering works for a CSO site, it seems likely that the greatest impact from a community perspective would be the temporary loss of the square as an area of public open space and parking.
8.2.2 The square is due to undergo improvement works. This suggests that it may not be well-used by the community at present. The site visit confirms that there were very few people there at the time of visiting.

8.2.3 There would, however, be a loss of parking space through the use of the square, which is likely to affect local residents as the site visit confirms these parking spaces are used by residents.

8.2.4 The Thames Path runs adjacent to the east of the site and is likely to be affected by the use of the site.

8.2.5 The local residents adjacent to the south and southwest of the site are likely to be affected by the noise and visual disturbance from the site, even though the engineering works are located at the opposite side of the site. The tower block further south of the site is likely to have some flats overlooking the site.

8.2.6 The boatyard may be affected by the noise from the site and could be more significantly affected if access to and from the river is affected.

9 PROPERTY ASSESSMENT

9.1 Introduction

9.1.1 The site under consideration for a CSO site is a public square known as St George's Square, situated in-between residential flats and houses immediately to the south and a boatyard to the north.

9.1.2 The site and surrounding area was visited by Lambert Smith Hampton on 28th July 2009. The site is adjacent to the river foreshore.

9.1.3 From the land referencing exercise carried out by Mouchel, the owner of site C31XB is unknown but believed to be the local authority.

9.1.4 Planning enquiries reveal no recent planning history.

9.2 Crown Land and Special Land comments

9.2.1 The site is adjacent to the River Thames and comprises a public square including areas of public highway, and is likely to be Special Land for the purposes of Section 17 of the Acquisition of Land Act 1981. Access is from a public highway, Enterprize Way and Calypso Way. Prior to selection of the site, the responsible authorities would need to be consulted in order to establish whether or not there are any fundamental issues arising which may prejudice the practicability of using the land. With the co-operation of the relevant authority, there should be no risk to the project. However, acquisition of the site may involve a special ministerial procedure, with the possibility of delay.

9.2.2 The land is public open space and is therefore likely to be designated as Special Land under Section 19 of the 1981 Act. If this is the case and an acquisition cannot be agreed, a special parliamentary procedure may be required before a Compulsory Purchase Order is confirmed. On account of the temporary nature of the majority of the area required, it is not anticipated there would be difficulties arising from this procedure but the project should ensure the working site is located as far as possible from the residential properties, while maintaining public access to the river walk and to residents’ parking areas.

9.3 Land to be acquired

9.3.1 The compensation assessment assumes that the worksite and access to it would be acquired temporarily, via the acquisition of new rights for the period of the works stated in the engineering section above. At the end of the works, a smaller area would need to be acquired permanently.

9.3.2 Based on the engineering drawings included in the appendices to this report, use of the site for a CSO would require the majority of site C31XB during the construction phase and, after completion of the project, a smaller area of approximately 12m x 15m would be required.
permanently in the eastern part of the site, with a permanent access leading from Calypso Way.

9.3.3 The site is currently accessible from the public highway and therefore no allowance has been made in the assessment of acquisition cost for rights of way or easements.

9.4 Property valuation comments

9.4.1 Compensation for the acquisition of new rights is normally based on the diminution in value to the land caused by the acquisition. Compensation for the permanent acquisition of land is normally based on market value. However, compensation for the permanent acquisition of unusual types of property, where there is no general market, can be assessed on the basis of the cost of equivalent reinstatement at a new site, but there must be a genuine intention to reinstate.

9.4.2 If compensation is assessed on a diminution in value basis for the new rights (temporary occupation during works, access rights during works, access rights for operational purposes) and on a market value basis for the permanent acquisition, the costs are likely to be relatively low and therefore acceptable.

9.4.3 If compensation is assessed on an equivalent reinstatement basis, then the acquisition costs would be significantly higher, but still acceptable.

9.4.4 The market value for this site would be relatively low, given that it is a public square including parking spaces. An allowance has been made for the potential cost of providing alternative facilities during the construction phase and the permanent loss of a small number of parking spaces.

9.5 Disturbance compensation comments

9.5.1 There is no sign of any permanent occupation of the site but there are parking spaces around the square. The current assumption is that the extent of any disturbance would be limited and that any such costs would not exceed acceptable levels.

9.6 Offsite statutory compensation comments

9.6.1 The public square overlooks the River Thames and is adjacent to the foreshore. The square is overlooked by a mixture of flats and houses, and site access is from Calypso Way. The access route would need careful consideration and every effort should be made to mitigate the effects of such a major construction site by controlling, as far as possible, noise, dust, lighting, etc. Use of the adjacent public highway would also require careful planning because although Enterprize Way and Calypso Way are both very quiet residential streets, they are the main access roads for the immediate locality.

9.6.2 The risk of significant statutory claims being established under either Part 1 of the Land Compensation Act 1973 or Section 10 of the Compulsory Purchase Act 1965 as a direct result of this site being selected is considered to be low.

9.7 Site acquisition cost assessment

9.7.1 The acquisition cost is considered to be acceptable. Further investigation as to ownership and any occupation and use of the site would be necessary in order to establish the disturbance costs element of the compensation payable.

10 SITE CONCLUSIONS BY DISCIPLINE

10.1 Introduction

10.1.1 The conclusions presented in this section are drawn from each discipline’s assessment, and are designed to inform the workshop where a final conclusion on whether the site moves forward as one of the preferred sites or not.
10.2 Engineering
10.2.1 The site is suitable as a CSO site as it would be of adequate size and would have good road access.

10.2.2 Whether a CSO site of this size would be appropriate or not for the interception of the Earl Pumping Station CSO would be considered at the next stage, in conjunction with the drive strategy developed in the Engineering Options Report.

10.3 Planning
10.3.1 On balance, the site is considered less suitable as a CSO site.

10.3.2 It is considered that a high level of appropriate mitigation may be required to avoid unacceptable impacts, particularly on air quality and residential amenity.

10.4 Environment
10.4.1 Overall, the site is assessed as suitable for use as a CSO site.

10.4.2 The site is suitable from the perspectives of transport, archaeology, built heritage and townscape, water resources (hydrogeology and surface water) and ecology.

10.4.3 The site is less suitable from the perspectives of flood risk, air quality, noise and land quality.

10.4.4 Overall, the site is considered suitable, subject to further investigation of whether flood risk, air quality, noise and land quality impacts as well as townscape and hydrogeology impacts could be adequately mitigated. Likely mitigation considerations include the following:

- **Townscape** – a high-quality scheme design and/or screening would be required to protect the character of the area, including local views.
- **Hydrogeology** – dewatering would be required during the construction phase.
- **Flood Risk** – further investigation to establish the suitability of the site for infiltration SuDS.
- **Air quality** – minimising the movement of HGVs during peak hours may be required to mitigate local air quality impacts.
- **Noise** – perimeter hoarding would reduce potential noise impact but would be relatively ineffective at shielding noise from the upper floor properties at the nearest residential dwellings.
- **Land Quality** – any required remediation of contamination (at this moderate risk site) and/or measures to ensure no mobilisation of contaminants retained in situ.

10.5 Socio-economic and community
10.5.1 From a community impacts perspective, this site appears suitable for use as a CSO site. However, use of the site may impact on local residents through the increase of noise and visual disturbance from the works. The potential loss of trees that previously screened the boatyard from the residential properties may increase the level of disturbance on the residential blocks. Mitigation may involve discussions around minimising disturbance and restricting site working hours, as well as screening of the site from the adjacent dwellings. Mitigation may also be required to ensure there is still a link to the Thames Path and ensure users of the path are screened from the works.

10.5.2 As the square is due for renovation, appropriate mitigation may involve discussions around incorporating the refurbishment works to ensure the square is left in an improved condition after use of the site.

10.5.3 The boatyard may be affected by the noise from the site and, potentially, access to and from the river. Mitigation may involve discussions around maintaining access to the river.
10.6 Property

10.6.1 The site is considered suitable for use as a CSO site at acceptable acquisition cost, given that it is a public square.

10.6.2 The site is likely to be Special Land and there is therefore a risk that acquisition may require special parliamentary procedures, with the possibility of delay to the programme.
APPENDIX 1 – SOURCES OF INFORMATION

Engineering

- Traffic Management and Access Roads/Rail – Scott Wilson
- Access River – BMT
- Third Parties (Shafts/CSOs) – Mott MacDonald and AECOM
- Geology – Thames Water
- Utilities – Thames Water and AECOM
- Construction and Operational Layout Template – London Tideway Tunnels
- Background Technical Paper – London Tideway Tunnels

Planning

- London Borough of Lewisham online planning applications database

Environment

Transport

- Map of Transport for London Road Network (TLRN) - www.tfl.gov.uk
- Bus Route Maps: North-east, north-west, south-west, south-east - www.tfl.gov.uk
- Crossrail Plans - www.crossrail.co.uk/crossrail-bill-documents
- PTAL scores - Obtained from Table 2.3 information
- Thames Path map - www.walklondon.org.uk
- Capital Ring - www.walklondon.org.uk
- The Lea Valley Walk - www.walklondon.org.uk
- Cycle Routes - www.sustrans.org.uk and Local Cycling Guides, 1-14
- Design Manual for Roads and Bridge TD 42/95, Highways Agency

Built heritage and townscape

- Wandsworth List of Locally Listed Buildings
- Hammersmith and Fulham list of Conservation Areas
- Hammersmith and Borough list of Open Spaces
- Greenwich List of Locally Listed Buildings
- Newham List of Locally Listed Buildings
- Westminster Open Spaces Strategy
- Southwark list of Conservation Areas
- National Monuments Record - for some additional information regarding registered historic parks and gardens
- Unitary development plans
- Local authority websites
- Bing maps
**Water Resources – hydrogeology and surface water**
- Environment Agency abstraction licence details
- Environment Agency groundwater levels
- Local authority details of unlicensed abstractors
- Envirocheck

**Ecology**
- Richmond upon Thames Habitat Action Plan for the Tidal Thames
- Multi-Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk - statutory designated sites
- London Wildweb - http://wildweb.london.gov.uk - non-statutory site of importance for nature conservation
- National Biodiversity Network - http://searchnbn.net - distribution of protected species
- Google Maps - aerial views of habitat features
- BAP habitats - www.natureonthemap.org.uk
- Priority habitats and species on national and local scales - www.ukbap.org.uk

**Flood risk**
- Envirocheck

**Air quality**
- Local authority websites
- www.londonair.org.uk/london/asp/default.asp?la_id=&showbulletins=&width=1680
- www.airquality.co.uk

**Noise**
- Envirocheck - Identification of receptors
- Promap - Calculation of distances between site and receptors
- Multimap - Aerial photography – www.multimap.co.uk
- Defra noise maps - Identification of existing noise levels
**Land quality**
- Google Maps/Earth
- Site walkover information

**Socio-economic and community**
- Statistics from the Office of National Statistics (ONS) 2001 Census data
- Lewisham Strategic Partnership - www.lewishamstrategicpartnership.org.uk/partnerships.asp
- Pepys Community Forum - www.urbandesigncompendium.co.uk/thepepyscommunityforum
- St George’s Square Improvements - www.lewishamhomes.org.uk/editpics/1344-1.pdf

**Property**
- Site visit
- Promap, Ordnance Survey and A-Z mapping
- Multimap/Google Earth aerial/satellite photographs
- Valuation Office Agency rating lists and summary valuations
- Focus and EGi
- Mouchel referencing data
APPENDIX 2 – SITE LOCATION PLAN
APPENDIX 3 – PLANNING AND ENVIRONMENT PLANS
APPENDIX 3B
C31XB SITE
PLANNING AND ENVIRONMENT PLAN

Legend
- Green Corridor/Chains
- Metropolitan Open Land
- District Park Deficiency
- Green Space
- Sites of Nature Conservation Importance
- Sites of Metropolitan Nature Conservation Importance
- Open Space Deficiency Areas
- Open Spaces
- Borough Open Land
- Flood Protection Areas

Earl Pumping Station CSO

Area of Main Map

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This plan is a strategic and standardised overview based on an interpretation of GIS policy and designation layers provided by affected London local authorities. Please refer to the text in the SSRs for the full planning and environment assessments.

Map Ref: .....103P-LS-01267
Date: ........2009/12/07
Projection: .....British National Grid

Thames Water Utilities MAJOR PROJECTS

The Point, 7th Floor,
37 North Wharf Road,
Paddington, London W2 1AF

Title: APPENDIX 3B
C31XB SITE
PLANNING AND ENVIRONMENT PLAN
APPENDIX 4 – PHOTOGRAPHS OF THE SITE AND SURROUNDINGS
View looking southwest across the site.

View looking south across the site.
APPENDIX 5 – TRANSPORT PLAN
APPENDIX 6 – SERVICES AND GEOLOGY PLAN
APPENDIX 7 – CONSTRUCTION PHASE LAYOUT
APPENDIX 8 – OPERATIONAL PHASE LAYOUT
NOTES:
1. STRUCTURE TO BE PROTECTED BY REMOVABLE HANDRAILS IN THE TEMPORARY CASE.
2. POSITION OF COVERS ARE VARIABLE WITHIN 10m FROM THE EDGE OF THE STRUCTURE, AND THE LOCATION IS BASED ON SITE SPECIFIC REQUIREMENT
3. CLADDING OF VENTILATION BUILDING TO SUIT LOCATION AND AESTHETICS.
4. ALL TOP STRUCTURES TO HAVE:-
   - ACCESS STAIRS/LADDER
   - TEMPORARY OR PERMANENT HAND RAILING
5. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
## APPENDIX 9 – ENVIRONMENTAL APPRAISAL TABLES

<table>
<thead>
<tr>
<th>Transport</th>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to road network</td>
<td>Temporary construction and permanent site accesses use an existing access onto the Calypso Way roundabout from the car park in St George’s Square. The car park will require temporary closure during the site’s construction and the CSO drop shaft will result in a permanent loss of parking within part of the car park.</td>
<td>Road access to site possible for HGVs requiring the temporary closure of the car park and permanent loss of several parking spaces within the car park. The site’s interception chamber is located within a footpath which will require diversion. Access route to the TLRN (A200) is traffic calmed (speed cushions) and passes through a residential area.</td>
<td></td>
</tr>
<tr>
<td>Access to river</td>
<td>Site located within close proximity to the river for river access although not essential for a CSO site as road will be used to transport excavated material.</td>
<td>River access not required. Excavated material will be transported away by road for CSO site.</td>
<td></td>
</tr>
<tr>
<td>Access to rail</td>
<td>Use of rail is unlikely to be required due to the small quantities of excavated material produced by a CSO site. Access to old London Bridge station site for rail access (approximately 1km southeast of London Bridge station) from TLRN (A200) onto St James’ Road. The route passes through a 20mph zone with traffic calming (speed cushions)</td>
<td>Route to potential rail link at old London Bridge station site possible requiring the removal of the traffic calming (raised crossing) on St James’ Road. The site is likely to have limited use during the night and a means of transporting material from the construction vehicles to the rail site would need to</td>
<td></td>
</tr>
</tbody>
</table>

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Appendix 9 - Page 1
### Transport

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>and raised crossing) as well as a residential area. The raised crossing will require removal. Old London Bridge station site is likely to have very limited night use being on the main line with no space for sidings on the viaduct. Distance 3.1km to rail access point at old station site.</td>
<td></td>
<td>be provided.</td>
</tr>
<tr>
<td>Parking</td>
<td>Some parking could be provided onsite and informal on street parking is available on surrounding roads for the workforce. Site will displace approximately 10-20 parking bays within the car park. Alternative parking spaces are available along surrounding roads.</td>
<td>Some parking could be provided onsite and informal on street parking is available on surrounding roads for the workforce. Site will displace parking, with alternative on street parking available along surrounding roads.</td>
</tr>
<tr>
<td>Public transport accessibility</td>
<td>PTAL 1-2 (low), as identified within Table 2.3.</td>
<td>Low possibility of workforce being able to use public transport to access the site.</td>
</tr>
<tr>
<td>Traffic Management</td>
<td>Temporary closure of the car park. Diversion of footpath around the site. Raised crossing on St James’ Road requires removal for rail access.</td>
<td>Temporary closure of the car park. Diversion of footpath around the site. Raised crossing on St James’ Road requires removal.</td>
</tr>
</tbody>
</table>

**Summary:** The site is suitable, utilising an existing access for the car park in St George’s Square. Use of the site would require the temporary closure of the car park and the CSO drop shaft will result in the permanent loss of several car parking spaces within the car park, however alternative parking is available along surrounding roads. The site’s interception chamber will result in the diversion of a footpath around the site. Potential road access route to the TLRN (A200) is possible; however the route contains some traffic calming (speed cushions) and passes through a residential area. An access route to the old London Bridge rail site is also possible, requiring the removal of a raised crossing on St James’ Road and a means of transporting material to the railway will also need to be provided. However, the use of rail transport is unlikely to be required due to the small volumes of excavated material produced by a CSO site. The site is close enough to the river for river access, although this is not essential for a CSO site. There is a low public transport access for the workforce. Some parking could be provided onsite for the workforce and informal parking on surrounding roads is also available.
### Archaeology

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designations, including archaeological priority areas</td>
<td>The site is within the Lewisham Archaeological Priority Area.</td>
<td>N/A</td>
</tr>
<tr>
<td>Summary of historical uses</td>
<td>The 1st Ed OS map (1868) shows the site to be located to the rear of the Thames foreshore immediately to the south of St George’s steps. The site was developed as part of Deptford Wharf during the late 19th Century with a goods shed and two rail tracks. These were removed in the 1950’s and the site has remained undeveloped since.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Potential receptors of very high or high value with the potential to be directly affected</td>
<td>No archaeological receptors of high value are recorded within the site. This does not preclude the possibility of unrecorded archaeological receptors of High value being present within the site.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Potential receptors of medium value with the potential to be directly affected</td>
<td>No archaeological receptors of high value are recorded within the site. This does not preclude the possibility of unrecorded archaeological receptors of Medium value being present within the site.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Other receptors with the potential to be directly affected</td>
<td>Construction impacts of potential waterlogged deposits containing archaeological remains may cause dewatering. This potential impact should be considered given the site is in close proximity to the River Thames.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
<tr>
<td>Extent of existing disturbance (if known)</td>
<td>There does not appear to have been any previous disturbance to the foreshore. Borehole data in the area suggests made ground of 13m, some of which could be archaeological in nature.</td>
<td>A detailed desk based assessment is required to sufficiently understand the archaeological resource and define risk to potential development.</td>
</tr>
</tbody>
</table>
| Potential issues                                         | Detailed design proposals, and an outline method statement will be required to enable initial assessment of development impacts, and to inform mitigation | Mitigation methods could include:  
  - Review/production of existing desk based assessments |
### Archaeology

<table>
<thead>
<tr>
<th>Site considerations</th>
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</tr>
</thead>
</table>
|                     | proposals. With the currently available information it is not possible to highlight specific potential issues. | - Production of deposits model  
- Archaeological monitoring of geotechnical investigations  
- Archaeological evaluation  
- Archaeological watching brief  
- Archaeological excavation. |

**Summary:** The site is suitable although due to a lack of previous investigations in the area, the nature and extent of archaeological receptors cannot be confidently predicted. No archaeological receptors within the site have been identified using available information; however it is possible that archaeological receptors of high or medium value could be present on or near the site. While no direct evidence has been revealed, peat deposits containing archaeological material may be present at depth. These have been commonly recorded throughout London in a similar proximity to the Thames. Given the location of the site and wider evidence for historical occupation along the river, it is a reasonable assumption to suggest waterlogged remains of archaeological value may be present.
## Built heritage and townscape

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Designations including Conservation Areas, including trees</td>
<td></td>
<td>In the case of listed buildings and protected views, a high quality scheme design and adequate screening for the development may be required as discussed below. A detailed desk-based assessment in conjunction with archaeology work will be required to further inform the likely impact of the development and to determine more detailed mitigation proposals.</td>
</tr>
<tr>
<td><strong>Listed Buildings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parish boundary stone, St George's Wharf, Grade II: 25m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Lock, hydraulic capstans and mooring bollards, South Docks, Grade II: 125m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parish boundary stone, wall and pier, St George's Wharf, Grade II: 55m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colonnade Building, Grove Street, Grade II: 245m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Royal Victoria Yard Entrance, Grove Street, Grade II: 250m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Terrace, Grove Street, Grade II: 240m</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Locally Listed Buildings</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The borough of Southwark does not maintain a local list. In contrast, the borough of Lewisham does maintain a local list but it was not available at the time of this assessment.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The borough of Tower Hamlets does maintain a local list but there are no locally listed buildings within the borough and within 250m of C31XB.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Conservation Areas</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are no conservation areas within 250m of C31XB.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Registered Historic Parks and Gardens</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are no registered historic parks and gardens within 250m of C31XB.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Locally Listed Parks and Gardens</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are no locally listed parks and gardens within 250m of C31XB.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protected Views</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C31XB is located 250m away from the ‘Greenwich Park’ protected view (as designated in the London Views Management Framework).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Built heritage and townscape

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential receptors of medium to very high importance with the potential to be <strong>directly</strong> affected</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Other receptors of lesser importance with the potential to be <strong>directly</strong> affected</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
| Potential receptors of medium to very high importance with the potential to be **indirectly** affected | There is the potential for 6 Grade II listed buildings to be indirectly affected by the development. | Of the 6 Grade II listed buildings within 250m of C31XB, only three (the parish boundary stone, St George’s Wharf; South Lock, hydraulic capstans and mooring bollards, South Docks and the parish boundary stone, wall and pier, St George’s Wharf) have the potential to share a visual relationship with C31XB, particularly during construction. As the development could impact upon the setting of these listed structures, mitigation in the form of a high quality scheme design and/or screening would be required.

- The remaining three Grade II listed structures do not share a visual relationship with the site on account of their distance from the site and the screening provided by existing buildings. As a result the development will not result in an impact upon these buildings and no mitigation will be required.

- The ‘Greenwich Park’ protected view lies 250m from C31XC and is not intercepted by the site. Development at C31XC would therefore not impact upon this vista or the area immediately around it and no mitigation would be required. |
## Site Suitability Report C31XB – Appendix 9

<table>
<thead>
<tr>
<th>Built heritage and townscape</th>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other receptors of lesser importance with the potential to be indirectly affected</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td></td>
</tr>
<tr>
<td>Sensitive landscape character areas likely to be affected, including trees and TPOs</td>
<td>Site in Thameside Policy Area. Green Corridor designation runs along the north boundary of the site, site adjacent to River Thames which is a Site of Nature Conservation Importance. Site lies in Open Space Deficiency Area, Thames footway runs adjacent to the west of the site. The site is on a parking area and Helsinki Square on the south bank of the River Thames. Boat yard to the north beyond which lie residential properties. River Thames to the east with residential properties on the opposite bank of the River. Primarily residential development to the south and west. Loss of young and mature trees onsite. The presence and operation of machinery, materials stores and buildings would result in temporary, direct adverse impacts on the character of the site and River frontage and temporary, adverse indirect impacts on neighbouring areas. Permanent elements would have an adverse impact on the character of the site.</td>
<td>Retention of trees where possible and protection in accordance with BS5837. Introduction of landscape scheme to include appropriate surface treatments and planting to replace lost vegetation and enhance the character of the site and the River frontage. This site is suitable only with appropriate mitigation since the proposals would have an adverse impact on its character and on that of the surrounding residential properties. There could be an opportunity to create a green open space with an integrated landscape scheme on St. George’s Wharf and the site to enhance the River frontage. Alternatively, the location of the vent column could be moved further to the south in order to prevent the loss of mature trees.</td>
<td></td>
</tr>
<tr>
<td>Potential views likely to be affected</td>
<td>Open views from the River, residential properties in Grove Street, Plough Way, and Enterprize Way, residential properties on the north bank of the River. Partially interrupted views from South Dock, residential properties in Capstan Road, Windsock Close, and Elizabeth House. During construction, views of cranes from properties listed above and the River. Permanent elements mainly visible from the River, surrounding residential properties and from the</td>
<td>During construction, the use of hoardings and appropriate lighting would minimise visual impact, at least from street level and the lower floors of the overlooking residential properties. Design of top structure, vent column, and electrical kiosk to be given careful consideration. Planting to screen permanent plant. Integrated landscape scheme to enhance visual</td>
<td></td>
</tr>
</tbody>
</table>

Appendix 9 - Page 7
### Built heritage and townscape

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>residences along the north bank of the River.</td>
<td></td>
<td>amenity and reduce visual impact. This site is suitable only with appropriate mitigation since the loss of vegetation would cause an adverse visual impact. There could be an opportunity to soften views by replacing lost vegetation and new planting. This would aid permanent visual amenity.</td>
</tr>
<tr>
<td>Particular considerations on sites where new permanent structures are required</td>
<td>Any permanent structures at the site have the potential to cause an impact upon three Grade II listed structures and upon the character of the local townscape and the River Thames. The design and location of any permanent structures within the site will need to be given careful consideration and some screening and landscaping during construction and operation may be required.</td>
<td>Any permanent structures would need to be of a high quality design, sensitively located and/or screened and landscaped in order that any impacts upon three Grade II listed structures and the character of the local townscape are minimised.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>Construction and operation of the development could result in an impact upon three Grade II listed structures and upon the character of the local townscape and the River Thames and its frontage. However, there is the potential to mitigate against any adverse impacts through a high quality scheme design and/or screening and landscaping.</td>
<td>The scheme design would need to be of a sufficiently high quality and may need to incorporate some screening and landscaping in order that potential indirect impacts of the development upon three Grade II listed structures are minimised.</td>
</tr>
</tbody>
</table>

**Summary:** This site is suitable because it would result in relatively few impacts upon the built historic environment and although there is the potential for impacts upon the character of the local townscape and the River Thames and its frontage, these could be mitigated. Potential impacts upon the setting of three Grade II listed structures could also be mitigated through the implementation of a high quality scheme design and/or screening, whilst impacts upon the character of the local townscape and the River Thames and its frontage could be mitigated through appropriate design details, screening and an integrated landscape scheme. Such mitigation could also enhance the townscape character of the site and its permanent visual amenity.
## Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
</table>
| **hydro-geological conditions** *(Groundwater and Surface Water)*  
From BGS Geological Model giving average ground condition profile. Local near surface conditions may vary, particularly within the river | **Geology (thickness)**  
* • Superficial Geology and Made Ground (13m)  
 • Thanet sand (14m)  
 • Chalk (to beyond the depth of shaft)  
 **Hydrogeology**  
* • Piezometric Level in Chalk Aquifer: ~ -12mAOD (~17 mbgl) from EA Jan 08 water level contouring  
 **Groundwater Monitoring**  
* Location  
• EA Hydrometry Sites:  
• TQ37-268 – 591m west of the site (water levels to Nov 2007)  
• TQ37-276 – 1.7km northwest of the site (water levels to March 2009)  
• TQ37-254A, BL, BU – 1.99 km southeast of the site (water levels to May 2009)  
**Watercourses**  
• Adjacent to River Thames | The drop shaft will be constructed to an invert level of approximately 53.71mbgl therefore the shaft will be founded in the Chalk. Piezometric head\(^1\) in Chalk will be approximately 36.71m above the base of the construction. Therefore, dewatering would be required and should be considered as part of geotechnical design. |

| SPZs and groundwater users | **SPZ**  
* • Not located in a Source Protection Zone defined by EA  
**EA Licensed Groundwater Abstractions and Details**  
* • 7 licensed abstraction borehole within 2km radius  
* Licence Numbers:  
1. 28/39/39/0234 (1 borehole)  
2. 28/39/42/0043 (1 borehole)  
3. 28/39/42/0048 (3 boreholes)  
4. 28/39/42/0073 (2 boreholes)  
* Location:  
1. 1.2km northeast of the site  
2. 1.82km southwest of the site  
3. 1.16km northwest of the site  
4. 810m northwest of the site | A simple volumetric approach has been used to calculate the 400 days travel times of the abstraction borehole. A conservative mean annual recharge of 100mm/year was used to calculate a radius for licensed abstraction boreholes as follows;  
1. 250m  
2. 690m  
3. 258m  
4. 203m  
The shaft is not located within any of these catchment areas. |
### Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operator:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Britannia Hotels Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. National Grid Co Plc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. London Borough Of Southwark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Harmsworth Quays Printing Limited</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abstracted Aquifer Unit:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Chalk</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abstraction Purposes:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Industrial, commercial and public services (hotels, public houses and conference centres- drinking, cooking, sanitary, washing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Industrial, commercial and public services (non-evaporative cooling)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Amenity (industrial/commercial/energy/public services- make-up or top up water0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Industrial, commercial and public services (paper and printing- process water and drinking, cooking, sanitary, washing</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abstraction Quantity (annual):</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 78,840m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 598,980m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 83,804m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 52,000m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unlicensed Groundwater Abstractions and Details</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- No abstraction borehole within 1 km radius inside Tower Hamlet Council Boundary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- No abstraction borehole within 1 km radius inside Southwark Council Boundary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- No abstraction borehole within 1 km radius inside Lewisham Council Boundary</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Borehole locations and depths</strong></td>
<td>There are 6 historical records of water wells within 1 km radius. Depth range: 6.09 – 201.78m</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
### Water resources – hydrogeology and surface water

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential impacts on surface water features</td>
<td>The site is located adjacent to the River Thames. The site is behind flood defences so the pollution risk is through drainage to the Thames.</td>
<td>Work needs to be undertaken in consideration of Pollution Prevention Guidelines – PPG1, PPG5 and PPS23.</td>
</tr>
<tr>
<td>Potential impacts on groundwater (resources and quality)</td>
<td>An impact on groundwater at depth is likely since the drop shaft is to be constructed in Chalk (major aquifer) overlain by Thanet Sand (minor aquifer) which will need to be dewatered. At shallow depth, the shaft is located in Alluvium which is classified as a minor aquifer. Limited impact on shallow aquifer if water is excluded from the excavation by sheet piling.</td>
<td>See below (likely types of mitigation measures that will be required).</td>
</tr>
<tr>
<td>Likely types of mitigation measures that will be required</td>
<td>Mitigation unlikely to be required as construction of the drop shaft will not take place within the 400 day capture zone of licensed abstractions.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Potential issues</td>
<td>The drop shaft to be excavated in Chalk below the piezometric head, therefore dewatering of the Chalk and Thanet Sand will be required during construction. Limited impact on flow in shallow aquifer.</td>
<td>Piezometric head in Chalk to be considered as part of geotechnical design. The issue of the appropriate disposal of discharges from dewatering to be considered. Impact on and mitigation for shallow aquifer will depend on construction design.</td>
</tr>
</tbody>
</table>

**Summary:** In terms of hydrogeology, this site is suitable because although the construction of the drop shaft will take place within Chalk (major aquifer), the site does not lie within the 400 day capture zone of licensed abstractions. No long term impact on the Chalk aquifer is expected, although dewatering of the Chalk and Thanet Sand will be required during the construction phase. The Chalk piezometric head is likely to be approximately 37m above the base of construction and should be taken into account in the engineering design. The superficial deposits are Alluvium which is classified as a minor aquifer at the shaft site and there will be limited impact on flow in shallow aquifer due to sheet piling.

In terms of surface water resources, this site is suitable because there is no direct pathway to the River Thames for pollution; however standard mitigation will be required.

(1) Piezometric head is a specific measurement of water pressure above a datum.
### Ecology (terrestrial and aquatic)

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statutory designations</td>
<td>Sue Godfrey Nature Park Local Nature Reserve (LNR), Mudchute Park Farm LNR and Lavender Pond LNR are within 2km.</td>
<td>None required</td>
</tr>
<tr>
<td>Non-statutory designated wildlife sites</td>
<td>Site is adjacent to River Thames &amp; Tidal Tributaries SMI.</td>
<td>No landtake from the river or foreshore is anticipated. Care will need to be taken to avoid discharge or runoff into the river or docks.</td>
</tr>
<tr>
<td>BAP priority habitats</td>
<td>Foreshore consists of BAP habitat 'mudflats'.</td>
<td>No landtake from the river or foreshore is anticipated. Care will need to be taken to avoid discharge or runoff into the river.</td>
</tr>
<tr>
<td>protected or otherwise notable species within the Study Area</td>
<td>No direct impact on aquatic receptors.</td>
<td>None required</td>
</tr>
<tr>
<td>Potential issues</td>
<td>No other issues</td>
<td>No other issues</td>
</tr>
</tbody>
</table>

**Summary:** This site is suitable, as it presents no evident ecological constraints.
## Flood risk assessment

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flood Risk Zone</td>
<td>Flood Zone 3 (1 in 200 year flood extent) but defended to the 1 in 1000 year flood level – there is a residual risk of a breach for which mitigation would need to be considered as part of the FRA. Sewage transmission infrastructure is considered to be water compatible according to table D.2 of PPS25</td>
<td>A FRA would be required to assess the residual risk of flooding to the site.</td>
</tr>
<tr>
<td>Assessment of conditions for SuDS</td>
<td>The site is currently developed and in addition, there is very limited available space for SuDS. It is unclear if the site is suitable for infiltration SuDS and further investigation is required as the geology is alluvial clay.</td>
<td>N/A</td>
</tr>
<tr>
<td>Potential issues</td>
<td>No other issues</td>
<td>No other issues</td>
</tr>
</tbody>
</table>

**Summary:** This site is less suitable because although it is defended from flooding from the River Thames (to the 1 in 1000 year flood level), there is limited space for SuDS and the geology is unlikely to be suitable for infiltration SuDS.
### Air quality

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQMA</td>
<td>The air quality objectives for NO₂ exceeded on major roads in vicinity of site.</td>
<td>There is a need for more site specific data.</td>
</tr>
<tr>
<td>Sensitive Receptors</td>
<td>There are residential properties along Lower Road (A200), Plough Way (B206) and the access route to the site. There are residential properties within 15m on Enterprise Way.</td>
<td>There are relevant air quality sensitive receptors present along the route construction traffic is likely to take and close to the proposed construction works.</td>
</tr>
<tr>
<td>Existing traffic issues</td>
<td>The main traffic issue in this area is exhaust emissions from vehicles along the A200 and A2208 corridors.</td>
<td>Additional vehicle emissions have a moderate potential to interfere with local air quality action plan policies.</td>
</tr>
<tr>
<td>Existing sources of significant air quality monitoring</td>
<td>See above.</td>
<td>See above.</td>
</tr>
<tr>
<td>Notable gaps in existing air quality monitoring</td>
<td>There is no data at likely access to the A200 and the nearest existing data indicates existing AQLV exceeded.</td>
<td>Collect a minimum of 6 months diffusion tube data at site access to the A200 or other point of access to major road network.</td>
</tr>
<tr>
<td>Potential issues</td>
<td>The risk from additional exhaust emissions from construction HGVs is undefined at present. The risk from dust impacts at residential properties is moderate.</td>
<td>Minimise HGV movements on the local road network during the peak hour. Standard dust control measures will minimise the effect of fugitive dust on nearby sensitive receptors.</td>
</tr>
</tbody>
</table>

**Summary:** This site is less suitable as there is potential for fugitive emissions of dust during construction to have a perceptible impact at residential properties in close proximity. These impacts can be minimised with standard dust control measures. There is potential for HGV movements on the local road network to cause localised air quality impacts in areas of already poor air quality. This can to some extent be mitigated by minimising the movement of HGVs during peak hours.
### Noise

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise band level (from Defra noise maps)</td>
<td>Information from Defra noise maps indicates daytime noise levels of less than 58 dB $L_{Aeq}$ and nighttime noise levels of less than 50 dB to $L_{Aeq}$ at the nearest residential properties to the site. The residential properties closest to and facing the site are likely to experience relatively low daytime and nighttime noise levels due to their distance from any major roads. Noise levels from the Defra noise maps provide an indication of prevailing noise levels only, and will not be employed in any detailed assessments for chosen sites.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Sensitive Receptors</td>
<td>There are sensitive receptors close to the southern and western boundaries of the site. The closest receptors are located at St George’s Square. Further residential properties are located on Enterprise Way and Plough Way. Sensitive receptors at St George’s Square to the south consist of 3 storey residential flats and dwellings. These are located approximately 5m from the temporary working area and 20m from the shaft location. Properties on Enterprise Way to the east of the site consist of 3 storey residential dwellings and are located approximately 5m from the temporary working area boundary and 40m from the shaft location.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Existing traffic issues</td>
<td>Road traffic on local roads and more distant road traffic on the A200 to the west will contribute to the existing noise climate in the area.</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Existing sources of significant noise emissions</td>
<td>Road traffic on local roads and more distant road traffic on the A200 to the west will contribute to the existing noise climate in</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>
## Noise

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>the area.</td>
<td>There are no railways or significant industrial noise sources noted in the immediate surrounding area.</td>
<td></td>
</tr>
<tr>
<td>Potential issues</td>
<td>Construction: The construction period is estimated at 2 to 3 years and working hours will be 12 hours per day (7am-7pm) Monday to Saturday. This has the potential to result in adverse noise impacts to sensitive receptors surrounding the site. A relatively large number of daily HGV movements are anticipated. This has the potential to have an adverse impact on a large number of residential receptors located along Plough Road which is assumed to be the haul route to the A200. Whilst the shaft location within the site may be fixed, ancillary plant should be sited as far as is practicable from surrounding sensitive receptors. Situating plant to the east of the site would maximise the distance between them and the nearest sensitive receptors and minimise potential disturbance. Proposed 3m site boundary fencing will provide useful noise mitigation to some plant and construction activities. Vibration resulting from general construction works is not anticipated to result in an adverse impact. The nearest receptors to the proposed shaft location are at a distance of approximately 20m and it is unlikely that vibration levels will result in minor cosmetic damage during shaft sinking but may give rise to annoyance. Vibration from tunnelling should be considered on a case by case basis at particular sensitive locations.</td>
<td>Adherence to the good site practices provided in BS5228. Siting of noisy equipment and construction activities as far as is practicable from sensitive receptors. Provision of site boundary noise fences.</td>
</tr>
</tbody>
</table>
### Noise

<table>
<thead>
<tr>
<th>Site considerations</th>
<th>Comments</th>
<th>Mitigation required and conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operation:</strong></td>
<td>With appropriate attenuation (if necessary), there is no reason why noise from the ventilation column and top chamber should result in adverse noise impacts to nearby sensitive receptors.</td>
<td></td>
</tr>
</tbody>
</table>

**Summary:** This site is less suitable due to the short distances to the nearest residential receptors which are also relatively high density. The number of vehicles associated with the construction phase is anticipated to be relatively high and is therefore likely to cause an adverse noise impact to properties located on Plough Way. Perimeter hoarding will reduce potential noise impact but will be relatively ineffective at shielding noise from the upper floor properties at the nearest residential dwellings.
<table>
<thead>
<tr>
<th>Land quality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Site location</strong></td>
</tr>
<tr>
<td><strong>Current site use</strong></td>
</tr>
<tr>
<td><strong>Topography</strong></td>
</tr>
<tr>
<td><strong>Field evidence of contamination</strong> (ie, visual/olfactory)**</td>
</tr>
</tbody>
</table>
| **Current surrounding land use** (immediately adjacent to site) | North: St. Georges Wharf (boat yard on hardstanding)  
East: The River Thames  
South: Enterprise Way (parking area, walkway), residential housing beyond this  
West: Plough Way (narrow road with parking), residential housing beyond this |

### Geological and hydrogeological information

#### Geological strata
- Superficial Geology and Made Ground (13m)
- Thanet sand (14m)
- Chalk (to beyond the depth of shaft)

#### Underlying aquifer classes
- Minor Aquifer: River Terrace Deposits, Thanet Sands  
- Major Aquifer: Chalk

#### Groundwater vulnerability/Soil classification
- River Terrace Deposits - Minor Aquifer  
- High Leaching Potential of Soils (U)

#### Source Protection Zone details
- Not located in a Source Protection Zone

#### Surface water receptor
- River Thames (adjacent, south)

### Relevant information within a 250m radius of the site

#### Historical potentially contaminating activities (based on mapping data)

**Onsite**
- Wharf operations (transport support & handling), 1882-1995  
- Railway lines – for wharf activities, 1896-1972  
- Parking and seating area of Helsinki Square, present

**Offsite**
- Metal casting/foundry activity (adjacent north) 1898  
- Railway yard (95m west) 1896 - 1916  
- Sawmilling, including timber treatment (127m west) 1882  
- Unknown filled ground listed (157m south) 1949  
- Military land (137m south) 1882-1949  
- One electrical sub-station (143m southwest) 1970  
- Areas cleared due to enemy action (170m north) 1953-1965  
- Unknown filled ground listed – possible northern part of Deptford Wharf (190m north) 1896
### Land quality

- Steel yard 195m north 1874 - 1916
- Several historical buildings listing potential fuel-related tanks use in the northern direction (closest located 198m north) 1887-1965
- Portion (south) of Deptford Wharf filled with land (207m south) 1898-1916
- Historical building listing potential fuel-related tanks (210m southwest) 1965
- Numerous tanks (contents unknown) in southwest direction (closest located 210m southwest) 1950-1951
- Historical building listed potential fuel use – patent fuel stacked (232m north) 1887

#### Pollution incidents to controlled waters

- Two:
  - Unknown sewage, minor incident (150m west)
  - Oils – unknown, significant incident (215m northwest)

<table>
<thead>
<tr>
<th>Landfill sites</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other waste sites</td>
<td>None</td>
</tr>
<tr>
<td>Registered radioactive substances</td>
<td>None</td>
</tr>
<tr>
<td>Fuel stations/Depots</td>
<td>None</td>
</tr>
<tr>
<td>Contemporary trade directory entries</td>
<td>None</td>
</tr>
</tbody>
</table>

### Site classification based on above information

<table>
<thead>
<tr>
<th>Activity</th>
<th>Distance and direction to site</th>
<th>Contaminants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential site contaminants derived from surface sources (eg, contaminants in made ground)</td>
<td>1) Some potential for made ground from potential filling operations during development 2) Wharf operations (transport support and cargo handling) 3) Railway lines</td>
<td>1) Onsite and directly adjacent to site 2) Onsite and directly adjacent to site 3) Onsite and directly adjacent to site</td>
</tr>
<tr>
<td>Potential site contaminants derived from offsite sources and transported to site</td>
<td>1) Metal casting/foundry</td>
<td>1) Adjacent, north</td>
</tr>
<tr>
<td>Potential contamination pathways to site (Conceptual Site Model)³</td>
<td>Source 1: A1, A3, B4 Source 2: D6, E1, F7</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contamination category</th>
<th>Category 2 – Assessed as Medium Risk</th>
</tr>
</thead>
</table>
### Land quality

**Summary:** The site is considered less suitable based on the moderate potential for contamination of the site to have occurred, specifically from wharf and railway operations located onsite and metal casting (foundry) operations in the vicinity. This potentially poses a risk to construction workers and adjacent human receptors through direct contact and inhalation exposure pathways as well as ground gas risks. Additionally, the potential exists for contaminants to be drawn to the deeper Chalk aquifer, and for migration to surface water receptors to occur through shallow groundwater transport.

**Notes:**

1. From BGS Geological Model giving average ground condition profile. Local near surface conditions may vary, particularly within the river.

2. Soil information for urban areas is based on fewer observations than elsewhere in the country. Therefore a worst case vulnerability (H) is assumed until proven otherwise.

3. Refer to schematic Conceptual Site Model for explanation of site-specific source-pathway-receptors.
Contacts

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For information about acceptance of our application and the examination process please contact the Planning Inspectorate.

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