

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Thames Water's Response to Local Impact Report from London Borough of Southwark

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**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

1 Response to London Borough of Southwark Local Impact Report

1.1 Introduction

- 1.1.1 This section responds to matters raised in the Local Impact Report (LIR) submitted to the Examining Authority (the 'ExA') by the London Borough of Southwark (LBS) for the 4 November 2013 deadline.
- 1.1.2 The response is split into five sections: Section 1.2 addresses general matters of a non-site-specific nature; Section 1.3 addresses project-wide transportation matters; Section 1.4 addresses matters in respect of the draft proposals at Chambers Wharf; Section 1.5 addresses matters in respect of the draft proposals at Shad Thames Pumping Station, which are both sites within LBS. Comments in relation to sites outside of the Borough are addressed in Section 1.6 for Earl Pumping Station (London Borough of Lewisham) and Section 1.7 for Blackfriars Bridge Foreshore (City of London). Each section contains a table arranged by topic, which sets out the comment from the LIR on the left and Thames Water's response on the right.
- 1.1.3 Our case for the use of Chambers Wharf, Shad Thames Pumping Station, Earl Pumping Station and Blackfriars Bridge Foreshore is comprehensively set out in the application for development consent and in the recent responses to the first written questions. This response therefore does not address every matter raised in the LIR and does not extensively repeat material already submitted to the ExA. However, we have responded where our case or assessments are challenged.
- 1.1.4 We continue our discussions with LBS to agree Section 106 obligations, Draft DCO Requirements and the mechanism for securing non-statutory compensation policies, including the noise insulation and temporary rehousing policy. The detail of these negotiations and agreements will be reported in the *Statement of Common Ground (SoCG)*. The signed SoCG and Section 106 obligations are to be submitted in January 2014. These documents will address the matters raised in the LIR and through ongoing discussions with LBS, noting any outstanding matters between the parties.

1.2 General matters

Table 1.1 General matters

Ref	LIR para. ref	London Borough of Southwark comment	Our response
Adequacy of application information			
1.	2.10	<i>“Lack of detail, precision and certainty in the application is reflected by the need for the Examining Authority to ask many detailed questions across many issues that are pertinent to the determination of the application.”</i>	<p>The Planning Inspectorate’s advice note 9 Rochdale Envelope sets out the principles for applications that have less than full details where these matters have been consulted on under the Planning Act 2008 (Sections 42 and 47). Our approach has been consistent with this advice.</p> <p>The level of detail provided at each site is appropriate for a Nationally Significant Infrastructure Project and that necessary to meet the requirements of the EIA Regulations and other relevant statutory requirements, having regard to the matters that will be subject to further approval through detailed requirements and agreements via the Section 106 process.</p> <p>We consider the number of questions asked by the ExA reflects the scale and complexity of the project.</p>
2.	3.5.1	<i>“The council’s concerns on what is known of the project are exacerbated by the fact that much of the information relating to construction works, including the layout and operation of construction activities and plant on the site, is illustrative and therefore could be subject to change when the construction works are implemented.”</i>	<p>The construction layout plans illustrate one way in which the construction activities and facilities might be arranged and demonstrate that all the necessary works required to construct the main tunnel shaft and tunnel can be accommodated on this site. This layout however needs to be flexible to meet the contractor’s requirements when they are appointed, as is common with projects of this scale and nature. The <i>Code of Construction Practice (CoCP)</i> Part A (Doc ref: 9.21) and B (Doc ref: 9.22) sets out requirements and matters that will have to be complied with by the contractor when detailing the site layout, in particular the <i>CoCP</i> Part B includes site specific constraints on where certain elements of the construction plant, activities or</p>

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			<p>facilities need to be located or avoided within the site.</p> <p>We have endeavoured to seek advice from LBS during pre-application consultation and ongoing engagement regarding further requirements in relation to site layout in the <i>CoCP</i> Part B that LBS consider necessary to limit potential impacts resulting from construction works. We are currently considering possible revisions to the <i>CoCP</i> Part B as a result of the more recent submissions by LBS and matters raised at the Issue-Specific Hearing. It is therefore considered that the measures in the <i>CoCP</i> would provide sufficient controls of the site layout to manage the impacts on neighbouring residents arising from the layout of activities and facilities.</p>

1.3 Project-wide transportation impacts

Table 1.2 Matters relating to project-wide transportation impacts

Ref	LIR para. ref	London Borough of Southwark comment	Our response
Executive summary			
3.	1.4 Executive summary	<i>“The Transportation impacts around Chambers Wharf will be very significant. Chambers Wharf has been identified as a drive site due to the potential to use river transport to carry materials to and from the site, thereby potentially reducing road traffic impacts. The Transport Strategy, however, does not contain binding commitments to deliver this objective, including the potential for derogations that could lead to its abandonment. Were this to occur, any environmental benefits would be nullified and the use of the site would</i>	A summary of the draft mechanism for securing the Transport Strategy (Doc ref: 7.09) has been prepared through discussions with the Greater London Authority, Transport for London, the Port of London Authority and the affected London Boroughs. See the <i>Draft Framework for the Transport Strategy Mechanism</i> , submitted on 2 December 2013 within <i>Response to the Local Impact Report from the Mayor of London</i> , Appendix A (Doc ref: APP 30.15). Discussions with LBS are ongoing to finalise this mechanism, including a meeting prior to the next joint borough, Port of London Authority and Transport for

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		<i>result in significant and unsupportable damage to the local area from significantly increased traffic impacts.”</i>	London workshop arranged for 2 December 2013. In addition to the current commitments, we are providing incentives within the construction contract to transport more material by river and have committed to the transportation of segments at Chambers Wharf by river.
4.	7 Summary box	<i>“Sensitivity testing assumes that disruption to river access will not occur for longer than one month in any twelve month period, but derogations in the Transport Strategy do not guarantee this minimum”.</i>	The sensitivity testing as part of the Transport Assessment (Doc ref: 7.10) is based on the month with the assumed peak average daily vehicle movements as a reasonable worst case assessment. Any derogation to the use of barge movements as identified in the <i>Transport Strategy</i> will be delivered through an agreed mechanism. See the <i>Draft Framework for the Transport Strategy Mechanism</i> .
5.	7.28	<i>“A complete 'all by road' scenario where all materials over the life of the project are transported by road is not presented as a realistic prospect in the TA, but the potential impact of short disruptions to river access caused by certain 'trigger' events is recognised. Procedures to deal with any such event, including derogations to contractors, are expected to be included in the relevant traffic management plan, although the council is not party to any discussions around this.”</i>	See our response at row 4 above.
6.	7.31	<i>“Procedures to deal with any period of 'all by road' operation, including derogations to contractors, "are being discussed" with various parties, but not with the council. The council is the Highways Authority for the roads in the immediate vicinity of the Chambers Wharf site as well as for Lower Road (A200). Any discussions must therefore involve the council.”</i>	This is not correct. LBS has been involved in discussions on these matters, eg, workshops on 7 September 2013 and 17 October 2013 to contribute to the development of the mechanism for securing the <i>Transport Strategy</i> . We held an individual meeting with LBS to discuss the Council's views on the mechanism on 28 November 2013. The next joint borough workshop is scheduled for 2 December 2013.

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7.	7.32	<i>“The ABR (1 month) scenario rests on the assumption that it is highly unlikely that river access could be disrupted for more than one month in any period of 12 months. Nonetheless, the type of ‘trigger’ events postulated, e.g. weather, unsuitable loads etc, do not appear to preclude this possibility”</i>	See our response at row 4 above.

1.4 Chambers Wharf

Table 1.3 Matters relating to Chambers Wharf

Ref	LIR para. ref	London Borough of Southwark comment	Our response
Noise and vibration			
8.	3.6 Summary	<i>“Noise levels in the Environmental Statement should be provided for all phases of the construction process”</i>	The daytime levels over the duration of the construction works and for all phases are presented for each assessed receptor in graphs in the relevant appendix (G.2) of the <i>Environmental Statement</i> (Doc ref: 6.2). Evening and night-time levels were not presented graphically because the activities during these periods are limited in number resulting in less variation in levels than you can see in the daytime graphs. Graphs for evening and night time noise would therefore show one or two flat lines for the activities in question. The purpose of the graphs was to illustrate the variation of noise levels over the construction period. Predicted evening and night time noise levels are however presented in Table 9.5.1 of each site volume.
9.	3.6 Summary	<i>“It is difficult to properly assess the impacts of noise without having details of committed layouts for each phase of the construction process. Without agreement of these there is</i>	Our response to first written question 15.15 provides more information on the illustrative site layouts and how the noise and vibration assessments took these into account.

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		<p><i>risk that additional noise impacts would result.</i></p> <p><i>“There is too much uncertainty in the proposals to properly assess the full impacts of noise and vibration.”</i></p>	<p>The contractor is required to submit to the local authority and an application for Section 61 consent under the Control of Pollution Act 1974, for each phase of construction. The contractor must demonstrate best practical means in managing noise impacts, including site layout.</p> <p>The requirements for contractors to produce a site layout minimising impacts is included in the <i>CoCP Part A, Section 4.3</i>, which is secured by Requirement PW6 in the <i>Draft DCO</i>. There are also a number of site-specific requirements in the CoCP Part B to eliminate and control potential impacts, relating to noise and vibration, daylight/sunlight, highway and public access issues.</p>
10.	3.6 Summary	<p><i>“The ES does not properly assess the impact of noise on the learning conditions of pupils at local schools located in close proximity to the site.”</i></p>	<p>St Michael's Roman Catholic College was included as a receptor in the noise and vibration assessment. Riverside Primary School was considered as a secondary receptor alongside receptors at 1-13 Loftie Street (see <i>Environmental Statement, Vol 20 Chambers Wharf</i>, para. 9.5.43).</p> <p>The socio-economic assessment (<i>Environmental Statement, Vol 20, Section 10</i>) takes into consideration the sensitivity of the schools, pupils and staff to possible impacts, including the experience for children indoors, in a learning environment, and outdoors in the playground, and while going to and from school. The socio-economic assessment considered the schools assessed in the noise and vibration assessment and St Joseph's Roman Catholic Primary School. No significant effects were identified at these schools. A proper assessment of the impact on learning conditions was therefore undertaken for all schools in the vicinity of the site.</p>

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11.	3.6 Summary	<i>"It is agreed the significant vibration impacts would result but these could be yet greater due to the uncertainty about vibration methods."</i>	Our responses to first written questions 11.23 to 11.25 provide more information on the feasibility of low noise/vibration techniques and the securing mechanism for enforcing compliance in the Draft DCO (Doc ref: 9.20).
12.	3.6 Summary	<i>"No assessment is made of the impacts on schools should windows be open (for example during the summer months)"</i>	The assessment was based on the ambient baseline noise level, and if this was predicted to be exceeded, as at St Michael's Roman Catholic School, we considered the design of the receptor. Internal noise levels were then considered for both the windows open and windows closed cases and in conjunction with the duration of impact (one month in this case). These figures were used to determine whether there would be a significant effect at this receptor, which was not the case. See <i>Environmental Statement</i> , Vol 20, Chambers Wharf, Section 9.5).
13.	3.6.13 to 3.6.37 and Appendix 3 BV noise assessment	<i>"Bureau Veritas assessment"</i>	Refer to the <i>Chambers Wharf and alternative drive strategy</i> grouped response (Doc ref: 31.02) for a review of the Bureau Veritas assessment.
14.	3.6.21	<i>"Phase 3 – Tunnelling (twenty-five months): This phase involves continuous 24 hour working to facilitate continuous tunnel boring including the operation of water/slurry pumps and the slurry processing plant. The most significant impact from noise is likely to result from the loading of barges at night which would result in significant impacts at Luna House, Axis Court, 33 East Lane and the newly built flats facing the site at Chambers Street."</i>	See row 13 above. Following submission of the application, we determined that the significant night-time noise effects could be reduced by limiting barge loading to day time and evening only. This would require the use of larger barges and dredging (see written representation: Chambers Wharf Proposed Changes to Working Hours (Doc ref: App20)). This matter is discussed in further detail in the <i>Chambers Wharf and alternative drive strategy</i> written representation grouped response.

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15.	3.6.25	<i>“Furthermore, the Thames Tunnel compensation programme is not sufficiently robust to offset the significant impacts.”</i>	The non-statutory compensation programme is currently being reviewed, in particular to consider securing mechanisms. We are currently discussing this matter with LBS.
16.	3.6.28	<i>“The Council therefore considers that drawings should be submitted and agreed showing the site layout (including structures, buildings and operations) and the construction operations will need to be carried out in accordance with these drawings as a requirement of any development consent. This will ensure that particularly noisy activities do not take place in close proximity to residential properties. Working hours permissible for the different zones of the site should also be imposed to ensure that activities with the potential to produce noise do not take place in close proximity to residential premises.”</i>	See row 9 above.
17.	3.6.29	<i>“The applicant notes this itself at paragraph 3.3.50 of Volume 18 (Chambers Wharf) of the Final Report on Site Selection Process: “Additional land to the south of Chambers Street is required to use the site as a main tunnel drive site. This land would house temporary offices and welfare facilities including parking”. This land, however, is not included in the application site and is currently being developed under the residential planning permission which covered both the main Chambers Wharf site and this additional area of land to the south of Chambers Street.”</i>	The need for any additional land at this site was discounted during design development. The illustrative construction site layout submitted with the application demonstrates that it is possible to accommodate these facilities and all other necessary construction activities within the limits of land to be acquired or used.
18.	3.6.30	<i>“[...] site office/welfare buildings are proposed in a location which would result in a serious loss of light and amenity for neighbouring residential properties. While these temporary buildings are intended to also provided noise screening, it is not acceptable for there to be a trade-off between noise</i>	See the <i>Chambers Wharf and alternative drive strategy</i> grouped response for further detail in relation to daylight/sunlight issues.

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		<i>impacts and day/sun light impacts for such a lengthy period of time (six years)."</i>	
19.	3.6.31	<p><i>"Paragraph 4.9.8 of the NPS requires that a project should demonstrate good design through the selection of the quietest cost effective plant available. The Council does not consider that that has been demonstrated - there is no explanation of the basis on which plant has been selected. The Council also does not consider that the applicant has complied with the requirement in the NPS for the containment of noise within buildings wherever possible. While some of the noise generating activities on the site will be contained in buildings, others are not thereby heightening the impacts on surrounding properties."</i></p>	<p>The noise and vibration assessments were based on the plant identified in Appendix G.2 to each <i>Environmental Statement</i> site volume. The contractor must implement best practicable means, consistent with recommendations in British Standard 5228, including <i>"careful selection of construction plant, construction methods and programming"</i> to reduce noise and vibration effects (CoCP Part A, para. 6.4.1.a). As part of the contractor's Section 61 application to the local authority, the contractor will be required to submit an outline of the proposed construction method, type and number of plant to be used. Our response to first written question 11.10 explains how these requirements will be ensured and enforced in the DCO.</p> <p>With regards to the containment of noise in buildings, in order to implement best practicable means, the contractor will be required to ensure the <i>"use of site enclosures and temporary stockpiles, to provide acoustic screening"</i> (CoCP Part A, para. 6.4.1.c). We have identified several opportunities to contain noise within buildings or enclosures, which are set out in the site-specific CoCP Part B. For the Chambers Wharf site, this includes an enclosure/building over the main tunnel shaft during main tunnel construction and secondary lining, enclosures or screening of the concrete batching plant, grout plant, conveyors to load barges, material storage/handling areas, slurry treatment plant and all other items of static plant. Enclosing activities within buildings presents additional issues with regards to health and safety, access and rights to light for local receptors. Therefore, we consider that we</p>

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			<p>have identified the most effective enclosures or screening to reduce noise effects but also minimise health and safety risks and ensure suitable access for construction activities to operate effectively. Refer to the <i>Chambers Wharf and alternative drive strategy</i> grouped response for further detail in relation to noise mitigation.</p>
20.	3.6.33	<p><i>“The assessment has shown that there is a significant impact on the surrounding areas, including on residents and school children. Should consent be granted, the mitigation currently proposed in the application is not sufficient and a greatly enhanced package of mitigation would need to be instigated on the site, including the following items:</i></p> <ul style="list-style-type: none"> • <i>“Submission of detailed plans for approval of each construction phase.</i> • <i>“Specific noise level restrictions for each phase.</i> • <i>“The careful siting of the equipment with suitable acoustic enclosures.</i> • <i>“The operation of equipment at only certain times during the day</i> • <i>“The careful programming of construction works to ensure that a number of noisy activities are not occurring in the same period, and to schedule particularly noisy activities so they do not occur during school term time.</i> • <i>“That barges are only loading during certain periods of the day, no late evening or night times</i> • <i>“If the site is deemed to be used only for the reception of the three tunnel boring machines, then a review of the activities involving the demolition of the river wall to be carried out. The reduced area required for a reception site</i> 	<p>We continue our discussions with LBS to agree Section 106 obligations, DCO Requirements as well as the mechanism for securing our published policies, including the Noise insulation and temporary re-housing policy. The detail of these negotiations and agreements will be reported in the SoCG. We propose to issue a further updated version of the <i>Draft DCO</i>, including Requirements, following the DCO Hearings in late November.</p> <p>Discussions with relevant stakeholders, including LBS are ongoing in relation to the mechanism for delivering the transport strategy; the next workshop is scheduled for 2 December 2013.</p>

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		<p><i>will remove the requirement for a cofferdam to be built.</i></p> <ul style="list-style-type: none"> • <i>“An enforceable commitment towards the transportation of 90 per cent of materials by river.</i> • <i>“The provision of noise insulation at schools and dwellings including dwellings adjacent to the site itself and the vehicular access route.</i> • <i>“Education mitigation scheme</i> • <i>“Effective and meaningful community liaison and involvement.”</i> 	
21.	3.6.36	<p><i>“[Additional material APP20) The council will comment further on this information as part of its written response to the applicant’s written representation. However, the following initial comments are made:</i></p> <ul style="list-style-type: none"> • <i>“The information states that the large vessels could significantly reduce vessel movements, but no indication of the number of residual night time barge movements has been provided.</i> • <i>“As noted in the Bureau Veritas report, a single barge movement in the night time would result in significant impacts.</i> • <i>“Disruption to river transport capacity would increase HGV movements. Only a marginal reduction in the material transported by river (from 90 per cent to 88 per cent) would result in significant noise impacts.</i> • <i>“The implications of dredging would need to be addressed.</i> • <i>“Para. 1.1.12 of APP 20 appears to assume there is significant space within the 3 sided enclosure to accommodate all derived material for the slurry treatment</i> 	<p><i>See the Chambers Wharf and alternative drive strategy grouped response for further detail in relation to these points.</i></p>

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		<i>process. This needs to be confirmed and justified.”</i>	
Transport			
22.	3.7.18 to 21 & 3.7.24 to 44	<i>“Assessment of traffic numbers (all by road and HGV numbers)”</i>	See the <i>Chambers Wharf and alternative drive strategy</i> grouped response for a review of the Phil Jones Associates assessment.
23.	3.7.48 to 51 and 3.7.125	<i>“The data presented in the TA in relation to walking appears to significantly under-represent this mode. Education related walk and cycle trips are likely to represent the majority of all trips made in the vicinity of the proposed drive site.”</i>	<p>Traffic surveys were carried out at standard peak periods of 7 to 10am, 12 to 2pm and 4 to 7pm in the week and 10am to 3pm at the weekend. The <i>Transport Assessment</i> reports the peak hour movements in these time periods. As noted by LBS, the peak school pick-up period occurs slightly before the 4pm peak. We reviewed this using survey data collected for the <i>Transport Assessment</i>, for three junctions locations that would be affected by construction traffic exiting Jamaica Road (the Transport for London Road Network) and travels along Bevington Street and Chambers Street (the borough road network). It is observed that the school drop-off period does not typically produce a greater volume of pedestrian movement. However, at the junction of Bevington Street and Scott Lidgett Crescent, it does produce a greater volume of pedestrian movement than stated in the <i>Transport Assessment</i> and <i>Environmental Statement</i>. The maximum pedestrian peak volume in these documents is stated as 129 in the peak hour; for this one example the school-specific peak flow was surveyed as 321.</p> <p>This does not change the overall conclusions of the <i>Transport Assessment</i>. Management of pedestrians and level of mitigation remains as per the measures set out in the <i>CoCP</i>, such as maintaining suitable safe crossing points. In terms of the <i>Environmental Statement</i></p>

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			conclusions, the pedestrian volume at the school peak would have an impact magnitude of medium on the accident and safety impact type. The <i>Environmental Statement</i> (Vol 2 Assessment Methodology , Table 12.5.3) sets out the accident and safety criteria. The increase from 129 to 321 pedestrians moves the magnitude from low to medium. However, this does not change the overall significance of the effect. This is because the receptor has a negligible pedestrian delay; a negligible and a medium impact on a high sensitivity receptor still equates to a low impact, as stated in the <i>Environmental Statement</i> .
24.	3.7.54	<i>“It is unclear when the pedestrian counts reported in the TA took place – the TA suggests 4 hours over two days in 2011 – PB suggest July and August - therefore we request further information on the counts carried out. In any event further counts are required due to the very small sample size. Any counts carried out outside of school term time cannot be considered.”</i>	<i>Transport Assessment</i> , Section 20, Table 20.4.7 makes clear that the pedestrian surveys were undertaken on 11 and 12 May 2011 not in July or August as the council suggests. Some additional surveys were undertaken to act as a check against the data published in the <i>Transport Assessment</i> .
25.	3.7.60	<i>“The TA should confirm how more vulnerable non motorised users on the Thames Path will be accommodated at Chambers Street.”</i>	We do not intend to divert the Thames Path, which runs along Loftie Street and Chambers Street around the site. Signage would be provided to inform pedestrians and cyclists of the presence of construction vehicles and alternative local routes to avoid them. The <i>CoCP Part A</i> sets out the details to be included in traffic management plans, including access details for non-motorised users.
26.	3.7.84	<i>“Proposals for Chambers Street and Loftie Street to be subject to Compulsory Acquisition (CA) are not justified. The proposed route to the site from the A200 Jamaica Road via Bevington Street and back the same route is suitable for construction vehicles as both streets are wide enough.”</i>	See our response to first written questions 4.94 and 4.95. East Lane, Chambers Street and Loftie Street are all adopted highways.

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27.	3.7 Summary and 3.7.88	<i>“Proposals to circumvent the council’s powers as Highway Authority are not acceptable.”</i>	<p>Our response to first written question 6.72 and Appendix APP6.72.01 address all legislation set out in Schedule 19 to the <i>Draft DCO</i>.</p> <p>Our approach to such legislation is to provide replacement controls on a project-specific basis through the DCO to ensure that the public interest objective underlying the excluded act would continue to be met, without undue interference to the effective and efficient implementation of the project.</p> <p>The approach and associated controls are bespoke and therefore better suited to the delivery of the project from the perspective of all stakeholders.</p> <p>As set out in Appendix APP6.72.01, our view is that the urgent need for the delivery of the project, balanced with the replacement controls secured through the DCO, would ensure that the public interest objective is met.</p>
28.	3.7.91	<i>“TW should indicate the type of users involved on a plan – e.g. cyclist/HGV or pedestrian/car and provide links to the actual accident details. Patterns can then be identified and the impact of an increase in HGVs, in particular, assessed. A full breakdown of accidents and causations should also be provided for review. Ideally accident statistics should be compared against collision rates extracted from the document “Levels of Collision Risk in Greater London, Issue 12, February 2009” (LCR) to evaluate the significance of the potential hazards. The accident rate for the signalised junction of Jamaica Road/Bevington Street (2.8/year) exceeds the borough average collision rate of 1.69/year.”</i>	<p>Paras. 20.4.110 to 20.4.120 of the <i>Transport Assessment</i> provide an accident analysis, which is supported by its Appendix D, which provides a full analysis of accidents in the local area and Figure 20.4.7 (ref 1PLO3-TT-50745) – a plan of the accident locations.</p>
29.	3.7.92	<i>“Road Safety Audits should be undertaken for each of the proposed construction phases, to provide assurance that</i>	<p>Stage 1 Road Safety Audits were carried out on the illustrative highway layouts proposed for this site. The</p>

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		<i>safety issues have been sufficiently considered in all proposed traffic management measures, including vehicular site access, pedestrian and cyclist diversion, traffic lane closure etc.”</i>	audit reports for this site are contained in <i>Transport Assessment</i> , Appendix E, Section 20. The contractor would submit detailed designs for approval prior to construction, including a road safety audit (see <i>CoCP</i> Part A, Section 5).
30.	3.7.126 Mitigation Summary	<i>“Minimum of 90 per cent of materials relating to Chambers Wharf to be transported by barge, with any derogations to be authorised by the council”</i>	See the <i>Draft Framework for the Transport Strategy Mechanism</i> , which includes the process proposed for derogations. Discussions with LBS to finalise this mechanism are ongoing.
Impacts on local schools and the education of local children			
31.	3.8 Summary	<i>“The application does not consider the specific impacts from noise and vibration on Riverside Primary School.”</i>	See row 10 above. Riverside Primary School was considered as a secondary receptor alongside receptors at 1-13 Loftie Street (<i>Environmental Statement</i> , Vol 20, para. 9.5.43). No significant effects were identified at this school. However, further consideration is being given to potential impacts and we are discussing possible measures to address these with LBS.
32.	3.8 summary and 3.8.14	<i>“The council considers pupils of the schools should be considered as having a high level of sensitivity to impacts, rather than medium as in the Environmental Statement.”</i>	The level of sensitivity of a given receptor identified within the socio-economic amenity impact assessment may not always be synonymous with the level of sensitivity assigned to that same type of receptor in the air quality, construction dust, noise, vibration (human response) and/or visual impact assessments. In this case, the socio-economic assessment identified the sensitivity of the school as ‘medium’, based on consideration of each of the sensitivities defined in the contributing assessments.
33.	3.8.15 to 17	<i>“Failure to recognise potentially significant impact of six year period on educational career: The construction works are</i>	The noise and vibration assessment (<i>Environmental Statement</i> , Vol 20, Section 9, paras. 3.8.16 and 3.8.17)

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		<p><i>programmed to continue for at least six years, and may take even longer given the complexities of a project of this magnitude. Six years represents a very long period of time in the education of a child going through school. It needs also to be borne in mind that once the Thames Tunnel works are complete there is likely to be a further two to three years of intensive construction activity for the permitted residential development on the site, in addition to the construction activity currently ongoing on the land to the south of Chambers Street, adjacent to both Riverside and St Michaels Schools.”</i></p> <p><i>“Effects of noise on education of children: The World Health Organisation (WHO) has produced guidelines 17 on community noise, including sources of noise from construction sites and road traffic. The guidelines highlight the impacts from noise pollution, including performance effects, physiological effects, annoyance and interference with intended activities. In relation to children, the WHO states that noise can adversely affect performance of cognitive tasks with reading, attention, problem solving and memorization among the cognitive activities most strongly adversely affected by noise.”</i></p> <p><i>“The WHO guidelines suggest that background noise levels should not exceed 35dB LAeq in class rooms and for outdoor playgrounds background noise levels should not exceed 55dB LAeq. The DfES guidelines for the acoustic design of schools¹⁸ also set a level of 35dBLAeq as the recommended design standard for classrooms. For hearing impaired children, a still lower level may be needed.”</i></p>	<p>takes into consideration and the guidance documents. As outlined above, we continue our discussions with LBS to agree Section 106 obligations, DCO Requirements and the mechanism for securing non-statutory compensation. The detail of these negotiations and agreements will be reported in the SoCG.</p>
34.	3.8.18	<p><i>“With windows closed these internal noise levels would be met in relation to construction works, however when</i></p>	<p>See row 10 above.</p>

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		<i>windows are open for cooling and ventilation, the internal noise levels would greatly exceed the guidelines at both Riverside and St Michaels Schools for works involving the demolition of the river wall and construction of the cofferdam. There is also a concern from St Michaels School how the construction programme will affect the use of the gymnasium when the building is being used for examinations, which occur for several periods during the school year."</i>	
35.	3.8.19	<i>"Impacts on children of noise from traffic: The application documents including the Environmental Statement propose that 90 per cent of excavated or imported materials in relation to the construction of the coffer dam and tunnelling activities will be by barge. However, there is nothing in the application binding or committing the applicant and/or those implementing the project to this figure."</i>	See row 3 above.
Socio-economic impacts			
36.	3.9 summary	<i>"The socio-economic chapter of the Environmental Statement does not properly assess the local economic impact of the proposed scheme, specifically in terms of employment, skills and contract supply chains. Enhance Section 106 provisions are required."</i>	<p>The socio-economic assessments within the site-specific volumes of the <i>Environmental Statement</i> assessed impacts on businesses where these would be displaced by construction activities or where they were considered to be sensitive to amenity effects (noise, vibration, construction dust and visual impacts). At Chambers Wharf, no businesses were identified as likely to be displaced or to experience amenity effects that would result in loss of economic activity. The <i>Environmental Statement</i> Vol 3: Project-wide effects assessment considered the effects on the Greater London labour market in terms of employment, skills and contract supply chains.</p> <p>The socio-economic assessments within the <i>Environmental Statement</i> and the Skills and Employment</p>

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			<p>Strategy (Doc ref: 7.15) consider a number of baseline indicators on employment, local businesses and skills for the boroughs with project worksites in order to understand the economic baseline and context of the project. Consultation was undertaken with economic development officers of the boroughs in order to further understand local issues with regard to businesses and the workforce.</p> <p>The objectives and actions within the <i>Skills and Employment Strategy</i> reflect this evidence base and aim to maximise the economic benefits of the project. Baseline analysis highlighted high unemployment and a high rate of NEETs (people not in education, employment or training) in Southwark, and consultation indicated that worklessness and barriers to the labour market were key issues. Relevant actions within the <i>Skills and Employment Strategy</i> include targets for employment of local unemployed people and ex-offenders within the contractor workforce; the promotion of science, technology, engineering and mathematics education outside of established educational settings; the appointment of skills and employment managers to maximise contractor employees drawn from the target beneficiary groups and to co-ordinate workforce training and skills; and supply chain engagement managers and other measures to maximise opportunities for local businesses. It is also envisaged that further education colleges such as LeSoCo (Lewisham and Southwark colleges) will be key partners in identifying and delivering training and skills to maximise the local benefits of the project.</p> <p>The proposed Section 106 Heads of Terms agreement includes obligations to secure the objectives of this</p>

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			strategy, as submitted on 4 November 2013.
37.	3.9.23	<ul style="list-style-type: none"> • <i>“There is a lack of suitable requirements and Section 106 obligations to mitigate and off-set the impacts of the development, including how measures in the Environmental Statement will be followed through into enforceable requirements, provisions or obligations.</i> • <i>“As proposed there is no ability for the Local Authority to consider and agree specific details which are critical to the impacts on local amenities.</i> • <i>“While time periods for the works are indicated there is no mechanism to bind the applicant, the Infrastructure Provider or contractors to these. This will create uncertainty for residents and could lead to an extension of the time needed for the works resulting in yet longer periods of intrusive disturbance for local people and schools.”</i> 	<p>We continue our discussions with LBS to agree Section 106 obligations, DCO Requirements and the mechanism for securing non-statutory compensation, including the noise insulation and temporary rehousing policy. The detail of these negotiations and agreements will be reported in the SoCG. We propose to issue a further updated version of the <i>Draft DCO</i>, including Requirements following the DCO Hearings in late November.</p> <p>The contractor is required to submit to the local authority applications for Section 61 consents under the Control of Pollution Act 1974 for each phase of the construction work. The contractor must demonstrate best practical means in managing noise impacts, including site layout details. See also row 9 above.</p> <p>In relation to time periods for the works, it is difficult to foresee whether in the event of a delay to work activities this would result in additional environmental effects requiring additional mitigation, particularly as the source of a significant effect such as noise and vibration would be subject to an application for a section 61 consent or another measure already proposed in the application such as the Noise Insulation and Temporary Re-housing policies. However, as discussed at the <i>Draft DCO Issue-Specific Hearing</i> on the 27 November 2013, we will investigate this matter further.</p>
38.	3.9.25	<i>“A major weakness in the application is that, where mitigation is proposed in the Environmental Statement, it is not carried through into the draft DCO, draft requirements or the draft Section 106 agreement. The sparseness of the</i>	The <i>Environmental Statement</i> (Doc ref: 6.2.01, Vol 1: Introduction to the Environmental Statement) explains our approach to mitigation. We actively sought to prevent/avoid, reduce or offset adverse environmental

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		<i>applicant's draft Section 106 heads of terms is testament to the failings of the application for development consent."</i>	effects and consider beneficial effects. Where potential for adverse effects is identified, commitments are made through appropriate DCO Requirements and measures in the CoCP Part A and Part B to minimise these effects.
39.	3.9.26 to 28	<p><i>"The application has also failed to properly take into account the significance of the socio-economic profile of the area in considering the overall impacts of the construction works, lasting at least six years, on the day to day lives of local people. While the Environmental Statement states that a relatively high proportion of local residents are old (15 per cent of those living within 250m of the site) and that there is a high incidence of deprivation within the vicinity of the site (Para 10.4.3 & 4 of Volume 20 of the ES), the application does not appropriately recognise the additional impacts that may result. For example, while stating that the sensitivity of nearby residential is only medium during the day, this does not take account of the fact that many old people and others will be at home both during the day and night and will be subject to the full 24 hour impacts of the construction works."</i></p> <p><i>"A survey carried out of residents of the Dicken's Estate including Wrayburn House (submitted as a separate written representation) exemplifies the particular sensitivity of residents living near to the site, including a significant percentage of residents who work from home, shift workers, those with disabilities, children and elderly people."</i></p> <p><i>"The application also does not properly recognise the impact of the construction works on the occupiers of the new 180 affordable dwellings which are currently being constructed immediately opposite the site on the south side of Chambers Street. Many of these residents are likely to be from lower than average income groups, will include disabled residents</i></p>	<p>The methodology for undertaking the socio-economic impact assessment judged that residential receptors would likely be more sensitive to significant construction/traffic noise or construction site lighting at night because of the potential for disturbance to sleep patterns, but would on average be generally less sensitive to an equivalent level of construction/traffic noise or lighting during the day. This judgement was made irrespective of whether residents are likely to be at home during the day or not, ie, it in effect assumes that they would be. At Chambers Wharf, the assessment determined, overall, that residents would be subject to major adverse effects based on the findings of the noise, vibration, construction dust and visual impacts assessments.</p> <p>The socio-economic assessment in the <i>Environmental Statement</i>, Vol 20, considered the community profile of the area surrounding the site (refer to Appendix H.1 of the <i>Environmental Statement</i>) as part of the overall assessment. The Equalities Impact Assessment (Doc ref: 7.16) considered the potential impact of the project and the proposed works at each site, on groups of people with protected characteristics, including, but not limited to: disabled residents and residents from lower than average income groups.</p>

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		<i>(10 per cent of the dwellings are designed as wheel chair accessible) and will spend higher than average amounts of time in their home.”</i>	
40.	3.9.37	<p><i>“The council has serious concerns about the Equalities Impact Assessment (EqIA) submitted by the applicant. A key consideration in pre-application consultation is equality and making sure that consultation has been undertaken in accordance with the Equality Act 2010. The applicant has failed to provide an Equalities Impact Assessment during the pre-application process and has not made reference in its consultation statement as to how equality has been considered in the pre-application consultation.</i></p> <p><i>“The council considers that the applicant has submitted an equalities impact assessment at too late a stage in the preparation of the proposal to have any meaningful input. No previous information on any equalities assessment has been submitted to the council for comment. The council considers that this a serious failing on the part of the applicant as the council is best placed to advise on local demographics and provide the necessary context for the affected area.”</i></p>	<p>Our pre-application consultation was undertaken in accordance with the Equality Act 2010. As detailed in our <i>Consultation Report</i>, Sections 1 to 10 (Doc ref: 5.1), we sought to ensure that it was possible for everyone to respond to the pre-application process and offered a range of solutions for people requiring additional assistance. For example, consultation information was available in large print, braille or audio format on request. Our Customer Centre offered a telephone service to translate consultation materials into any language on request. A health and safety audit was carried out of potential exhibition venues for each stage of consultation. It was important to strike a balance between accessibility of the buildings and proximity to residents. All exhibition locations were deemed accessible.</p> <p>In addition, all relevant boroughs were provided a briefing note regarding the approach to the equalities impact assessment in February 2012. The boroughs were encouraged to complete a feedback form identifying specific matters for inclusion in the assessment. We received no comments from LBS.</p>
41.	3.9.39	<i>“...the EqIA uses Census 2001 data and this should be updated as there are more recent datasets now available from the 2011 Census. The risk of using old data is that when the Secretaries of State for Communities and Local Government, and Environment and Rural Affairs (‘the Ministers’) make a decision on the application by Thames Water, they will make it on the wrong data and thus risk a</i>	<p>The Equalities Impact Assessment (Doc ref: 7.16) (EqIA) was based on the latest comprehensive data sets from Census 2001. The EqIA report (para 6.3.1) sets out assumptions and limitations and acknowledges the issues in using the 2001 set of statistics. Mid-Year Estimates were only available for population estimates and not the full range of data sets required for the equality groups and</p>

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		<i>challenge.”</i>	hence not used in the assessment. Since the release of Census 2011 we have undertaken a high level review of the new data sets and considered in detail the profile of the LBS. We are reviewing the use of the 2001 census data in the EqlA in order to determine if there are any implications.
42.	3.9.55	<p><i>“[...] a package of Section 106 provisions is needed to secure amenity enhancements in the local area to offset the adverse impacts of the construction works. In spite of requests made by the Council to the applicant at the pre-application stage, no such provisions have been included in the application. A package of measures is therefore proposed by the Council and is included at the end of this section. This includes:</i></p> <p>“Education [noted above in para. 3.8.30]</p> <p>“Residential Mitigation</p> <p><i>Implementation of a Residential Mitigation Scheme to include mitigation measures such as re-housing and the provision of new and secondary glazing and blackout curtains for affected residents</i></p> <p>“Landscape, Public Realm and Amenity</p> <p><i>Contribution towards landscape and amenity improvements in accordance with the agreed Landscape Public Realm and Amenity Scheme to include green acoustic screening, tree planting, enhancement to the Thames path and landscaping</i></p> <p>“Community Impact Mitigation</p> <p><i>Contribution towards community impact mitigation in accordance with the agreed Community Impact Mitigation Scheme for mitigation of intangible and residual effects of</i></p>	As discussed above, we continue our discussions with LBS to agree Section 106 obligations, Draft DCO Requirements and the mechanism for securing non-statutory compensation, including the noise insulation and temporary rehousing policy. The detail of these negotiations and agreements will be reported in the SoCG.

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		<p><i>development through locally agreed projects to promote economic, social and environmental wellbeing and enhance the quality of life of residents affected by the impacts of the project.</i></p> <p>“Construction Community Management <i>Management through a Community Working Group, appointment of Community Liaison Officer, monthly meetings, telephone complaints line for residents, information website for local residents</i></p> <p>“Community Safety <i>Management through a Community Safety Management Plan”</i></p>	
Health impacts			
43.	3.10 summary and 3.10.8-9, 3.10.17	<p><i>“In addition, to those considered by the applicant, climate change, perception of risk and waste generation should be included in the determinants for considering impacts in the Health Impact Assessment.</i></p> <p><i>“The application does not adequately consider the impacts on physiological and mental well-being which the council considers to be very significant.</i></p> <p><i>“Assessment of impacts on psychological well-being is also required: As well as considering the impacts on physical health, the Council also considers that the impact on psychological well-being is also very relevant, although this has not been adequately considered within the application. Impacts on the psychological well-being of those whose everyday life will be affected and constrained by a construction project of the duration and intensity proposed should be considered. It is well recognised in medical</i></p>	<p>The <i>Health Impact Assessment</i> (Section 6) sets out the health determinants against which the assessment was undertaken:</p> <ol style="list-style-type: none"> a. water quality b. access to open and green spaces and physical activity c. air quality d. odour e. noise and vibration f. transport and access to services such as medical or social g. quality of life h. waste generation, transport and disposal i. employment and business activities j. housing and household wealth

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		<p><i>literature that the psychological impact of events as subjectively perceived exerts effects on physical as well as mental health.”</i></p> <p><i>“If the scheme proceeds, many risks to human health and well-being need to be anticipated and pre-empted including additional provisions in the requirements, Section 106 and CoCP, including measures to off-set and mitigate impacts along with extensive and meaningful community liaison.”</i></p>	<p>k. climate change l. flood risk m. soil quality n. personal safety and security.</p> <p>It should be noted that some determinants were not taken forward in the Stage 2b assessment; the rationale for this is set out in paras. 3.9.7 to 3.9.10.</p> <p>Table 6.1 describes the potential health outcomes of determinants of relevance to the project, which include the full consideration of physiological and mental well-being.</p> <p>The CoCP includes provision for an extensive and inclusive community liaison plan together with embedded mitigation, control and monitoring measures to address potential adverse effects of the project.</p> <p>Provision for community liaison is one of the matters currently under consideration with LBS. Details of these negotiations and agreements will be reported in the SoCG.</p>
44.	3.10.27	<p>“Further information is required on impacts on mental well-being: MWIA screening is an initial process to see if it is worthwhile undertaking a full MWIA but is a useful standalone short assessment in its own right. The Council recommends that a full MWIA is undertaken prior to work beginning on the Chambers Wharf site.”</p>	<p>We will consult further with LBS in relation to mental well-being impact assessment screening prior to commencing work. We anticipate that this will form part of the ongoing dialogue with LBS, and consultation on the community liaison plan as set out in the CoCP Part A.</p>
Air quality			
45.	3.11 summary	<p>“There is no automatic feedback mechanism in connection with complaints to the Local Authority in the Air Quality Management Plan”</p>	<p>The CoCP Part A Section 3 (Communications and community/stakeholder liaison) covers how complaints would be dealt with, the mechanism for dealing with complaints (para. 3.0.6) and the reporting protocol for the local authority. The contractor’s site-specific air quality</p>

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			management plan (part of the construction environmental management plan, which is for approval by the local authority), would contain these details.
46.	3.11 summary	<p><i>“Given the proximity of the site to residential properties and schools, along with the length and intensity of the proposed works there is significant risk of impacts on both local air quality and dust.</i></p> <p><i>The council requires that there is a cast iron commitment to ninety percent of all materials generated or imported to the Chambers Wharf worksite to be via the River Thames in order to prevent air quality issues from increased traffic movements at Chambers Wharf.”</i></p>	See row 3 above.
47.	3.11.15	<p><i>“The council has received complaints from residents regarding them having experienced problems and irritation from dust related to recent construction activity at the Chambers Wharf South site”</i></p>	We cannot answer for other projects; however, as detailed in CoCP Part A Section 7, we would put multiple measures in place to avoid dust causing a nuisance to the surrounding community.
Townscape and visual impacts			
48.	3.12.23	<p><i>“Details of all structures, buildings, enclosure and hoardings need to be submitted for the approval of the Council prior to the commencement of each phase of the works. The details of the site hoardings shall include green planting and viewing windows to be agreed with the Council.”</i></p>	See rows 1 and 12 above.
49.	3.12.24	<p><i>“Details of the access shaft and above ground structures in connection with the permanent works need to be submitted for the approval of the Council prior to their construction.”</i></p>	The tunnel shaft would be below the finished ground level formed by the implementation of the approved residential development on the site. The finished ground treatment remains part of the landscaping detail to be approved by the local authority as part of the development. Requirement CHAWF2 requires details of the above-ground structures to be submitted to LBS for approval prior

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			to construction of these works.
50.	3.12.25	<i>“To off-set and mitigate the harmful townscape, visual and amenity impacts of the proposed construction works, a package of landscaping and tree planting measures is required to be agreed within the vicinity of the site. The funding and provision of such measures is required to be included in the Section 106 agreement should development consent be granted.”</i>	See row 20 above.
Archaeology			
51.	3.13	<i>“To determine if the site is acceptable, the assessment methodology in the ES is flawed and should be updated with an archaeological evaluation of the area of the shaft to comply with NPS requirements.”</i>	See row 54 below.
52.	3.13	<i>“The proposals for the foreshore have not been adequately assessed through on-site fieldwork. Significant impacts are likely to result on soft deposits within the foreshore.”</i>	See row 54 below.
53.	3.13	<i>“Prior to the determination of the application, the applicant should submit:</i> <ul style="list-style-type: none"> • <i>“An archaeological trench based evaluation within the footprint of the shaft proposed at Chambers Wharf, and</i> • <i>“An archaeological evaluation of the foreshore to inform the design and impact of proposals for the coffer dam and fill.”</i> 	See row 54 below.
54.	3.13.4 and 3.13.8	<i>“Southwark would expect any planning application to be accompanied by an archaeological assessment and trench-based evaluation of the impact of development.”</i> <i>“There is a clear confusion in the application documents</i>	We submitted a detailed archaeological assessment in <i>Environmental Statement</i> , Vol 20, Section 7. LBS’s view appears to be that there is insufficient data to assess properly the archaeological interest in the site

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		<p><i>concerning the archaeological interest at Chamber's Wharf. The evidence from the foreshore detailed in section 7.4.36 of the Environmental Statement details the prehistoric potential of the site as a medium to high significance, depending on survival. To assess the survival of the material, and therefore its significance it is necessary to undertake a trench-based archaeological evaluation. This is confirmed in section 8.4.3 of the Overarching Written Scheme of Investigation. This confident assumption is based on evidence recovered from the Chambers Wharf foreshore where years of archaeological survey have demonstrated intact early prehistoric stratigraphy and deposits. These deposits will continue beyond the river wall into the site."</i></p>	<p>without digging trial holes or undertaking other evaluation. We make a number of points in response. Firstly, the level of detail within any assessment should be proportionate to the importance of the heritage asset and no more than is sufficient to understand the potential impact of the proposal on the asset's significance. It is our view that a requirement for pre-determination evaluation would be disproportionate. The evaluation of the impact need not be addressed by physical 'field-based evaluation' of potential archaeological remains. In this case, the impact was fully addressed in desk-based form, supplemented by a range of data sources. We consider that this provides sufficient information to form a decision, without requiring additional fieldwork.</p> <p>We consider that the assessment is based on a considerable body of data. The Museum of London Archaeology has, on our behalf, reviewed a wide range of desk-based sources, monitored geotechnical investigations on the site over the past two years and carried out foreshore walkover surveys. It also carried out an archaeological watching brief in 2006 as part of another development to monitor and record ten geotechnical test pits, eight of which were located within the site, landward of the river wall. A substantial in situ peat horizon at the base of two of them was recorded, which may be of Late Bronze date (1200 to 800 BC). Several other pits and trenches immediately to the south of Chambers Street beyond the site recorded extensive survival of post-medieval buildings and other structures. Taken together, these works added to our confidence in the desk-based assessment and provide more than sufficient data to</p>

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			<p>adequately assess the interest of the site as required by the National Policy Statement for Waste Water (the 'NPS') at para. 4.10.8.</p> <p>There are also major practical impediments to pre-determination evaluation, eg, the possible presence of live services and utilities, access to the site given LBS's issues with removing excavated material from the site, the predicted depth of archaeological remains, health and safety concerns, and constraints of working on the foreshore with tide and water ingress.</p> <p>We have also discussed initial proposals for evaluation at this site with LBS, eg, at a meeting held on 26 June 2013, which demonstrates our commitment to undertaking a thorough programme of archaeological evaluation. The Archaeological Evaluation Framework document that we issued to LBS ahead of this meeting outlining the strategies and methodologies to be used for undertaking land-based and foreshore evaluation, was submitted to the ExA on 23 September 2013.</p> <p>Notwithstanding the above, we will continue to prioritise evaluation work at this site. For example, we intend to undertake trial trenches in early 2014 in the area of the main tunnel shaft, and evaluation of the foreshore is currently underway through vibrocore analysis and laser scanning, which will inform subsequent phases of foreshore-based evaluation. These phases of work will inform the design of detailed mitigation.</p>
55.	3.13.9	<i>"Paragraph L6.6 of the Heritage Statement for Chambers Wharf states that no highly significant archaeology has been identified that would merit preservation in situ. Prehistoric stratigraphy (sites that have developed and preserved</i>	Para. 4.10.13 of the NPS sets out a presumption in favour of the conservation of designated heritage assets (and undesignated assets of similar significance) and the more significant the designated heritage asset, the greater the

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		<i>sequences of use over time) are highly significant and rare in London and have been preserved where they have been identified elsewhere in the north Southwark area, specifically field systems and settlement evidence within the Shad Thames area. The assessment methodology for the Chambers Wharf site is therefore flawed and should be updated with an archaeological evaluation of the area of the shaft to comply with the requirements of the National Policy Statement. The evaluation would consequently demonstrate whether this is a suitable site for the proposed works to comply with the National Policy Statement for Waste Water.”</i>	presumption in favour of its conservation should be. There are no designated heritage assets within the Chambers Wharf site, and while recognising the potentially high significance of prehistoric remains, as explained in the <i>Environmental Statement</i> (para. 7.8.2), we do not consider that these are of a level of significance warranting permanent <i>in situ</i> preservation. In terms of the need to undertake evaluation pre-determination, see row 54 above.
56.	3.13.10	<i>“The applicants have not considered the continued survival of foreshore deposits once the scheme has been completed. At present, it is likely that the continued preservation of foreshore archaeology is aided by the piled structure supporting the jetty.”</i>	As no permanent river works are proposed, no operational phase scouring was predicted. Removal of the existing jetty was approved by LBS as part of the planning permission for the residential development on the site.
57.	3.13.11	<i>“The change in conditions between the present jetty structure and the proposal to remove the piers, construct the coffer dam, cranes and increase the loading across the site, then construct the new river wall alignment and remove these temporary features has not been adequately assessed and it is simply assumed that there will be no ongoing impacts on the foreshore archaeology due to the changed burial conditions. It is therefore necessary that an archaeological evaluation is undertaken on the foreshore to inform the design of proposals for the coffer dam and fill.”</i>	It is incorrect to state that the <i>Environmental Statement</i> does not adequately assess the temporary construction phase works. The impact of various works during this phase is considered in the <i>Environmental Statement</i> : the jetty removal impact is noted in para. 7.5.4; temporary scouring effects in para. 7.5.11, the temporary cofferdam in para. 7.5.7; additional loading in para. 7.5.7; and the river wall in para. 7.5.8. Cranes with foundations are not considered an additional impact as they would be located in the areas where archaeological remains would have been removed. The various impacts identified would result in a number of adverse effects on potential archaeological remains, for which mitigation is proposed. In order to determine the approach to mitigation, a full programme of foreshore evaluation would be undertaken, as described in

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			row 54 above.
58.	3.13.12	<i>“The Chambers Wharf proposals also locate the primary impact on site, the shaft, away from areas of known impact, such as the known basements from the buildings most recently occupying the site. Paragraph 4.10.18 of the National Policy Statement is clear that applicants should aim through design to avoid unnecessary damage to sites. This could involve the placement of the shaft in areas of known impact, such as the basements from the previous buildings, rather than partially outside the area of the proposed basement for the successor building increasing the archaeological impacts on the site and reducing the potential areas of preservation in situ or more suitable recording, over a wider area, as part of the permitted scheme.”</i>	The rationale for the position of the shaft at Chambers Wharf is described in the Engineering Design Statement (Doc ref: 7.18, Section 23.2.10). It would not be possible to locate the shaft in the position of the basements of the former buildings due to the required alignment of the intersecting tunnels and the need to align the main tunnel away from the footprint of high rise buildings.
59.	3.13.16	<i>“As there has yet to be any evaluation at Chambers wharf, either on the foreshore or in the area of the shaft, a requirement should be imposed to secure this. For the avoidance of any doubt this is separate to the recommendation for further mitigation works. The Written Scheme of Investigation will need to cover both the foreshore and works on ‘dry land’.”</i>	We are currently engaged in discussions with LBS regarding DCO Requirements. As outlined above, we intend to undertake trial trenches in early 2014 in the area of the main tunnel shaft, and evaluation of the foreshore is currently underway which will inform the design of detailed mitigation.
60.	3.13.17	<i>“Section 23 of the draft DCO (removal of human remains) makes no provision for archaeological work should the human remains prove to be of archaeological interest. Human remains have been identified in locations on the Thames foreshore and potentially may be of interest. Chambers Wharf is also located near to a known area of Roman burials at Cherry Gardens. This section of the DCO should be amended to reflect the potential for human remains of archaeological interest to be examined.”</i>	Article 23 of the DCO is a power to deal with human remains and to address the necessary processes in relation to those remains. The CoCP Part A (para. 12.3.5) details the methods for protection of the historic environment and identifies in exceptional cases (eg, nationally-significant remains) exclusion zones may apply.

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Land quality (contamination)			
61.	3.14.12	<i>“The applicant should be required to incorporate provision for a watching brief during construction and communicate to the Council any unusual observation that may require remedial works.”</i>	<p>The CoCP Part A Section 9, which is secured by a Requirement (PW6) and the site-specific contaminated land Requirements (eg, CHAWF7 and CHAWF8) require the contractor to undertake a risk assessment and develop a remediation strategy. Para. 9.2.3 e. of the CoCP Part A states: <i>“Monitoring of excavation works will be undertaken to check for unexpected or unusual materials with a contaminative potential. This material could consist of buried drums, tanks or containers, soil, groundwater or liquids with an unusual colour or odour, or other evidence of contamination. If this type of material is encountered, work will be stopped until the material has been properly identified and suitable precautions taken, including amending risk assessments and the remedial strategy, if appropriate. This approach will be included in the Construction Phase Plan”</i>.</p> <p>It also states in para. 9.3.2: <i>“An on-site watching brief will be undertaken during potentially high risk activities and an ‘on call’ watching brief for all other activities. Specialist watching brief may include: UXO contaminated land, occupational health and ecological.”</i></p> <p>Accordingly, we believe that this issue has been adequately addressed within the application.</p>
62.	3.14.13	<i>“The council also requires that a non–intrusive magnetomer survey is carried out by an accredited specialist company through a requirement within the Code of Construction Practice Part B. With the requirement that any magnetic contacts that model as UXO will be fully investigated.”</i>	<p>The CoCP Part A para. 9.3.2 quoted in the preceding section states that specialist watching briefs may include an unexploded ordnance watching brief. We would be happy to supplement this through inclusion of a provision in the CoCP Part B for such a survey using a magnetomer to be carried out by an accredited specialist. Any magnetic</p>

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
			contacts that model as an unexploded ordnance would be fully investigated.
Ground and surface water			
63.	3.15.10	<i>“The Environmental Statement (Volume 20 para. 13.2.4a) refers to bunded stores for fuel/oil that will be held on site in accordance with the Construction Code of Practice to prevent spillages and subsequent contamination of groundwater and surface water. However, the proposed illustrative drawings of the site do not show this facility and no further details have been provided.”</i>	As explained in the Planning Statement (Doc ref: 7.1, para. 1.2.6), the CoCP sets out detailed generic and site-specific requirements to order and limit the impact of construction activities. Not all measures presented in the CoCP are illustrated on the plans as the detail on illustrative plans is not for approval (see <i>Planning Statement</i> para. 2.4.28).
64.	3.15.11	<i>“Also, to prevent silty water from entering watercourses, surface water, drains and the roads a reference is made in the document for the use of settlement tanks but again no areas have been indicated in the applicant’s illustrative drawings for this facility.”</i>	See row 63. The commitment to deliver settlement tanks and measures to silty water from entering watercourses is set out in the CoCP Part A, which is secured by a Requirement in the <i>Draft DCO</i> .
65.	3.15.18	<p><i>“... the following measures are required to further manage flood and pollution risk associated with construction and operation of the infrastructure on all sites in order to mitigate the impact of the project:</i></p> <ul style="list-style-type: none"> <i>“The proposed structures and temporary structures required for works should consider rain gardens and water butts to attenuate surface water runoff. Construction of structures for air management, noise enclosure, electrical and control kiosk should include a combination of green roofs and rain gardens.</i> <p><i>“Further details are required of the calculations showing estimates of expected storm water, the amount that can be infiltrated onsite and the amount that will be discharged offsite.”</i></p>	<p>We are committed to managing flood and pollution risk associated with the construction and operation of the infrastructure on all sites. These commitments are set out in the Design Principles (Doc ref: 7.17), primarily Section 3.6. This includes the commitment for Sustainable Drainage Systems (SuDS) to be implemented on sites whenever practicable (where discharge into a tidal watercourse is not feasible).</p> <p>Where relevant, the possibility to include SuDS was explored on a-site by site basis and detailed in the flood risk assessment. It should be noted that the contractor would be responsible for selecting the appropriate surface water attenuation measures at the detailed design stage, in line with the relevant drainage principles.</p>

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66.	3.15.23	<p><i>“Detailed mitigation measures to be submitted prior to the determination of the application, or through a requirement, are required in relation to:</i></p> <ul style="list-style-type: none"> • <i>“Measures to undertake works and implement working methods to protect surface water and groundwater from pollution.</i> • <i>“Measures to protect the integrity of the flood defences in accordance with legislative requirement and industry guidance.”</i> 	<p>For the groundwater element of this, the CoCP Part A, Section 9, which is secured by a Requirement (PW6) and the site-specific contaminated land requirement (CHAWF7), requires the contractor to undertake a risk assessment and develop a remediation strategy. This would consider the risks associated with contamination and groundwater. As detailed in Section 8.1.1 of the CoCP Part A, the contractor will protect the integrity of the flood defences in accordance with relevant legislative requirements and industry guidance.</p> <p>In addition, the groundwater environmental management – dewatering and monitoring strategy, which is included in our response to the Environment Agency’s relevant representations, provides detail on how a dewatering plan and groundwater monitoring plan would be developed for the site.</p>
67.	3.15.24	<p><i>“Further details are required of the calculations showing estimates of expected storm water, the amount that can be infiltrated onsite and the amount that will be discharged offsite.”</i></p>	<p>The parameter plans are based on a series of draft operational layouts, which do not form part of the application but for which it has been possible to determine a likely approximate change in impermeable area. These figures have then been used to calculate an approximate attenuation requirement, which provides context to the identification of appropriate SuDS techniques and any requirement for residual storage. This is fully described in the flood risk assessment methodology, <i>Environmental Statement</i>, Vol 2, Section 15.</p> <p>The implementation of SuDS techniques has been considered at each site. Details of SuDS measures that could be applied at each site are provided within the site assessments. Where possible, a direct discharge into the</p>

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			<p>tidal Thames is the preferred disposal method.</p> <p>The SuDS techniques proposed in the site assessments take into account the Environment Agency's SuDS hierarchy, together with site location, ground conditions and topography. In general, where SuDS techniques are unlikely to be sufficient to provide the required attenuation, the balance would be delivered by underground storage.</p>
68.	3.15.25	<p>“Groundwater: <i>Where the site has groundwater or soil contamination, use should be made of an impervious liner to prevent transfer of contaminants.</i></p> <p><i>Otherwise, additional leachability testing and hydrology modelling should be undertaken to confirm that the contaminants of interest would not be mobilised by storm water.”</i></p>	<p>The outcome of the risk assessment and remediation strategy would specify this detail. It would be agreed with the local planning authority's contaminated land specialist.</p> <p>The outcome of the risk assessment and remediation strategy would specify this detail. It would be agreed with the local planning authority's contaminated land specialist (refer to the CoCP Part A, Section 4.2).</p>
69.	3.15.26	<p>“Control of pollution to groundwater: <i>Suitable protection measures need to be provided in order to control the risk of pollution to groundwater through activities which cause cross-contamination either by upper and lower aquifers being connected together or by the movement of groundwater of different qualities.”</i></p>	<p>See row 66 above.</p>
70.	3.15.27	<p>“Ensure that handling of excavated material from shafts and tunnels goes through the appropriate treatment processes and its storage does not lead to the pollution of groundwater.”</p>	<p>The excavated material and waste strategy (<i>Environmental Statement</i>, Vol 3, Appendix A.3) includes detail on the handling of excavated material, including hazardous material. The mechanisms for securing the waste strategy are currently under consideration.</p> <p>The CoCP Part A, para. 10.1.8, states that the hazardous excavated material would be kept separately from other material and managed in accordance with legislation. The CoCP Part A is secured by a Requirement in the <i>Draft</i></p>

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			DCO (PW6).
71.	3.15.28	<i>“Ensure materials used in the permanent or temporary works are not hazardous pollutants of groundwater.”</i>	This is addressed in the CoCP Part A, Section 8, para. 8.5.3: <i>“The materials to be used for construction within the lower aquifer will be agreed with the Environment Agency.”</i>
72.	3.15.29	<i>“Ensure ground treatment techniques do not affect both groundwater resources and water quality.”</i>	Section 8.9 of the CoCP Part A, states that any materials and methods used for ground treatment will be approved by the Environment Agency before being used. The contractor will maintain a list of the products authorised for use.
73.	3.15.34 to 36	<p>“Surface Water: <i>For brownfield sites, or previously developed sites, the existing rate of surface water discharge must be reduced by a minimum of 50 per cent (recommended approach provided in LIR).</i></p> <p><i>“The rate of surface water discharge for the 1 per cent AEP design event (1 in 100 year return period) from the proposed development site (including an allowance for climate change of 20 per cent allowance for non-residential developments) should be limited to a maximum of 50 per cent of the above calculated brownfield rate. The difference in these flow rates will inform the need for some form of attenuation.”</i></p>	<p>We are committed to ensuring that post-development surface water run-off rates do not exceed existing rates. This includes commitments at brownfield sites for a minimum 50 per cent attenuation of the undeveloped site’s peak surface water run-off. This is set out in the <i>Design Principles</i>, Section 3.6, SDRN.04 as follows:</p> <ol style="list-style-type: none"> a. Use SuDS measures, wherever practical. b. Achieve 100 per cent attenuation of the undeveloped site’s surface water run-off at peak times (ie, Mayor’s Preferred Standard). Where 100 per cent attenuation is unachievable, justification shall be provided. c. Where 100 per cent attenuation is unachievable, achieve as a minimum 50 per cent attenuation of the undeveloped site’s peak surface water run-off at peak times (ie, the Mayor’s Essential Standard). <p>In addition, Chambers Wharf is subject to site-specific design principle CHAWF.07, which states:</p> <p><i>“In the event that the approved residential development for the site does not proceed immediately after construction of</i></p>

Ref	LIR para. ref	London Borough of Southwark comment	Our response
			<p><i>the operational structures and as an interim stage prior to the construction of the approved residential development, drainage of the permanent works, comprising the footprint of the raised ground level around the above ground structures and top of the shaft and access into site, shall comply with the National Standards for Sustainable Drainage Systems under the Floods and Water Management Act 2010. Drainage of the interim footprint of works shall be designed to drain rain water and so protect the operational structures.”</i></p> <p>The design principles are secured by Requirement PW1 in the <i>Draft DCO</i>.</p>
74.	3.15.37	<p><i>“The general requirement for the management of surface water runoff is as follows and should be applied in that hierarchy. Measures lower in the order should only be applied if it’s proven that other higher order measures cannot be applied.</i></p> <p><i>“1. Harvest rainwater for use at a later time</i></p> <p><i>“2. Apply infiltration techniques where soil conditions will permit</i></p> <p><i>“3. Use ponds or open water features to attenuate rainwater for gradual release after the storm</i></p> <p><i>“4. Attenuate rainwater by storing in tanks sealed water features for gradual release after the storm</i></p> <p><i>“5. Discharge rainwater direct to a watercourse where possible</i></p> <p><i>“6. Discharge rainwater to the sewer network”</i></p>	<p>The implementation of SuDS techniques has been considered at each site. Details of SuDS measures that could be applied at each site are provided within the site assessments. Where possible, a direct discharge into the tidal Thames is the preferred disposal method.</p> <p>The SuDS techniques proposed in the site assessments take into account the Environment Agency’s SuDS hierarchy, together with site location, ground conditions and topography. In general, where SuDS techniques are unlikely to be sufficient to provide the required attenuation, the balance would be delivered by underground storage.</p> <p>See also row 73 above.</p>

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
Flood risk			
75.	3.16.10	<i>“The Council agrees with the representations submitted by the Environment Agency on the flood risk implications of the proposed development, including that the information currently provided by the applicant does not allow for balanced and informed representations or decisions to be made on the proposals and that further information is required.”</i>	<p>We produced a Flood Defence Asset Interpretive Report (Doc ref: 9.17) (<i>FDAIR</i>) in consultation with the Environment Agency. It brings together all our assessment work undertaken to date in respect of flood defence assets work. This was issued to the Environment Agency and submitted to the ExA on 23 September 2013. The <i>FDAIR</i> demonstrates that no significant residual flood risk effect is anticipated as a result of impacts from the construction of the project on flood defences.</p> <p>The <i>FDAIR</i> provides additional evidence to demonstrate that the conclusion in <i>Environmental Statement</i>, Vol 3, Section 15 (the project-wide flood risk assessment), that no significant effects on flood risk are anticipated, was robust.</p> <p>The <i>FDAIR</i> was reviewed by the Environment Agency, which confirmed that significant progress has been made towards satisfactorily resolving Issue 5.1 of the agency’s relevant representation (see the draft SoCG with the Environment Agency, Table 5.6.2).</p> <p>In its written representations, Section 5, the Environment Agency confirmed that <i>“We consider that there is adequate information to represent the flood risk arising from the project, and this fulfils the requirement of the National Policy Statement on this topic. We do not consider that a further FRA is necessary to provide adequate information.”</i></p>
76.	3.16.11	<i>“The Council considers that the lack of detail provided on the construction of the cofferdam is indicative of the applicant’s failure to provide sufficient information with the application.”</i>	A working platform within the foreshore is required at Chambers Wharf to provide a sufficiently large site to drive the main tunnel to Abbey Mills Pumping Station, to provide

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
		<i>The Council also considers that it is far from proven that the cofferdam is actually required at Chambers Wharf, even should its use remain as a drive site, and that other less disruptive and intrusive methods may well be possible.</i>	<p>sufficient working width around the main tunnel shaft for construction and to allow the demolition of the existing decking. The platform would also facilitate barging operations at the site.</p> <p>For the purposes of environmental impact assessment, it was assumed that the platform would be of a cofferdam construction in order to accommodate the high loads associated with the types of construction equipment likely. This is considered a worst case scenario.</p>
77.	3.16.12	<i>“The mitigation proposed in relation to flood risk is currently insufficient, including that contained within requirements and the Code of Construction Practice. The Council endorses the representations provided by the Environment Agency regarding the mitigation that will be required (and the DCO requirements needed to secure it).”</i>	<p>We disagree that the mitigation in relation to flood risk is currently insufficient. See row 75 above.</p> <p>We continue our discussions with the Environment Agency and LBS regarding these matters.</p>
Ecology			
78.	3.17.12	<p><i>“Further information required: Bat surveys are valid for a year so further bat surveys will be required. This should include both roosting and activity surveys.</i></p> <p><i>“It would help greatly if the timings of bats recorded over both Shad Thames and Chambers Wharf are included. This is so it is possible to establish how close to the sites they are. The further surveys will be required to meet Para. 11.4.11 of the CoCP on lighting.”</i></p>	<p>Further bat surveys undertaken in 2013 indicated that there is no significant difference to the results of the <i>Environmental Statement</i> baseline surveys and there would be no changes to the conclusions. These surveys showed that all bat registrations were made approximately one hour or more after sunset and approximately one hour or more before sunrise. There is therefore no reason to conclude that the bats recorded were roosting close to either site. None of the buildings or trees on either site was identified as having roost potential.</p> <p>Further surveys to be undertaken by the contractor are also described in the <i>CoCP</i>, Part A, Section 11.4.</p>
79.	3.17.15	<i>“Further information required: Further information on the</i>	As set out in <i>Draft DCO Requirement, CHAWF 5</i> , the

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
		<i>design and construction of the cofferdam will be required to assess any environmental impact. A method statement for the demolition of the river wall will be required. As outline above, before a structure remains on Chambers wharf and any plans for this structure ought to be set out as soon as possible.”</i>	<p>maximum extent of the temporary works platform shall not extend beyond the alignment shown on the Site works parameter plan. Should the alignment be less than that shown, details of the structure will be submitted to and approved by the Port of London Authority in consultation with the Environment Agency, prior to commencement of construction and the temporary works platform.</p> <p>The contractor would be required to prepare a method statement for all in-river works, in consultation with the Port of London Authority and Environment Agency, in accordance with <i>Draft DCO</i> Requirement CHAWF 6.</p>
80.	3.17.16 to 18	<p><i>“The details of measures to manage air pollution appear to be left to later through the production of air quality management plans produced by the contractors.</i></p> <p><i>“It is advisable to consider soft landscaping solutions to this problem by installing green hoarding and planting of mature evergreen hedges.</i></p> <p><i>“It is also advisable at Chambers wharf to sow a grass and wildflower mix on the bare ground to reduce dust which would arise from bare ground.”</i></p>	<p>We do not consider it feasible to utilise soft landscaping solutions on-site to manage dust, given the limited space available, and the fact that the construction site would be reconfigured during different phases of works, meaning it would be difficult to establish planting. However, a detailed range of air quality control measures are included in the CoCP Part A Section 7, which is secured by requirement in the <i>Draft DCO</i>. We are also considering the measures requested for inclusion in a Section 106 agreement. The detail of these negotiations and agreements will be reported in the SoCG.</p>
81.	3.17.19	<i>“CoCP B: The document should include creation of ecological features in the new river wall that is proposed in the design and access statement. There is a structure remaining on the site which should be checked for roosting bats before works commence.”</i>	<p>Design principles applicable to this site, which are secured by a requirement in the <i>Draft DCO</i>, include the provision of timber fenders to promote habitat for aquatic ecology (see the Design Principles, September 2013, Doc ref: 9.23.02, IRVR.06). We assume that this is the ecological feature LBS is referring to, as there are no references to ecological features in the Design and Access Statement (Doc ref: 7.04). Further pre-commencement checks for</p>

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
			bat roosts are required in the CoCP Part A.
82.	3.17.20	<p><i>“Pollution prevention: The project should minimise the use of toxic and potentially polluting substances such as herbicides, pesticides, fertilizers and petroleum products before, during and after construction to prevent the likelihood of spills and possible misuse leading to pollution of groundwater resources and water bodies.”</i></p>	<p>Section 8 of the CoCP contains a number of pollution prevention measures. These measures would ensure that the likelihood of spills groundwater resources and water bodies from the use of potentially polluting substances would be reduced.</p> <p>Para. 8.5.2 of the CoCP states that: <i>“The contractor will avoid using materials in the permanent or temporary works that could result in direct or indirect discharge of hazardous substances or non-hazardous pollutants to groundwater, as defined under the Groundwater (England and Wales) Regulations 2009 (‘The input of hazardous substances to groundwater will be prevented, and the input of non-hazardous pollutants will be limited to ensure that they do not pollute groundwater’).”</i></p>
83.	3.17.25 to 27	<p><i>“To reduce noise and air pollution Green hoarding should be used around the site. Ivy is a good plant for the green hoarding. Other climbing plants could be planted to provide ecological interest such as honeysuckle.</i></p> <p><i>“Creation of ecological features within a 250m radius of the development will help mitigate against the impact of the works and for the increased air and noise pollution.” “The following features should be included to enhance the ecological value of the area:</i></p> <ul style="list-style-type: none"> • <i>“Planting of native evergreen hedges</i> • <i>“Planting of trees</i> • <i>“Creation of Green walls on housing estates</i> • <i>“River wall enhancement to include ecological niches in the new wall</i> 	<p>The CoCP Part A para. 4.3.4 setS out the type of hoardings that would be provided and CoCP Part B specifies the relevant type of hoarding for each site. It is possible therefore for the hoardings of the site to be of the type (c) as requested by LBS.</p> <p>We continue our discussions with LBS regarding these matters. The detail of these negotiations and agreements will be reported in the SoCG.</p>

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
		<ul style="list-style-type: none"> “Creation of meadow on Chambers Wharf site to suppress dust “Creation of meadows in surrounding area.” 	
Climate change mitigation and adaptation			
84.	3.18.10 to 11	<p><i>“The applicant has not provided any detail on the final location of the excavated material. Without any further detail of the final destination of the material, the council considers that it is not possible to properly assess the total carbon emissions associated with the project. The energy and carbon footprint report is therefore incomplete.</i></p> <p><i>“Further information on the final location of the excavated material is required along with a complete assessment of the total carbon emissions associated with the project.”</i></p>	<p>See <i>Environmental Statement</i>, Vol 3, paras. 1.6.5 to 1.6.13 and Appendices A.4 and A.3 (Excavated materials and waste strategy and the Excavated materials options assessment respectively). Carbon was estimated for each of the options as part of the options assessment. The energy report used example sites to calculate the carbon footprint of the project.</p> <p>The final destination of the excavated material would be determined by the contractor using one of the preferred sites or a site that has been demonstrated to perform as least as well as the sites on the preferred list in the Excavated materials options assessment.</p>
Overall in-combination assessment of impacts on the area around Chambers Wharf			
85.	3.19.3	<p><i>“The application has not properly assessed the in-combination impacts of each individual effect arising from the construction works. In not doing so it has not allowed a full and proper assessment to be made of the combined impacts of the proposals on the day to day lives of residents and people around the site.”</i></p>	<p>The socio-economics assessment included within <i>Environmental Statement</i>, Vol 20, Section 10 includes an assessment of amenity impacts, which drew on the noise and vibration, air quality and townscape assessments and considered these impacts in combination.</p> <p>We do not believe that any additional effects would be identified from any alternative approach or that the effects predicted by the amenity assessment would be of greater magnitude had an alternative method been used. We are not aware of any suitable robust alternative assessment methods that include the suggested variables and have previously been applied to major infrastructure projects.</p>

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
86.	3.19.4	<i>“People living, learning and working in the vicinity of the site, along with people visiting the surrounds of the site for leisure, exercise, relaxation or access will suffer significant disturbance and inconvenience for a period of at least six years. The application has not properly understood the impacts on these people. The combined impact of effects from noise, vibration, sun and day light, visual impact, dust, air quality, road safety, traffic congestion, health, mental and physiological impacts will be very significant and has been understated by the application.”</i>	All of the possible effects listed were considered either in the <i>Environmental Statement</i> (such as the socio-economics assessment, see row 85) or within the <i>Health Impact Assessment</i> . We do not believe that the effects are understated.
87.	3.19.6	<i>The unsuitability of the site for the proposed works is compounded by the lack of specific detail within the application on how the construction works will actually progress, including the layout of the site for each phase and the specific details of the construction activities for each phase. For such a constrained and sensitive site, this is not acceptable and contrary to many of the policy criteria set out within the National Policy Statement.</i>	The <i>Environmental Statement</i> contains illustrative layouts for each phase of construction that were used in the assessments. Further details of the construction phases are given in Section 3 of each site volume and the elements used within the technical assessments are restated within those assessments, including plant lists for each phase. The environmental effects of the project would be limited through the control measures identified within the <i>CoCP</i> . These measures include the need to obtain a Section 61 consent, which would cover the method of working and proposed steps to minimise noise.
88.	3.20.1	<i>In addition to the lack of enforceable construction layout and detail in the applications drawings and details, the council is also of the view that the proposed mitigation measures (including the draft list of requirements and Section 106 obligations) are wholly inappropriate and, should consent be granted for the scheme in the current form (to which the council objects), would not provide appropriate safeguards, offset impacts, or provide protection measures to safeguard</i>	See rows 1 and 20.

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		<i>residents, schools and highway conditions within the surrounding area. Even if the proposals are amended so Chambers Wharf becomes a receptor site and is no longer utilised as a drive site, a range of additional requirements and obligations would be required.”</i>	

1.5 Shad Thames Pumping Station

Table 1.4 Matters relating to Shad Thames Pumping Station

Ref	LIR para. ref	London Borough of Southwark comment	Our response
Noise and vibration			
89.	LIR 5.6.19	<i>“While the Environmental Statement indicates that vibration levels would not reach a level which could cause impacts on residents amenity, it notes that specific ground conditions encountered would not be known until piling is underway. It may therefore not be possible to use low impact vibration methods. This is a significant concern for residential amenity and, from the information available it is not possible to determine whether or not adverse impacts would result from other methods of vibration. This concern is extenuated by the lack of any robust measures within the draft DCO, CoCP, requirements and Section 106 as proposed in the application to ensure that the contractor will utilise low vibration piling methods unless it is absolutely not possible. If it should not be possible to use these methods, there is then serious risk of further significant impacts on the surrounding area for residents. Furthermore, the Thames Tunnel compensation programme is not sufficiently robust</i>	In our responses to the first written questions 2.4, 11.23-11.25, we reported on further assessments into the feasibility of using low noise/vibration piling techniques to reduce the effect of these activities.

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Ref	LIR para. ref	London Borough of Southwark comment	Our response
		<i>to offset the significant impacts.”</i>	
90.	LIR 5.6.22	<i>“The work during the demolition and the set – up and scaffolding works should be programmed to carry out two hours noisy works and then a period of quiet work for the next two hours.”</i>	Details of management of noisy works would be dealt with by the Section 61 process under the Control of Pollution Act 1974. See our response to first written question 11.10 regarding adherence with the process.
91.	LIR 5.6.23	<i>“Before the piling work is commenced, a full geotechnical survey should be implemented before Thames Water propose and the Local Authority sign off on the final methodology of the piling work.”</i>	In determining the choice of piling technique, the contractor would assess the ground conditions from the available borehole and geotechnical data for the site and may opt to carry out further site investigation to verify the assessment. See our responses to first written questions 2.4, and 11.23 to 11.25 regarding the use of piling techniques and noise and vibration.
Air quality			
92.	5.7.14-15	<i>“The Local Authority’s response (26.6.17) to Section 48 publicity consultation stated that the authority was concerned with the location of the ventilation shaft and its position relative to the wake of adjacent buildings, may give rise to problems associated with the dispersion of fumes. In response the applicant states⁴⁶ that no ventilation is planned at Shad Thames Pumping Station site therefore would be no operational effects.”</i> <i>“However, examining the Shad Thames Pumping Station Book of Plans⁴⁷ shows on the south elevation a ventilation column adjacent to the boundary wall.”</i>	The operational air quality assessment at Shad Thames Pumping Station was scoped out of the <i>Environmental Statement</i> as the Shad Thames sewers would not be connected to the main tunnel. We propose to upgrade the existing pumping station and modify the existing sewerage system. The works include constructing a new ventilation column to serve the wet well at the pumping station. Emissions from the existing wet well are vented to the atmosphere; therefore we do not expect any significant change to the odour environment at the site. Under current operations at Shad Thames Pumping Station in a typical year during storm events, the shaft fills for a total of 42 hours with a maximum rate of rise of 1.76m/hour resulting an in expulsion of air of about 0.005m ³ /s. With the new ventilation column, there would be 42 hours of emissions, 84 hours of air inflow and 8,658 hours of no activity in the typical year. Since the total duration of air

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			release is less than the 175 hours, the emissions would comply with the Environment Agency H4 criteria, which requires the 98th percentile of hourly average concentrations during an average year to be no higher than 1.5OU _{E/m3} .
93.	LIR 5.7.16	<i>“The application states that the ventilation column is connected with the associated works, to vent the system, which has been designed as a simple pipe with no odour control system associated with it.48 The height of the column above the building is considered not to be sufficient to enable adequate dispersion of the wake. It appears that this ventilation column has not been fully assessed and if the development is given permission then a loss of amenity would occur at the adjacent residential properties due to odours from the ventilation system. Thames Water considers that the representation 26.6.17 has been fully addressed as part of the process of preparing the application49. The Council disagrees with this statement. Further assessment is required of the impacts of this ventilation column.”</i>	See row 92 above.
Design and visual impact			
94.	5.8.11	<i>“This site is located within the St Saviour’s Dock Conservation Area. Careful consideration is needed to be given to the design of the three storey extension along with other alterations to the building including the new vehicular access doors on the front elevation. The plans included in the application are only indicative and lack sufficient detail for a building located in the conservation area and in close proximity to adjacent residential properties. Furthermore the Design Principles proposed in the application do not provide</i>	Since the proposed works would be undertaken within and to the rear of the existing pumping station, the character of the conservation area would not be detrimentally impacted. The proposed modification works to the front of the building to provide new access would be consistent with the appearance and fenestration of the existing façade. The heritage design principles and site-specific design principles were submitted for comment to LBS during our pre-application consultation. LBS provided initial

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		<i>sufficient surety to allow the building works to go ahead. A DCO Requirement should be imposed requiring detailed drawings of all elevations along with detail 1:20 plans of the revisions to the front elevation to be submitted in writing for the approval of the Council.”</i>	comments which were taken into account in developing the document. Compliance with the design principles is secured by a DCO Requirement (SHTPS 2), which would ensure that the design would protect buildings and other elements of the historic environment, including listed buildings. Site-specific measures incorporated in the <i>CoCP</i> Part B, which is also secured by requirement in the <i>Draft DCO</i> , include the re-use of bricks from beneath the existing window, where practicable, in completing the new doorway and ensuring that the new door would be in keeping with the current door design.
95.	5.8.12	<i>“The new electrical equipment building to replace the existing three-storey facilities building should incorporate green roofing to produce a suitable attractive rooftop in close proximity to residential properties and to promote the bio-diversity credentials of the development.”</i>	Operational requirements in the building determine storey heights and the parapet level is constrained by the height of the existing pumping station building. There is not enough height within these constraints to accommodate the build-up required for a brown roof.
Transport impacts			
96.	5.10.18	<i>“The proposal to turn the section of Shad Thames from its junction with Gainsford Street northwards to its junction with Maguire Street from the existing one-way system to a two way system for an unspecified period of time would have a serious adverse impact on this section of the road. Shad Thames has a narrow carriageway width and the one-way section has an average width of 4 metres. This would not be wide enough to allow two vehicles to pass each other safely. This means that to achieve a two-way system the carriageway would have to be widened by reducing the footway width on one or both sides.”</i>	The overall construction period at Shad Thames Pumping Station is expected to be approximately one and a half years. The need to close Maguire Street for a period of time in order to facilitate construction of the manhole/pumping main is stated in the <i>Environmental Statement</i> , Vol 19: Shad Thames Pumping Station (Doc ref: 6.2.19, Section 12, para. 12.5.53) and in the <i>Transport Assessment</i> (Section 19, para. 19.2.20). The design of the traffic management arrangements during this phase is shown on Drawing DCO-PP-18X-SHTPS-200023 in the <i>Transport Assessment</i> (Section 19). This drawing identifies that temporary traffic management would be required on the narrow section of Shad Thames in order

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			<p>to facilitate and manage temporary two-way operation. The Schedule of Associated Highway Works in Section 19 of the <i>Transport Assessment</i> (at the start of the Shad Thames Pumping Station figures section) identifies this as works reference SHTPS_C05, which is described as “<i>Install temporary traffic management to enable two way flow</i>” This temporary management would be removed once works in Maguire Street are complete and the street has been reopened to traffic. The arrangements are secured by Requirement SHTPS 5.</p> <p>This temporary traffic management arrangement is intended to avoid the need to widen the narrower section of Shad Thames in order to maintain pedestrian footways, minimise disruption, and limit the need to relocate highway drainage and other underground services.</p>
97.	5.10.19	<p><i>“Even the current two-way section between Jamaica Road and Gainsford Street is not wide enough for two heavy duty vehicles to pass each other safely as it is on average 4.5 metres wide. This means that the carriageway would need to be widened to accommodate two-way construction traffic. A two-way carriageway for construction traffic requires at least a 5.5 metre wide carriageway.”</i></p>	<p><i>Environmental Statement</i>, Vol 19, Table 12.2.1 shows that the average daily number of construction lorry movements in the peak month of activity would be 14 (seven arrivals and seven departures). In other months, the number of lorry movements would be lower (approximately four to six movements per day). Vol 19, Table 12.5.2 shows that in the peak month, this equates to one lorry movement per hour and an additional four movements of other construction vehicles associated with the contractor’s operational requirements.</p> <p>Vol 19, Section 12, paras. 12.2.10 to 12.2.12 discuss the routes that would be used by construction lorries approaching and leaving the site and state that vehicles arriving would use Shad Thames. Vehicles departing would either return to Tanner Street via Shad Thames, or would use Gainsford Street/Lafone Street to return to Tooley</p>

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			<p>Street.</p> <p>Given the very low frequency of expected construction lorry movements at this site and the opportunity for construction vehicles to leave the site via Lafone Street for at least part of the construction period, we do not propose to widen the section of Shad Thames between Jamaica Road and Gainsford Street. The CoCP Part A sets out measures to ensure that traffic and construction lorries are managed appropriately. This is secured by Requirement PW 6 as part of CoCP Part A. A further level of control is also provided in the site specific Requirement SHTPS 5. The measures include (para. 5.1.5) the need for contractors to develop site-specific traffic management plans in consultation with the relevant highway authorities for approval by the local authority. These plans must include strategies to manage construction vehicle movements entering and exiting sites.</p>
98.	5.10.20	<p><i>“Widening the Shad Thames would entail relocation or diversion of utility services. It would also require the relocation of the existing highway drainage gullies that are currently located at the edge of the carriageway, on both sides. The gullies would have to be moved back to their original location once construction works have finished.”</i></p>	<p>As noted above, widening is not envisaged at this location as two-way traffic would be managed via temporary traffic management arrangements while Maguire Street is closed.</p>
99.	5.10.21	<p><i>“The character of this road would also be adversely affected by such works and it would be imperative for LBS to have oversight to ensure reinstatement would be done according to its guidelines and under its supervision, via the highways act S278. If LBS retains control then it would be able to carry out the relevant safety audits and scrutinise the proposed drawings to safeguard the interests of all highway users particularly pedestrians as the footway widths would</i></p>	<p>For the reasons above, we do not propose to widen Shad Thames during the construction period and therefore the impact on the street and on footway widths would be very limited.</p> <p>As noted above, the contractor would submit proposals for detailed traffic management plans and schemes for consultation with the local highway authorities and for</p>

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		<p><i>have to be reduced. LBS would also ensure residents' interests are taken into account before, during and after construction has long finished."</i></p>	<p>approval by the local authority (Requirement SHTPS 5). The CoCP Part A (paras. 5.1.5 and 5.1.6) list the required elements, including details of phasing, programming, safety audits for permanent works and temporary diversions, mitigation measures and publicity. These submissions are therefore expected to provide all the necessary information to enable LBS to review and comment on the proposals in order to achieve a scheme it can approve.</p> <p>In relation to reinstatement, our response to first written question 6.72 discusses the principles behind the proposals to dis-apply certain legislation, with reference to Schedule 19 to the <i>Draft DCO</i>.</p> <p>Appendix APP 06.72.01 sets out the effects of Schedule 19. Referring to paragraph (8) of Schedule 19 notes that <i>"the duty [on Thames Water] to reinstate under section 70 [of the New Roads and Streetworks Act 1991] remains"</i>. It also notes that <i>"for street works under article 10, resurfacing and reinstatement is secured by virtue of article 10(4)"</i>.</p> <p>Article 10(4) confirms that the provisions of Sections 54 to 106 of the New Roads and Street Works Act 1991 would apply to street works carried out under article 10 of the <i>Draft DCO</i>, except where aspects of that Act are disapplied through article 55 and Schedule 19 to the <i>Draft DCO</i>. Schedule 19 does not include the dis-application of Section 70 of the Act and hence the duty to reinstate remains.</p>

1.6 Earl Pumping Station

Table 1.5 Matters relating to Earl Pumping Station

Ref	LIR para. ref	London Borough of Southwark comment	Our response
Air quality			
100.	4.4.12	“Amendments to CoCP required: <i>The Council considers that there is a requirement for site – specific air quality and dust monitoring for naphthalene to be included in Code of Practice Part B during the excavation of the contaminated soils on site.”</i>	During the excavation of the contaminated soils, air monitoring for naphthalene will be undertaken. Since the re-issue of the CoCP (Part A and Bs) in September 2013, we have continued to refine the documents in response to comments received from our engagement with stakeholders. We are currently considering all feedback received on our CoCP including that provided within the written representations and LIR submitted for 4 November 2013 deadline. We propose to issue a further updated version of the CoCPs to the ExA following the DCO Hearings in late November.
101.	4.4.13	<i>“The Environmental Statement (Volume 22, Section 8 para. 8.2.12-13) contains suitable mitigation measures to deal with the potential problems from the site. However it is not clear how these effective material management procedures and environmental monitoring will be approved by Environmental Agency and the relevant Local Authorities. They should be added to the site-specific Code of Construction Practice measures.”</i>	The measures described in the <i>Environmental Statement</i> , Vol 22: Earl Pumping Station (Doc ref: 6.2.22, Section 8.2.12) would be delivered through the CoCP Part A.
Noise and vibration			
102.	4.5.12	“Noise: <i>The Council concurs with the conclusion that significant impacts would result from noise but considers that the applicant has underestimated the full extent of the impacts. A greater number of properties would be</i>	The assessment was undertaken using the appropriate methodology in BS5228 using the following significance criteria: a. defined in the Scope and Methodology Report

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		<p><i>significantly affected by noise from the proposals including 2-32 Chilton Grove and other properties to the west of the site on Chilton Grove (e.g. 70 to 106 Chilton Grove) which would also be adversely affected from traffic noise in connection with the construction works, the impacts of which have been underestimated in the application. For example, the traffic noise would be particularly acute for those properties close to the application site on Chilton Grove due to the additional noise impacts of vehicles accelerating as they move away from the site.”</i></p>	<p>b. utilised within the Preliminary environmental information report</p> <p>c. used on other large infrastructure projects.</p> <p>The impacts identified represent a reasonably foreseeable worst-case and we are well aware that the final construction method and mitigation on site must ensure that incident noise levels do not result in additional significant effects.</p> <p>With regard to accelerating construction vehicles, the assessment of road traffic noise was based on the change in the basic noise level as a result of the scheme. The <i>Environmental Statement</i> identifies a change of 1dB at this site as a worst-case, as a result of the change in traffic flow. The basic noise level in either the ‘with’ or ‘without’ scheme situation does not consider the driver’s nature; however the CoCP Part A (Section 5.1) includes measures to ensure that drivers operate vehicles in a manner which minimizes impacts on other road users and the local area.</p>
103.	4.5.13	<p><i>“The application notes (Environmental Statement Non-Technical Summary para. 24.3.8) that the owners of properties that would be affected by noise may be eligible to apply for noise insulation through the Thames Tideway noise insulation and temporary re-housing policy and that application of these measures would mean that there would be no significant noise effects. The application goes onto state that where the noise level would not trigger the provisions for noise insulation some of the properties may be eligible for compensation through the Thames Tideway Tunnel Compensation Programme. Where this is the case the noise effects would remain significant. This ambiguity</i></p>	<p>See our responses to first written questions 11.27, 11.33, 11.35 and 11.40.</p>

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		<p><i>offers no reassurance to the Council or residents as to how the impacts will be controlled and mitigated.</i></p> <p><i>“The noise and re-housing policy does not set appropriate criteria for residents to apply given the noise impacts that would result and is flawed in its operational requirements. The same is applicable to the Compensation Programme which does not appear to be enforceable under the currently proposed terms of the draft DCO.”</i></p>	
104.	4.5.16	<p><i>“Vibration: While the Environmental Statement indicates that vibration levels would not reach a level which could cause impacts on residents' amenity, it notes that specific ground conditions encountered would not be known until piling is underway. It may therefore not be possible to use low impact vibration methods. This is a significant concern for residential amenity and, from the information available, it is not possible to determine whether or not adverse impacts would result from other methods of vibration. This concern is extenuated by the lack of any robust measures within the draft DCO, CoCP, requirements and Section 106 as proposed in the application to ensure that the contractor will utilise low vibration piling methods unless it is absolutely not possible. If it is not possible to use these methods, there is then serious risk of further significant impacts on the surrounding area for residents. Furthermore, the Thames Tunnel compensation programme is not sufficiently robust to offset the significant impacts.”</i></p>	See our responses to first written questions 11.23, 11.24 and 11.25.
105.	4.5.18-19	<p><i>“The Code of Construction Part B’s within the L.B. Southwark area require a working party between Thames Water/contractor, members, residents and council staff to meet on a regular basis. This should be extended to the Earl Pumping Station Site. The CoCP should be expanded</i></p>	We are currently considering all feedback received on our CoCP including that provided within the written representations and LIRs submitted for the 4 November 2013 deadline. We propose to issue a further updated version of the CoCPs to the ExA following the DCO

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		<p><i>to require that the working group is to be convened with representatives made up from residents, local councillors from the two authorities, contractors, the employer and officers from both authorities.”</i></p> <p><i>“Thames Water considers that due to the site being situated in the L.B. Lewisham that any extended working hours should be agreed with them, however LBS should be consulted and notified as well.”</i></p>	Hearings in late November.
Transport (Earl Pumping Station)			
106.	4.6.37	<p><i>“The TA concludes that the impact of TTT sites on the strategic network will be minimal, but this needs to be substantiated in relation to the Lower Road gyratory.”</i></p>	<p>The methodology used for assessing the impacts on the highway network from the project examined both the strategic and local highway network operation, taking account of construction traffic associated with all project sites that would pass through the area under investigation.</p> <p>At a strategic level the assessment has shown no significant effects on the Lower Road gyratory.</p> <p>The local highway network assessment examined the junction of Lower Road with Plough Road and Rotherhithe New Road, which is the nearest junction to this site on the Transport for London Road Network. The assessment demonstrates that the changes to the operation of this junction, with the inclusion of all project construction traffic from this and other sites with routes through this area, would be very small and ‘negligible’ based on the impact magnitude and significance criteria set out in the <i>Environmental Statement</i>. In line with the methodology for the transport assessment, and given that the strategic highway modelling also showed no significant effects in the area, we did not consider it necessary to examine the operation of the local highway network beyond this junction.</p>

Ref	LIR para. ref	London Borough of Southwark comment	Our response
107.	4.7.1	<p><i>“The level of mitigation proposed in the application through the draft DCO, requirements, Section 106 obligation or CoCP falls well below what is required to mitigate and offset the significant impacts resulting from the proposed construction works at Earl Pumping Station. This includes:</i></p> <p><i>“Measures and restrictions to mitigate the adverse impacts in relation to construction noise and vibration; Measures to monitor and protect residential living conditions; Measures to monitor and mitigate against air quality impacts; Measures to mitigate against transport impacts and ensure local highway safety; Parking and waiting restrictions; Employment and local procurement measures; Public realm enhancements; Measures to offset community impacts; Costs of administration and monitoring”.</i></p>	<p>Joint borough meetings have been held with LBS and the London Borough of Lewisham in relation to Earl Pumping Station. We will continue to engage with both boroughs in relation to the works at this site.</p> <p>As part of ongoing discussion with LBS, we will keep LBS apprised of other matters that may relate or impact them as neighbouring local authority.</p>

1.7 Blackfriars Bridge Foreshore

Table 1.6 Matters relating to Blackfriars Bridge Foreshore

Ref	LIR para. ref	London Borough of Southwark comment	Our response
Southwark’s assessment of local impacts			
108.	6.4.3	<p><i>“The noise assessment for this site has assumed that 90 per cent of the cofferdam fill (both import and export), shaft and other excavated material (export) will be transported by barge. The City of London has stipulated that the loading and unloading of the barges is to be carried out during normal working hours only. This will need to be secured as a requirement, or a stipulation in the Part B of the Code of Construction Practice for this site.”</i></p>	<p>In regards to working hours, the CoCP Part A, Section 4.2 provides details of the working hour classifications. The CoCP Part B details the working hours for each site. We are currently considering all feedback received on our CoCP (including comments from the City of London Corporation) provided within the written representations and LIRs submitted for 4 November 2013 deadline (including comments from the City of London Corporation).</p>

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			<p>We propose to issue a further updated version of our CoCPs to the ExA following the DCO Hearings in late November.</p> <p>As outlined in row 3 above, a summary of the draft mechanism for securing the <i>Transport Strategy</i> (Doc ref: 7.09) has been prepared through discussions with the Greater London Authority, Transport for London, the Port of London Authority and the affected London Boroughs. Discussions with the local authorities are ongoing to finalise this mechanism.</p>
109.	6.4.4	<p><i>“In Volume 18 Appendix G of the Thames Water Environmental Statement, which presents the results of the monitoring points around the Blackfriars Bridge Foreshore site, the only monitoring point situated within Southwark is BBF03 – Marigold Alley, which is a suitable monitoring site for the residential properties to the west of Blackfriars Bridges, but not Falcon Point which is situated to the east of Blackfriars Bridge. Falcon Point will be affected by the enabling works to reinstate the Blackfriars River Pier to the east of Blackfriars Bridge from its current location to the west of Blackfriars Bridge.”</i></p>	<p>As explained in <i>Environmental Statement Vol 18: Blackfriars Bridge Foreshore</i> (Doc ref: 6.2.18, Section 9 and Appendix G.1), the survey methodology and monitoring locations were agreed with the City of London Corporation, prior to completing the surveys.</p> <p>LBS was also consulted with regard to limits for plant noise from the operation of the site, as the borough lies opposite this site across the River Thames.</p>
110.	6.4.6	<p><i>“In the ES – Transport, the vehicle routes are expanded to a wider area. Within the L.B. Southwark it is mentioned that the vehicle routes will include Southwark Street and Southwark Bridge Road and Elephant & Castle. It is not clear within the documentation whether the cumulative noise impacts within the project-wide assessments have taken into account the HGV transport for the construction projects in the Elephant & Castle area and within L.B. Lambeth. The Council has received complaints about the extra construction traffic occurring in these areas.</i></p>	<p>The noise and vibration assessment considers the effect of noise on receptors along the routes identified by the <i>Transport Assessment</i>. The assessment considers as minimum the construction vehicle route between the site access and the first junction on the Transport for London Road Network or Strategic Road Network. Southwark Bridge Road, Elephant and Castle and Southwark Street all fall outside of this assessment and therefore were not considered.</p>

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		<i>Clarification is sought on this by the applicant.</i>	
Required mitigation should consent be granted			
111.	6.5.1	<i>“It is essential that Southwark is consulted and involved with any matters relating to this site, including requirements and planning obligations.”</i>	<p>We are currently engaged in discussions with City of London Corporation regarding requirements and planning obligations in its capacity as local planning authority.</p> <p>As part of ongoing discussion with LBS, we will keep LBS apprised of other matters that may relate or impact them as neighbouring local authority.</p>

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