Appendix K – Chelsea Embankment Foreshore

K.1 Introduction

K.1.1 This appendix sets out the site selection process that we used and our rationale for identifying our preferred phase one and phase two consultation sites.

K.1.2 We need a worksite to intercept the existing local combined sewer overflow (CSO), known as the Ranelagh CSO, and connect to the northern Low Level Sewer No.1 to divert flows to the main tunnel. To enable the connection to be made, the site needs to be as close as possible to the line of these existing sewers.

K.1.3 By diverting the flow from the northern Low Level Sewer No.1 at this site and at Victoria Embankment Foreshore and Blackfriars Bridge Foreshore, we would not need additional sites to intercept the following CSOs: Smith Street, Queen Street, Church Street, Grosvenor Ditch, Kings Scholars Pond, Western Pumping Station, Northumberland Street, Savoy Street, Norfolk Street and Essex Street. This thereby reduces the number of worksites we need along the northern embankment.

K.1.4 All potential worksites have been identified in accordance with our Site selection methodology paper (SSM), which involved a ‘sieving’ approach, commencing with identification of all potentially suitable areas of land (excluding concentrated residential sites and World Heritage Sites) and passing these sites through increasingly detailed levels of assessment to move from a long list to a draft short list, a final short list and finally a list of preferred sites for phase one consultation.

K.1.5 A plan showing all the sites considered for the interception of the Ranelagh CSO and how they progressed during the site selection process can be found in Annex K.1.

K.1.6 The table below identifies our preferred phase one and phase two consultation sites. Section K.2 of this appendix provides the details of how we identified our preferred phase one site. Sections K.3 to K.5 provide details of why we have identified a different preferred site for phase two consultation.

<table>
<thead>
<tr>
<th>Phase one consultation site:</th>
<th>Chelsea Embankment Foreshore (west of Chelsea Bridge)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase two consultation site:</td>
<td>Chelsea Embankment Foreshore (opposite Bull Ring Gate)</td>
</tr>
</tbody>
</table>
K.2 Site selection up to phase one consultation

Assessment of the long list sites

K.2.1 The long list of potential sites to intercept the Ranelagh CSO and connect to the northern Low Level Sewer No.1 to divert flows to the main tunnel was created by conducting a desktop survey of the land in the vicinity of the existing sewer.

K.2.2 In total, seven sites were included on the long list. These sites were assessed having regard to the high-level considerations set out in Table 2.2 of the SSM (hereafter referred to as Table 2.2) including engineering (site size, site features, availability of jetty/wharf and access), planning and environment (heritage, landscape/townscape, open space and ecological) and community and property (neighbouring land uses, site use, Special Land/Crown Land and acquisition costs) considerations.

K.2.3 The table below provides a summary of the outcome of the Table 2.2 assessment in respect of the long list of sites considered for the CSO and the northern Low Level Sewer No.1. Sites which were assessed as being the least constrained when considered against Table 2.2 considerations passed to the draft short list. This did not necessarily mean that these sites would ultimately be judged as suitable, but that no significant constraints were identified in relation to the high-level considerations addressed at Table 2.2. Sites that were judged to be more constrained were not recommended to be retained on the draft short list for more detailed assessment. The main rationale for the exclusion of these sites at this stage is summarised in the table.

**Table K.1 Long list to draft short list for Ranelagh CSO and connect the northern Low Level Sewer No.1 (Table 2.2 assessment)**

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C14XA/CLLAA</td>
<td>Chelsea Embankment Foreshore (west of Chelsea Bridge)</td>
<td><strong>Recommendation</strong>: To draft shortlist</td>
</tr>
<tr>
<td>C14XB</td>
<td>Turning circle (near Bull ring Gate)</td>
<td><strong>Recommendation</strong>: To draft shortlist</td>
</tr>
<tr>
<td>C14XC/CLLAB</td>
<td>Small area, The Royal Hospital Chelsea southern grounds</td>
<td><strong>Recommendation</strong>: To draft shortlist</td>
</tr>
<tr>
<td>C14XD</td>
<td>Grass area at front of The Royal Hospital Chelsea</td>
<td><strong>Recommendation</strong>: To draft shortlist</td>
</tr>
</tbody>
</table>
Appendix K – Chelsea Embankment Foreshore

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
</table>
| C14XE   | Grass area fronting Chelsea Hospital | **Recommendation:** Not to draft shortlist  
**Rationale:** There is a long and difficult connection between the shaft site and the route of the sewer. |
| C14XF   | Burtons Court         | **Recommendation:** Not to draft shortlist  
**Rationale:** There is a long and difficult connection between the shaft site and the route of the sewer. |
| C14XG   | Chelsea Barracks      | **Recommendation:** To draft shortlist |

NB. The Site ID and Site name/description were used as an internal mechanism to record and describe the site but may be updated if necessary.

K.2.4 Of the seven sites identified, five were assessed as potentially suitable and passed to the draft short list while two sites were eliminated as being unsuitable.

Assessment of draft short list sites

K.2.5 The five draft short list sites identified for further assessment at the next stage were:

- C14XA/CLLAA: Chelsea Embankment Foreshore (west of Chelsea Bridge)
- C14XB: Turning circle (near Bull ring Gate)
- C14XC/CLLAB: Small area, The Royal Hospital Chelsea southern grounds
- C14XD: Grass area at front of The Royal Hospital Chelsea
- C14XG: Chelsea Barracks.

K.2.6 These sites were further assessed by the engineering, planning, environment, community and property disciplines, having regard to the considerations set out in Table 2.3 of the SSM (hereafter referred to as Table 2.3). This stage of the process built on the information gathered and assessment undertaken at long list stage but focussed on more detailed local considerations.

K.2.7 At this stage we also consulted with each of the London local authorities and pan-London stakeholders, such as the Environment Agency and English Heritage, to seek their views on the suitability of sites for the short list.

K.2.8 The table below summarises the outcome of the Table 2.3 assessment of the draft short list of sites. Sites which were assessed as being the least constrained when considered against Table 2.3 considerations were
Retained on the short list to pass to the next stage of assessment. This did not necessarily mean that a site would ultimately be judged as suitable, but that no significant constraints were identified in relation to the considerations addressed at Table 2.3. Sites that were judged to be more constrained were not recommended to be retained on the short list for more detailed assessment. The main rationale for the exclusion of these sites at this stage is summarised below.

Table K.2 Draft short list to final short list for Ranelagh CSO and connect the northern Low Level Sewer No.1 (Table 2.3 assessment)

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/ description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C14XA/CLLAA</td>
<td>Chelsea Embankment Foreshore (west of Chelsea Bridge)</td>
<td><strong>Recommendation:</strong> Retain on short list</td>
</tr>
<tr>
<td>C14XB</td>
<td>Turning circle (near Bull ring Gate)</td>
<td><strong>Recommendation:</strong> Not to draft shortlist</td>
</tr>
<tr>
<td></td>
<td><strong>Rationale:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Engineering – This is a relatively small site that will require the removal of an entrance to Royal Hospital Gardens and the public transport (bus) turning circle/stop. Furthermore, the feasibility of a connection to the tunnel is a concern because of the proximity of a Crossrail safeguarded route.</td>
<td></td>
</tr>
<tr>
<td>C14XC/CLLAB</td>
<td>Small area, The Royal Hospital Chelsea southern grounds</td>
<td><strong>Recommendation:</strong> Not to draft shortlist</td>
</tr>
<tr>
<td></td>
<td><strong>Rationale:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Engineering – The site boundary may need to be extended to the east due to the Crossrail safeguarded route crossing the site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Property – The use of the site is likely to have an adverse affect on Royal Hospital events including the Chelsea Flower Show, which would in turn be likely to affect the site value and the timescales to acquire the site.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Community – The use of the site will result in a loss of open space resulting in potential impacts on community cohesion and health and wellbeing.</td>
<td></td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/ description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>--------</td>
<td>------------------------</td>
<td>------------------------------</td>
</tr>
</tbody>
</table>
| C14XD  | Grass area at front of The Royal Hospital Chelsea | **Recommendation:** Not to draft shortlist  
**Rationale:**  
- Engineering – The interception chamber would be in a difficult location within Chelsea Bridge Road. This will require both road closure and probable service diversions and there will also be constraints on the tunnel connection. Furthermore, there are limitations associated with general access and site features.  
- Planning/Environment – The site is marked as a disused burial ground. The site also is situated within a Grade II registered park/garden and designated open space. The use of the site could result in an unacceptable level of impact on the designated areas. Furthermore, the use of the site could also impact upon nearby receptors (dust/noise impacts).  
- Community – The site forms part of a disused burial ground. Furthermore, there is potentially an impact on community cohesion, health and wellbeing, and an equalities group. |
| C14XG  | Chelsea Barracks       | **Recommendation:** Not to draft shortlist  
**Rationale:**  
- Engineering – The interception chamber would be in a difficult location within Chelsea Bridge Road. This will require both road closure and probable service diversions and there will also be constraints on the tunnel connection. Furthermore, there are limitations associated with general access and site features.  
- Planning/Environment – A major planning application is pending for this strategic site so there may be considerable risk as the site layout is not known.  
- Property – There would be |
Of the five sites on the draft short list, one was assessed as potentially suitable and passed to the final short list, while four sites did not proceed to the final short list.

**Assessment of the final short list sites**

The only site identified for inclusion on the final short list and assessment at the next stage was:

- **C14XA/CLLAA: Chelsea Embankment Foreshore (west of Chelsea Bridge).**

A site suitability report (SSR) was prepared for this final shortlisted site. This report contained an assessment of the site’s suitability, having regard to engineering, planning, environment, community and property considerations. At this stage in the process, sites were assessed in isolation without comparison to other sites or regard to tunnelling strategy. Sites were evaluated by each discipline, using technical knowledge and professional judgement as appropriate, and assessed as either **suitable**, **less suitable** or **not suitable** from that discipline’s perspective.

A summary of the conclusions of each discipline’s assessment from the site suitability report is provided below.

**C14XA/CLLAA: Chelsea Embankment Foreshore (west of Chelsea Bridge)**

The Chelsea Embankment Foreshore is situated within the foreshore of the River Thames and in the Royal Borough of Kensington and Chelsea. The site is rectangular in shape and bounded by the River Thames to the east, south and west.
K.2.14 Ranelagh Gardens, a Grade II registered park and garden, lies to the north of the site, separated from it by Chelsea Embankment.

K.2.15 **Engineering:** The site was assessed as **suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel because it is relatively unrestricted in size and shape and the site has good access from the Chelsea Embankment.

K.2.16 **Planning:** On balance, the site was assessed as **less suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. A number of sensitive planning and environmental designations relate to this site and its prominent location, of which the heritage, conservation and Thames Policy Area are the most significant. Mitigation will be required to make the site acceptable for use.

K.2.17 **Environment:** Overall, the site was assessed as **suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. The site was considered likely to be **suitable** from the perspectives of archaeology, built heritage, groundwater, land quality, noise and air quality. However, the site was considered **less suitable** from the perspective of transport, townscape, surface water, ecology and flood risk, so mitigation would be required to make the site acceptable for use.

K.2.18 **Socio-economic and community:** The site was assessed as **suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. Its use is likely to cause some noise and access disturbance to users of the path alongside the Chelsea Embankment. Furthermore, the Royal Hospital Chelsea gardens may be impacted by the use of the site, although effects are likely to be minor due to the distance from the site. Mitigation may be required to reduce the effects on these receptors.

K.2.19 **Property:** Assessed the site as **suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. The site is not a developed site and the acquisition costs should be acceptable. However, a special ministerial procedure may be needed to acquire it which could cause project delays.

**Identification of the preferred site**

K.2.20 Following the completion of the SSR, a multidisciplinary workshop was held to consider the suitability of the one site on the short list and to confirm there were no other alternative sites that had been overlooked.

K.2.21 The Chelsea Embankment Foreshore (west of Chelsea Bridge) (C14XA/CLLAA) was identified as the preferred site for a number of reasons which are summarised below.

- The choice of possible worksites near the CSO was severely limited due to the presence of two Grade II registered parks and gardens, the Royal Hospital and Ranelagh Gardens, all of which have significant heritage value as well as providing an important resource for the local and wider community for events, such as the Chelsea Flower Show.

- The preferred site is separated from Ranelagh Gardens and the Royal Hospital by the Highway (A3212), which would provide a barrier...
between the site and open spaces to the north, helping to reduce the impact of construction works. This site also has good access from the local road network via the A3212, which forms part of the TLRN.

- Due to the prominent location of the site in a sensitive area, a high level of mitigation would be required to make acceptable use of the site and to ensure that the site could be developed without conflict with the Royal Borough of Kensington and Chelsea planning policies.

K.3 Review of site selection following phase one consultation

Phase one consultation responses

K.3.1 As part of the site selection methodology, all feedback received during the phase one consultation was reviewed and taken into account in the development of our scheme for phase two consultation.

K.3.2 The main issues raised during phase one consultation in relation to the Chelsea Embankment Foreshore (west of Chelsea Bridge) site included:

- traffic congestion
- impact on the historic nature of the area, including listed structures and buildings
- impact on aquatic ecology within the River Thames foreshore
- construction impact on local amenity, transport congestion, and local events and activities, including the Chelsea Pensioners and Chelsea Flower Show.

K.3.3 More detail on the consultation responses relating to this site and our response to the comments received are provided within the Report on phase one consultation.

Back-check process

K.3.4 During phase one consultation, English Heritage raised concerns over the use of our preferred option in the foreshore due to the impacts of the permanent works on the historic views westwards along the Thames from the listed Chelsea Bridge. During discussions with English Heritage, they requested that we investigate the use of the south grounds of the Royal Hospital Chelsea (RHC) and Ranelagh Gardens. The Environment Agency also encouraged us to investigate whether there were any alternative land-based sites.

K.3.5 As a result of this feedback and other comments we received during the phase one consultation, we began a ‘back-check’ (as outlined in the SSM) to review our selection of Chelsea Embankment Foreshore (west of Chelsea Bridge) as our preferred site.

K.3.6 This ‘back-check’ involved a targeted repeat of each relevant stage of our site selection process to reconsider which site would be most suitable for the interception of the Ranelagh CSO and connect to the northern Low Level Sewer No.1 (LLS1(N)) to divert flows to the main tunnel. The following outlines the results from each stage of the back-check process.
Assessment of the back-check long list

K.3.1 The original long list for Ranelagh CSO/LLS1(N) contained seven sites (see Table A10.1). These sites were reviewed along with any new sites identified in the back-checking exercise (ie, a reassessment to establish if there is any change of circumstances or new information has emerged).

K.3.2 All sites on the original long list were put on the back-check long list for this CSO/LLS1(N). In addition, the following new sites were added to the back-check long list:

- C14XH/CLLAG: Ranelagh Gardens (new site – replaces C14XB and C14XC/CLLAB)
- C14XJ/CLLAH: Chelsea Embankment Foreshore (opposite to Bull Ring Gate) (new site – Crossrail accepted a small site was feasible with the Crossrail 2 safeguarded zone).

K.3.3 Sites C14XB and C14XC/CLLAB were withdrawn as these were replaced by C14XH/CLLAG.

K.3.4 It should be noted that consideration was also given to other alternative sites suggested by consultees, however there were no other sites identified that were located within feasible distance for this CSO/LLS1(N).

K.3.5 The back-check long list sites were assessed against the engineering, planning, environment, community and property considerations set out in Table 2.2.

K.3.6 The table below summarises the outcome of the ‘back-check’ assessment of the back-check long list of sites. Sites which were assessed as being the least constrained when considered against Table 2.2 considerations passed to the next stage of assessment. This did not necessarily mean that these sites would ultimately be judged as suitable, but that no significant constraints were identified in relation to the high-level considerations addressed at Table 2.2. Sites that were judged to be more constrained were not recommended to be passed to the back-check draft short list for more detailed assessment. The main rationale for the exclusion of these sites at this stage is summarised in the table.

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C14XA/CLLAA</td>
<td>Chelsea Embankment Foreshore (west of Chelsea Bridge)</td>
<td>Recommendation: To draft shortlist</td>
</tr>
<tr>
<td>Site ID</td>
<td>Site name/ description</td>
<td>Recommendation and rationale</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| C14XD        | Grass area fronting Chelsea Hospital    | **Recommendation:** Not to draft shortlist  
**Rationale:** There is a long and difficult connection between the shaft site and the route of the sewer. The land is privately owned land but could be classified open space and there are further restrictions relating to the graveyard. |
| C14XE        | Grass area fronting Chelsea Hospital    | **Recommendation:** Not to draft shortlist  
**Rationale:** There is a long and difficult connection between the shaft site and the route of the sewer. The land is part of the Royal Hospital and acquisition costs are likely to be high. |
| C14XF        | Burtons Court                           | **Recommendation:** Not to draft shortlist  
**Rationale:** There is a long and difficult connection between the shaft site and the route of the sewer. |
| C14XG        | Chelsea Barracks                        | **Recommendation:** To draft shortlist |
| C14XH/CLLAG  | Ranelagh Gardens                        | **Recommendation:** To draft shortlist |
| C14XJ/CLLAH  | Chelsea Embankment Foreshore (opposite to Bull Ring Gate) | **Recommendation:** To draft shortlist |

NB. The Site ID and Site name/description were used as an internal mechanism to record and describe the site but may be updated if necessary.

K.3.7 Full details are provided in back-check Table 2.2 assessment tables and accompanying plans.

K.3.8 Of the seven sites identified, four were assessed as potentially suitable and passed to the draft short list while three did not.

**Assessment of the back-check draft short list sites**

K.3.9 The three back-check draft shortlisted sites were then further assessed by the engineering, planning, environment, community and property disciplines having regard to the considerations set out in Table 2.3 of the SSM.

K.3.10 The table below summarises the outcome of the ‘back-check’ assessment of the draft short list of sites. Sites which were assessed as being the least constrained when considered against Table 2.3 considerations were retained on the back-check short list to pass to the next stage of assessment. This did not necessarily mean that a site would ultimately be judged as suitable, but that no significant constraints were identified in
relation to the considerations addressed at Table 2.3. Sites that were judged to be more constrained were not recommended to be retained on the short list for more detailed assessment.

The main rationale for the exclusion of these sites at this stage is summarised below.

**Table K.4 Draft short list to final short list for Ranelagh CSO and connect the northern Low Level Sewer No.1 (Table 2.3 assessment)**

<table>
<thead>
<tr>
<th>Site ID</th>
<th>Site name/description</th>
<th>Recommendation and rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>C14XA/CLLAA</td>
<td>Chelsea Embankment Foreshore (west of Chelsea Bridge)</td>
<td><strong>Recommendation:</strong> To draft shortlist</td>
</tr>
<tr>
<td>C14XG</td>
<td>Chelsea Barracks</td>
<td><strong>Recommendation:</strong> Not to draft shortlist</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Rationale:</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Engineering – The interception chamber would be in a difficult location within Chelsea Bridge Road. This will require both road closure and probable service diversions and there will also be constraints on the tunnel connection. Furthermore, there are limitations associated with general access and site features.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Planning/Environment – A major planning application is pending for this strategic site so there may be considerable risk in using this site.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Property – There would be substantial acquisition costs, so based on the available information it is not deemed to be a viable site.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Community – There are a number of sensitive receptors in the vicinity and there may be an impact on community cohesion, health and wellbeing and equalities considerations.</td>
</tr>
<tr>
<td>C14XH/CLLAG</td>
<td>Ranelagh Gardens</td>
<td><strong>Recommendation:</strong> To draft shortlist</td>
</tr>
<tr>
<td>C14XJ/CLLAH</td>
<td>Chelsea Embankment Foreshore (opposite to Bull Ring Gate)</td>
<td><strong>Recommendation:</strong> To draft shortlist</td>
</tr>
</tbody>
</table>

NB. The Site ID and Site name/description were used as an internal mechanism to record and describe the site but may be updated if necessary.
K.3.11 Full details are provided in back-check Table 2.3 assessment tables and accompanying plans.

K.3.12 Of the four sites on the draft short list, three were assessed as potentially suitable and passed to the final short list while one site was not shortlisted.

Assessment of the back-check final short list sites

K.3.13 The three back-check final shortlisted sites identified for assessment at the next stage were:

- C14XA/CLLAA: Chelsea Embankment Foreshore (west of Chelsea Bridge)
- C14XH/CLLAG: Ranelagh Gardens
- C14XJ/CLLAH: Chelsea Embankment Foreshore (opposite to Bull Ring Gate).

K.3.14 A site suitability report (SSR) was prepared for the new back-check final short list site and the SSRs for the phase one shortlisted sites were re-evaluated.

**C14XA/CLLAA: Chelsea Embankment Foreshore (west of Chelsea Bridge)**

K.3.15 Some UDP policies have been superseded by the Core Strategy. Furthermore, trees lining Chelsea Embankment and abutting the site are not TPO protected but are located within a conservation area. However, these are not significant changes that would alter the assessment or conclusion.

K.3.16 Works in the Embankment Road may have an impact on local traffic and therefore the local community. However, the recommendation for socio-economic and community remains suitable.

K.3.17 We have now confirmed the foreshore is Crown land and therefore acquisition must be by agreement. However, the property recommendation remains suitable.

K.3.18 All other discipline recommendations remain unchanged.

**C14XH/CLLAG: Ranelagh Gardens**

K.3.19 Site C14XH/CLLAG is located in the Royal Hospital Chelsea grounds, Ranelagh Gardens and in the carriageway of Chelsea Embankment adjacent to Ranelagh Gardens, within the Royal Borough of Kensington and Chelsea. Royal Hospital Chelsea and Ranelagh Gardens comprise a Grade II registered historic park and garden.

K.3.20 Trees with preservation orders line the north and south side of the Chelsea Embankment road adjacent to the site and within the park. There are no residential properties at the site and there are no signs of ongoing development.

K.3.21 We considered three options: Option 1 within the southern grounds of the Royal Hospital and Options 2 and 3 within Ranelagh Gardens. The site CLLAG is a potential site for the partial interception of the northern Low...
Appendix K – Chelsea Embankment Foreshore

Level Sewer No 1 (LL1). Although identified separately, C14XH and CLLAG are, in practice, the same physical site and this site is now being considered to intercept both CS14X and LL1.

K.3.22 **Engineering:** The site was assessed as **suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel under all three options because being a highway and inland parkland site, the size and shape can be adjusted to suit final requirements, and it has good access directly from the TLRN A3212.

K.3.23 **Planning:** On balance, both options were assessed as **less suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. The site is covered by or in the setting of several designations, of which the listed building, registered historic park and garden, conservation area and the Thames Policy Area are the most significant. Some mature trees may be lost under all three options, with options 2 and 3 having a greater impact upon number of trees and wildlife. Option 1 would have a greater impact upon vistas of the Royal Hospital during construction and upon the amenity of established or occasional temporary events held in the South Grounds. All three options are unlikely to have substantial permanent impacts upon townscape, vistas and setting of the Grade 1 listed Royal Hospital.

K.3.24 **Environment:** All three options were considered suitable to connect the CSO and northern Low Level Sewer No.1 to the main tunnel from the point of view of archaeology, ecology, water resources (hydrogeology and surface water), flood risk, noise and land quality. Furthermore, they were considered less suitable in terms of transport, built heritage and townscape and air quality. In addition, Option 3 was also considered less suitable in terms of noise, while options 1 and 2 were considered suitable.

K.3.25 Overall, options 2 and 3 are considered **suitable** while option 1 is considered **less suitable** because of the considerable constraints associated with the works for the intermediate drop shaft located in Royal Chelsea Hospital Gardens.

K.3.26 **Socio-economic and community:** All three options were assessed as **less suitable** to intercept the CSO and northern Low Level Sewer No.1. This is predominantly due to the potential impact the proposed works could have on users of Ranelagh Gardens, including the effect on the many events which take place in the vicinity. The effects on nearby sensitive receptors, including residential properties to the west of the site, the Lister Hospital and Royal Hospital, are also factors to be considered.

K.3.27 **Property:** Assessed the site as **less suitable** to intercept the CSO and northern Low Level Sewer No.1 for all three options due to high acquisition costs arising from the possibility of having to provide replacement land, and due to acquisition risk if a special parliamentary procedure is needed.

**C14XJ/CLLAH:** Chelsea Embankment Foreshore (opposite to Bull Ring Gate)

K.3.28 Site C14XJ is rectangular in shape and located in the foreshore of the River Thames. Opposite the site is the Bull Ring Gate to the Royal
Hospital. The South Grounds of the Royal Hospital and Ranelagh Gardens, together a Grade II registered park and garden, lies to the north of the site, separated by the A3212 Chelsea Embankment highway.

K.3.29 **Engineering:** The site was assessed as **suitable** to connect the Ranelagh CSO and northern Low Level Sewer No.1 to the main tunnel because its size and shape can be adjusted to suit final requirements, and it has good access directly from the TLRN A3212. The proposed shaft location is within the Crossrail 2 safeguard zone. However, discussions with Crossrail have now confirmed that it is possible to accommodate a shaft within this zone.

K.3.30 **Planning:** On balance, the site was assessed as **less suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. The site is covered by and abuts several designations of which the conservation area, nearby listed buildings, registered historic park and garden and Thames Policy Area are the most significant.

K.3.31 **Environment:** Overall, the site was assessed as **suitable** for use as a CSO interception site. The site was considered **suitable** from the perspectives of archaeology, built heritage, water resources (hydrogeology), air quality, noise and land quality. This site was considered **less suitable** from the perspectives of transport, townscape, water resources (surface water), ecology and flood risk.

K.3.32 **Socio-economic and community:** The site was assessed as **suitable** to connect the CSO and divert flow from the northern Low Level Sewer No.1 to the main tunnel. The greatest impact from a community impacts perspective is likely to be on the adjacent pavement alongside the Chelsea Embankment due to increased noise and disruption. Furthermore, the Royal Hospital and Ranelagh Gardens may be impacted by the use of the site, although effects are likely to be minor due to the distance from the site. It appears unlikely that the proposed after-use structures will negatively impact on the local community.

K.3.33 **Property:** Assessed the site as **suitable** to connect the CSO and northern Low Level Sewer No.1 to the main tunnel. The site is undeveloped foreshore and therefore acquisition costs are likely to be acceptable. However, the foreshore is registered Crown land and therefore the site will need to be acquired by agreement. If negotiations with the Crown fail, the site cannot be secured by compulsory purchase.

K.4 **Preferred site recommendation**

K.4.1 Following the completion of the back-check process, a multidisciplinary workshop was held to compare the originally preferred site (C14XA/CLLLA) with the new sites (C14XH/CLLAG and C14XJ/CLLAH) identified via the back-check.

K.4.2 This workshop took into account the findings of all the SSRs and the feedback received during the phase one consultation. On the basis of the assessments described above and professional judgement, it was agreed by all disciplines that **Chelsea Embankment Foreshore (opposite to Bull Ring Gate)** should become the recommended phase two
consultation preferred site to intercept the Ranelagh CSO and connect the northern Low Level Sewer No.1 to the main tunnel. This meant that we believed this to be the most appropriate site, subject to further engagement with stakeholders and further design development to verify this conclusion prior to phase two consultation.

K.4.3 In summary, Chelsea Embankment Foreshore (opposite to Bull Ring Gate) was identified as the most suitable site due to the following:

- Use of the foreshore will have an overall reduction in the impact on two Grade II registered parks and gardens, the Royal Hospital and Ranelagh Gardens, both of which have significant heritage value as well as providing an important resource for the local community for events such as the Chelsea Flower Show. The site is also located furthest from residential properties.

- The preferred site is separated from Ranelagh Gardens and the Royal Hospital by the Highway (A3212), which would provide a barrier between the site and open spaces to the north, helping to reduce the impact of construction works. This site also has good access from the local road network via the A3212, which forms part of the TLRN.

- Intercepting the CSO using site C14XJ would result in a more efficient construction site than C14XA. Under this alternative, it is possible to intercept the CSO and have a drop shaft closer to each other, thereby improving the arrangement of the permanent structures in the foreshore.

K.5 Site development

K.5.1 Following the selection of Chelsea Embankment Foreshore (opposite to Bull Ring Gate) as the recommended preferred site, further feedback from stakeholders and ongoing scheme development work have contributed to a number of refinements to the site.

Engagement with stakeholders

K.5.2 Engagement with stakeholders has been ongoing and has continued beyond the phase one consultation period. This has resulted in continual development of our proposals to take on board the comments made by stakeholders.

K.5.3 In particular, we have continually engaged through regular meetings and workshops with officers from the Royal Borough of Kensington and Chelsea, Transport for London (TfL), the Port of London Authority (PLA), the Environment Agency and English Heritage and our other pan-London stakeholders with respect to developing the design and construction of our works, mitigating our impacts on the river and the scope of our environmental assessments. To ensure our design process is transparent, we undertook a series of design reviews, hosted and chaired by the Design Council CABE (formerly the Commission for Architecture and the Built Environment). The reviews for Chelsea Embankment Foreshore were observed by the Royal Borough of Kensington and Chelsea and our pan-London stakeholders.
K.5.4 In addition, we are engaging with affected organisers of events which take place in Ranelagh Gardens and property owners in the vicinity in order to mitigate the project’s impact on their interests.

**Construction layout**

K.5.5 In response to stakeholder engagement, phase one consultation responses and scheme development, the construction layout of the site has been altered to minimise impact on the local community and environment and is guided by operational and functional requirements. Particular factors at this site that have influenced the layout are as follows:

- Since phase one consultation, the number of structures in the River Thames at this location has been reduced from two to one. This has been achieved because we can now intercept the Ranelagh CSO directly following further discussions with the Crossrail 2 project team regarding their safeguarded area. This reduces the potential effects on river ecology, river flows and river navigation.

- The proposed construction access arrangements maintain two-way traffic along Chelsea Embankment (A3212) by reducing road lane widths. This minimises the effects on traffic congestion.

- The access route to the site has been selected to minimise tree loss by using an existing gap in the line of trees for one of the accesses. This minimises the potential effects on local ecology and landscape.

K.5.6 Further information on the construction logistics and the site layouts for the construction and operational phases can be found in the *Chelsea Embankment Foreshore site information paper*.

**Design development**

K.5.7 Since this site was selected as our preferred site, we have progressed the design for the permanent use and look of Chelsea Embankment Foreshore, taking into account comments made at our phase one consultation and the ongoing engagement with the Royal Borough of Kensington and Chelsea, English Heritage and other technical consultees.

K.5.8 Full details of design development for the Chelsea Embankment Foreshore (opposite Bull Ring Gate) site are provided in the *Design development report*.

K.6 **Phase two consultation**

K.6.1 A final preferred site workshop was held in summer 2011 to verify the choice of preferred sites and to consider any outcomes of further engagement and scheme development. The conclusion reached was that Chelsea Embankment Foreshore (opposite to Bull Ring Gate) should become the phase two consultation preferred site to connect the CSO and northern Low Level Sewer No.1 to the main tunnel.

K.6.2 Phase two consultation will provide an opportunity for the public to comment on our revised preferred site and scheme for the Thames Tunnel project, before we publicise our proposed application.
Annex K.1
This is a working draft plan which has been produced for the purpose of phase two consultation on the Thames Tunnel project. The information shown on the plan is illustrative of what will be required for the purpose of constructing and operating the Thames Tunnel project. The information shown on the plan may change as a result of Thames Water’s consideration of the responses received to phase two consultation and any further design development that is carried out.

Title: Preferred List: CSO Sites

CS14X
Ranelagh