



Application for Development Consent

Application Reference Number: WWO10001

Proposed Minor Changes to the Application for Development Consent: Victoria Embankment Foreshore

Supporting Statement

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Thames Tideway Tunnel

Proposed minor amendments to the application: Victoria Embankment Foreshore

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1 Introduction

- 1.1.1 On 28 February 2013, Thames Water Utilities Limited (Thames Water) submitted an application for development consent (the ‘application’) to the Planning Inspectorate for the Thames Tideway Tunnel project (the ‘project’). The application was accepted by the Planning Inspectorate on the 27 March 2013.
- 1.1.2 As a result of on-going stakeholder engagement and recent technical development work, Thames Water has identified a need to make minor changes to the application in relation to the associated development at the Victoria Embankment Foreshore site. The proposed changes would not affect the works that comprise the Nationally Significant Infrastructure Project (NSIP) or the works to provide the infrastructure to connect the combined sewer overflow (CSO) drop shaft to the main tunnel at this site. This document sets out information in support of the application in relation to these changes.
- 1.1.3 The proposed changes involve amendments to the works necessary for the temporary and permanent relocation of the Tattershall Castle, which would be displaced by the proposed new permanent foreshore structure.
- 1.1.4 The Department for Communities and Local Government document *Planning Act 2008: Guidance for the examination of applications for development consent* (paras. 105 to 107, p. 21) recognises that applicants may need to change a proposal after an application has been accepted for examination. Legitimate reasons for such changes include the type of factors that have arisen in this case, namely regulatory changes, technical developments or the discovery of unknown factors that need to be addressed to preserve the benefit of the proposed development.
- 1.1.5 This document seeks to demonstrate that the proposed changes to the application are minor and not material. Thames Water has undertaken targeted engagement with the principal parties potentially affected by the changes and has taken their representations into account.
- 1.1.6 This document is structured as follows:
- a. Section 2 introduces the proposed changes.
 - b. Section 3 summarises the need for the changes.
 - c. Section 4 explains the process of stakeholder engagement undertaken.
 - d. Section 5 assesses the environmental effects of the proposed changes.
 - e. Section 6 reviews the proposed changes with regard to relevant policy considerations.
 - f. Section 7 addresses changes to and further material forming the Statement of Reasons.

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2 Proposed changes

2.1 Description of proposed changes

- 2.1.1 As proposed in the application, the Tattershall Castle would be moved to a temporary mooring opposite Horse Guards Avenue for the duration of the construction period, before being moved to a permanent location a short distance downstream of Horse Guards Avenue. The proposed changes comprise:
- a. Type of access structure to Tattershall Castle: Replacing the proposed single access over the river wall and zig zag gangway with two shorter and wider gangways with separate access from the Embankment. The additional access would require an extension to the zone within which permanent above-ground structures would be located of 11m² (purple line on the Site works parameter plan) to accommodate the land side ramp for the additional access over the river wall.
 - b. Fixing of access structure to the listed river wall: Fixing the gangways for the permanent and temporary mooring of the Tattershall Castle directly to the river wall. The temporary fixings to the listed wall would be carefully removed and the resulting scars made good in accordance with the *Draft DCO* Requirement for Victoria to restore the listed fabric of listed embankment wall.
 - c. Temporary anchors and chains for Tattershall Castle: Increasing the limits of land to be acquired or used (LLAU) by 2,055m² in order to retain the existing arrangement of mooring chains and anchors during the temporary relocation of the vessel.
 - d. Dredging and associated sheet piling: Dredging with associated sheet piling (to protect the river wall) for the temporary and permanent relocation of the Tattershall Castle to provide the vessel with sufficient under keel clearance at all states of the tide. Following the relocation of the Tattershall Castle to the permanent mooring location, the temporary dredged pocket would be infilled in order to prevent the retained foreshore from collapsing and compromising the river wall, and the associated sheet piling removed. The quantity of additional dredging and associated sheet piling is as follows:
 - i approximately 750m³ of dredging at the temporary location and 4,000m³ of dredging at the permanent mooring location
 - ii approximately 50m of sheet piling at the temporary location and 100m of sheet piling at the permanent mooring location
 - e. Service mooring reinstated on guide piles: Reinstating the existing service mooring owned by City Cruises on guide piles (rather than anchors and chains as at present).

2 Proposed changes

- f. Extension of the zone within which all permanent structures would be located (green line on the parameter plan) by 5,769m²: This is a result of d. and e. above.

2.1.2 The following images are provided to illustrate the proposed changes:

- a. Figure 2.1 and Figure 2.2 illustrate the proposed works as submitted in February 2013 and as proposed as a result of the minor changes described above.
- b. Figure 2.3 indicates the changes to the LLAU and zones described on the Site works parameter plan.
- c. Figure 2.4 shows the increase to the proposed Order Limits.

Figure 2.1 Landscape plan in the application (extract from proposed site features plan: DCO-PP-16X-VCTEF-180011)

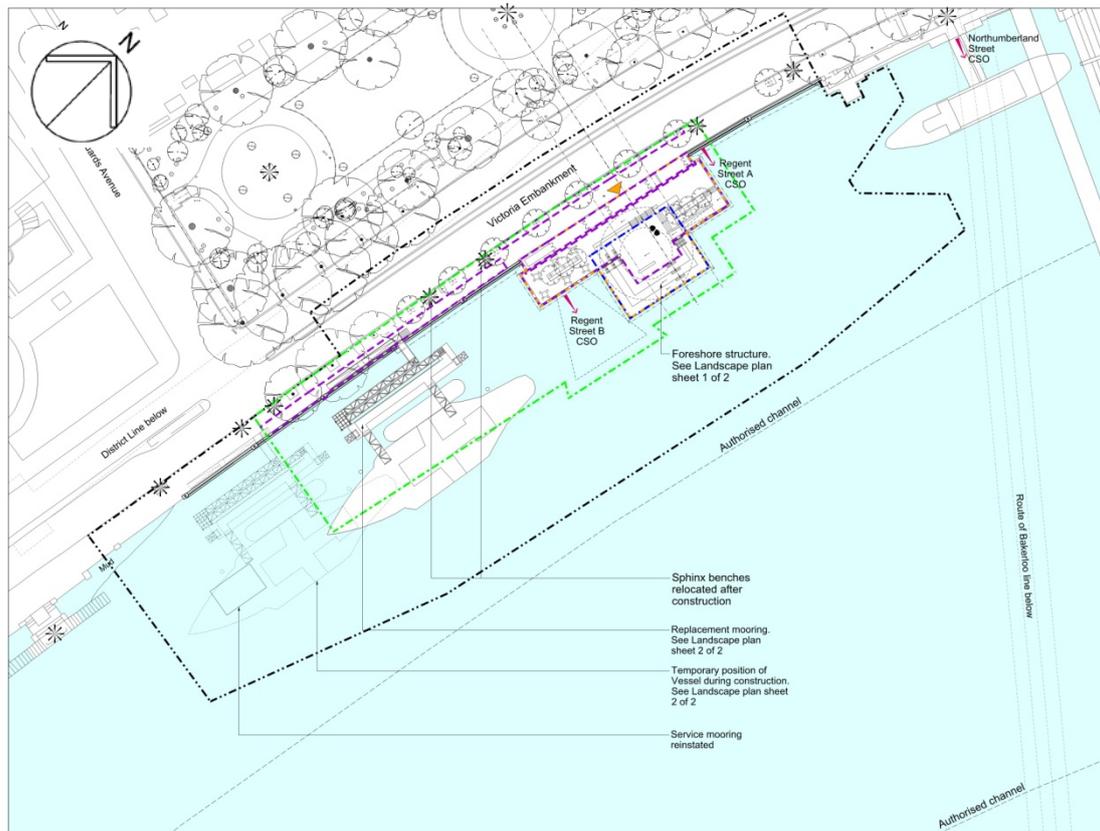


Figure 2.2 Landscape plan for the minor amendments (extract from proposed site features plan: DCO-PP-16X-VCTEF-180011 rev 1)

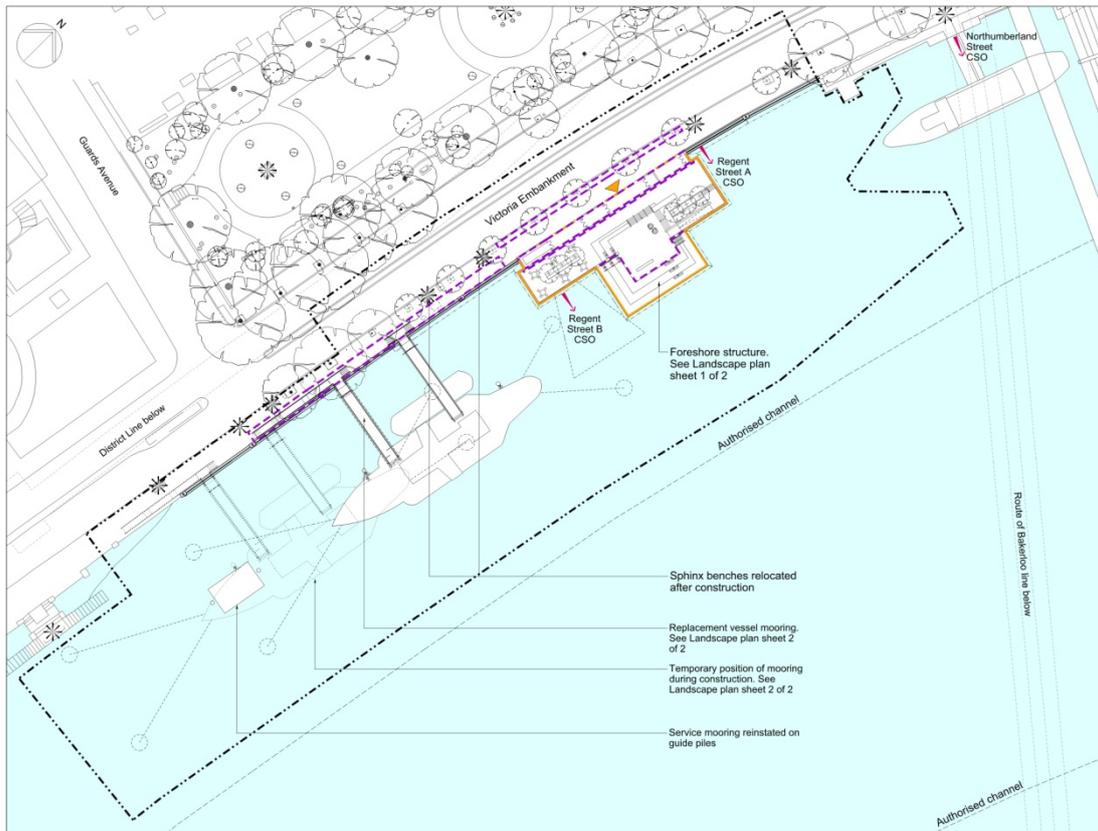


Figure 2.3 Changes to the parameters (illustrative and not to scale)

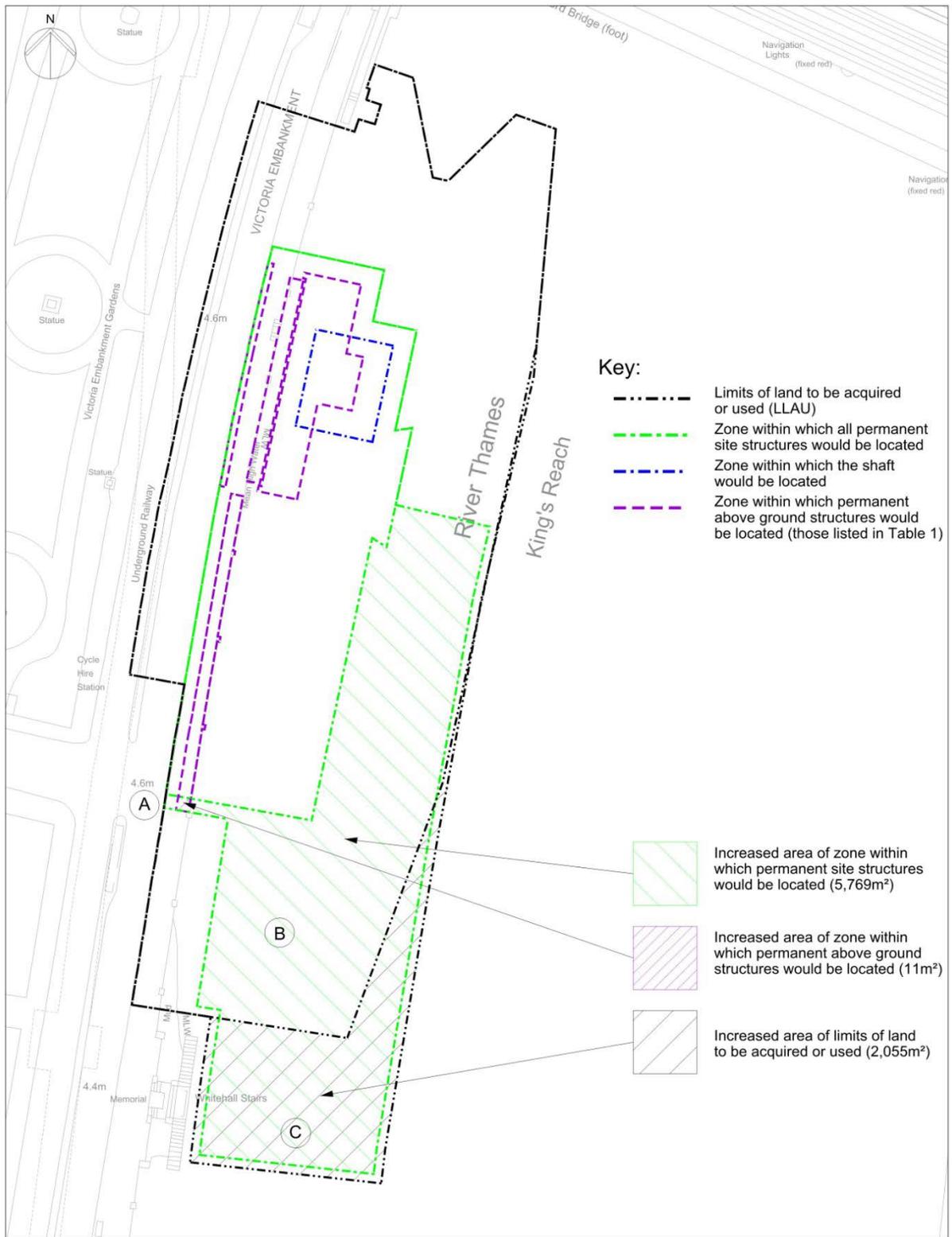
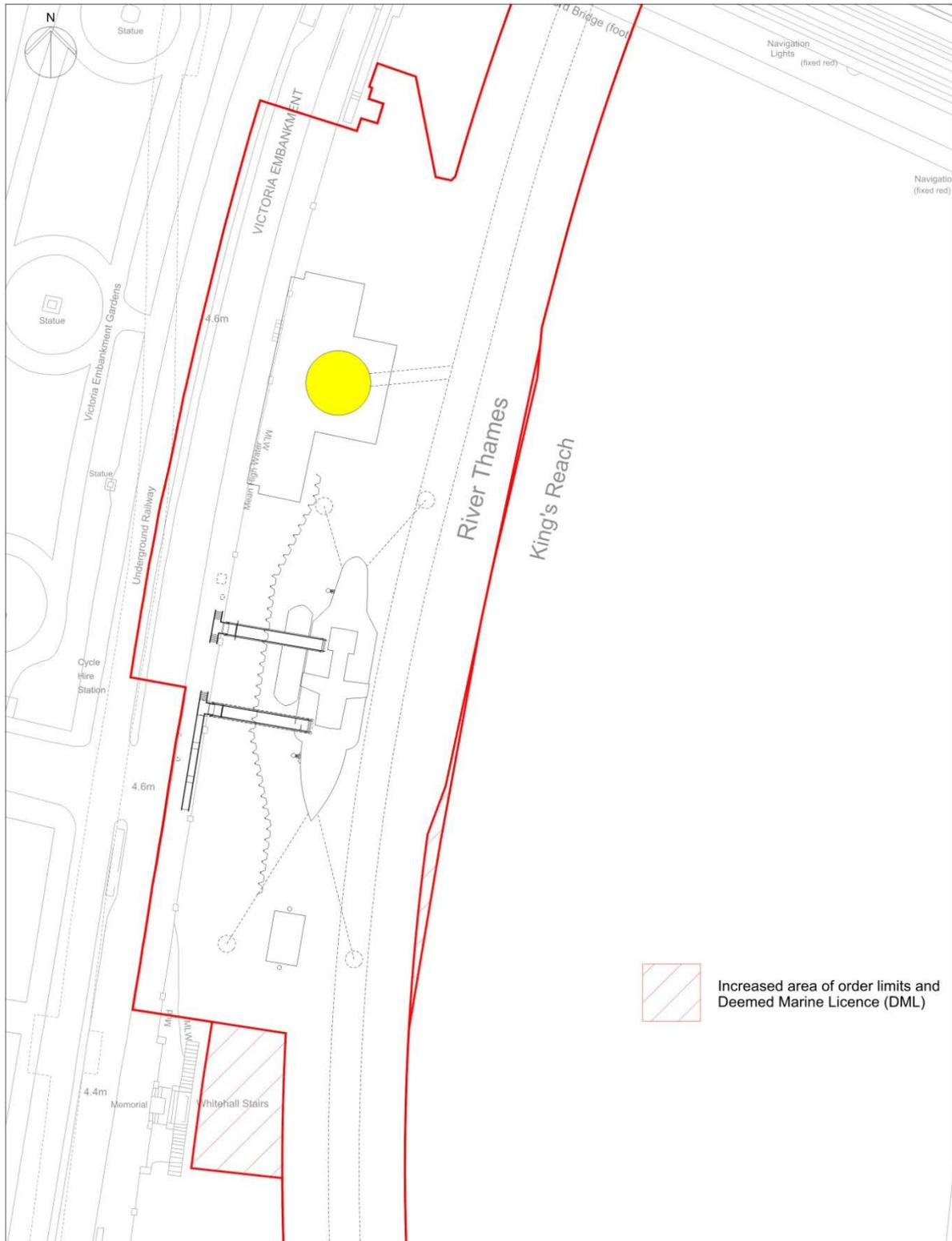


Figure 2.4 Change to the Order Limits and Deemed Marine Licence (illustrative and not to scale)



2.2 Land acquisition

2.2.1 The following tables provide details of the changes to land acquisition as a result of the proposed changes.

Table 2.1 Change to the LLAU

Location	The area forms part of the river bed near to the RAF Memorial on Victoria Embankment, as shown in Figure 2.3 (area C). Plot numbers 13a, 13b, 17b, 17c, 19a and 19b on the Land plan in Appendix F
How much land?	2,055m ²
What is the extra land required for?	For the provision of mooring chains and anchors to secure the Tattershall Castle in the temporary position.
Land owner? Engaged with the owner? Owner responded?	Crown Estate: contacted at targeted engagement and confirmed in writing that it has no comments in relation to the proposed minor changes as far as land ownership of these foreshore areas is concerned.
Why the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 do not apply	Increased areas of land are Crown land only therefore no additional compulsory purchase powers can be acquired. See further Section 8 below.

Table 2.2 Change to zone within which permanent site structures would be located

Location	Area of river bed within the LLAU between the proposed new foreshore structure and the RAF memorial on Victoria Embankment extended as shown in Figure 2.3 (area B). Plots 13, 14, 15 and 17 on the Land plan submitted with the application. Plots numbers 13b, 17a, 17c, 18, 19 and 19b on the Land plan in in Appendix F.
How much land?	5,769m ²
What is the extra land required for?	To accommodate the reinstatement of the City Cruises service mooring on guide piles (rather than anchors and chains as at present), the mooring chains and anchors of the Tattershall Castle, associated dredging and sheet piling.
Land owner? Engaged with the owner? Owner responded?	Crown Estate: contacted at targeted engagement and confirmed in writing that they have it has no comments in relation to the proposed minor changes as far as land ownership of these foreshore areas is concerned.
Why the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 do not apply	Increased areas for permanent works/acquisition were identified as land in the book of reference as submitted. See further Section 8 below.

Table 2.3 Zone within which permanent above-ground structures would be located

Location	Area of footpath on the east side of Victoria Embankment opposite Horse Guards Avenue , as shown in Figure 2.3 (area A). Plot 16 on the Land plan submitted with the Application Plot number 20 on the Land plan in in Appendix F.
How much land?	11m ²
What is the extra land required for?	To accommodate the second gangway forming part of the revised access arrangement to the Tattershall Castle in its proposed permanent position.
Land owner? Engaged with the owner? Owner responded?	Westminster City Council (WCC): contacted at targeted engagement and the proposed changes were indicated on the plans provided. WCC made no comment with respect to the change. Transport for London (TfL): contacted at targeted engagement and the proposed changes were indicated on the plans provided. TfL made no comment with respect to the change. Crown Estate: contacted at targeted engagement and confirmed in writing that it has no comments in relation to the proposed minor changes as far as land ownership of these foreshore areas is concerned.
Why the Infrastructure Planning (Compulsory Acquisition) Regulations 2010 do not apply	Increased areas for permanent works/acquisition were already identified as land in the Book of Reference as submitted. See further Section 8 below.

2.3 Proposed changes to the application documents

2.3.1 The proposed changes would amend the following application documents.

Works descriptions

2.3.2 The proposed changes would involve minor amendments to the description of development in Schedule 1 to the *Draft DCO* as indicated in Table 2.4.

Table 2.4 Draft DCO Schedule 1 Description of Development changes to Work No. 16c

Application text	Proposed change
<i>“(xi) removal of existing mooring for the Tattershall Castle attached to listed wall (and associated access ramps), temporary relocation of the existing mooring (ramped over listed wall) to the south and use of the temporary mooring, and the construction and use of a new permanent mooring for a permanently moored vessel ramped over listed wall to the south of Work No. 16c(ii) and means of access for both including access brows, bank seats and gangways”</i>	(xi) removal of existing mooring for the Tattershall Castle attached to listed wall (and associated access ramps), construction and use of a new temporary and permanent mooring (over listed wall) for a vessel to the south of Work No. 16c(ii), and means of access for both attached to the listed wall including access brows, gangways, guide piles, mooring chains and anchors fixed to the river bed, construction dredging and associated sheet piling to accommodate the relocated vessel in both the permanent and

3 Need for the proposed changes

Application text	Proposed change
	temporary locations for the vessel.
“(xii) temporary removal and then reinstatement of the service mooring/service pontoon to the south of the junction of Victoria Embankment and Horse Guards Avenue”	(xii) temporary removal and then reinstatement of the service mooring/service pontoon to the east of the junction of Victoria Embankment and Horse Guards Avenue including guide piles.

Schedule 13 and 14 Land Acquisition Powers

- 2.3.3 The proposal would require minor changes to the powers to use and acquire land as proposed in the application. The changes would affect plots 13, 14, 15, 16, 17, 18, 19 and 20 as shown on the Land plan (Drawings ref. DCO-LP-000-ZZZZZ-030025) in the *Book of Plans* (doc ref: 2.03), and commensurate changes in Schedules 13 and 14 to the *Draft DCO* and the *Book of Reference* as follows.
- a. an increase in the area of unrestricted powers to acquire land has led to an increase in area of plots 18, 19 and 20 with a related decrease in areas of plots 14, 15, 16 and 17 (temporary use only)
 - b. a new plot Plot 17a has been created due to the increase in the area of unrestricted powers to acquire land
 - c. new plots 13a, 13b, 17b, 17c, 19a and 19b have been created due to the extension of land requirements to the south and the extension of the LLAU – of these, plots 13b, 17a, 17c and 19b are for unrestricted powers of acquisition and 13a, 17b and 19a are for temporary use.
- 2.3.4 The plot changes are detailed on the amended Land plan and the status of powers of acquisition are shown on the revised land acquisition plans listed in Table 2.7 above.
- 2.3.5 Table 2.5 and Table 2.6 provide the amended sections of Schedules 13 (powers to acquire restricted to subsoil more than 9m beneath the surface) and 14 (powers for temporary use of the land) to the *Draft DCO* which would be needed to replace the equivalent entries in those Schedules as submitted with the application. The changes are shown in red for ease of reference. In the revised Schedule 14 entry shown in Table 6, column (3) (“Purpose for which temporary possession may be taken”) would not change as a result of the proposed amendments, confirming the very minor nature of these changes.

Table 2.5 Proposed changes to Schedule 13 of the Draft DCO

(1) Borough	(2) Land
City of Westminster	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 13a, 14, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52

Table 2.6 Proposed changes to Schedule 14 of the Draft DCO

(1) Borough	(2) Number of land shown on Land plan	(3) Purpose for which temporary possession may be taken	(4) Relevant site or part of the authorised project
City of Westminster	13a, 14, 15, 16, 17, 17b, 19a, 21, 22, 23, 23a, 25, 26, 27, 28	Areas required for CSO drop shaft construction; Regent Street connection tunnel construction; CSO interception works construction; Low Level Sewer connection works construction; working area in the foreshore; provision of temporary campshed, craneage; workshop and stores; office, parking and welfare facilities; and vehicle and pedestrian circulation areas. Areas for construction works associated with the relocation of Tattershall Castle. Highway and utility works to Victoria Embankment (part of Work No. 16c).	Victoria Embankment Foreshore

Book of Plans

2.3.6 The plans listed in Table 2.7 and contained in Appendix F would need to be substituted for those included within the application.

Table 2.7 Book of Plans drawings

Title	Sheet	Drawing number	Status
Book of Plans doc ref: 2.01 Works plans and sections			
Works plan and section - sheet location		DCO-WP-000-ZZZZZ-010001 – Rev 1	For approval
Works plan and section - main tunnel	Sheet 33	DCO-WP-000-ZZZZZ-010034 – Rev 1	For approval
Works plan and section - Regent Street connection tunnel	Sheet 34	DCO-WP-000-ZZZZZ-010035 Rev 1	For approval
Book of Plans doc ref: 2.02 Land acquisition plans			
Land acquisition plan - Sheet location		DCO-LA-000-ZZZZZ-020001 – Rev 1	For information
Land acquisition plan - main tunnel	Sheet 33	DCO-LA-000-ZZZZZ-020025 – Rev 2	For information
Book of Plans doc ref: 2.03 Land plans			

3 Need for the proposed changes

Title	Sheet	Drawing number	Status
Land plan – sheet location		DCO-LP-000-ZZZZZ-030001 – Rev 1	For approval
Land plan – main tunnel	Sheet 33	DCO-LP-000-ZZZZZ-030025 – Rev 2	For approval
Book of Plans doc ref: 2.04 Crown and special category Land plans			
Crown and special category Land plan - Sheet location		DCO-LP-000-ZZZZZ-040001 – Rev 1	For approval
Crown and special category Land plan - main tunnel	Sheet 33	DCO-LP-000-ZZZZZ-040016 – Rev 2	For approval
Book of Plans doc ref: 2.18 Victoria Embankment Foreshore			
Location plan		DCO-PP-16X-VCTEF-180001 – Rev 1	For information
As existing site features plan		DCO-PP-16X-VCTEF-180002 – Rev 1	For information
As existing landscape plan	2 of 2	DCO-PP-16X-VCTEF-180004 – Rev 1	For information
Access plan		DCO-PP-16X-VCTEF-180005 – Rev 2	For approval
Demolition and site clearance	2 of 2	DCO-PP-16X-VCTEF-180007 – Rev 1	For approval
Site works parameter plan		DCO-PP-16X-VCTEF-180008 – Rev 1	For approval
Site works parameter key plan		DCO-PP-16X-VCTEF-180009 – Rev 1	For information
Permanent works layout		DCO-PP-16X-VCTEF-180010 – Rev 1	Illustrative
Proposed site features plan		DCO-PP-16X-VCTEF-180011 – Rev 1	Indicative
Proposed landscape plan	1 of 2	DCO-PP-16X-VCTEF-180012 – Rev 1	Indicative
Proposed landscape plan	2 of 2	DCO-PP-16X-VCTEF-180013 – Rev 1	For approval
Section AA		DCO-PP-16X-VCTEF-180014 – Rev 1	Illustrative
As existing and proposed river elevation		DCO-PP-16X-VCTEF-180015 – Rev 1	Illustrative
As existing and proposed detailed river elevation - impact on listed structure	2 of 2	DCO-PP-16X-VCTEF-180016 – Rev 1	Illustrative
As existing and proposed south elevation		DCO-PP-16X-VCTEF-180017 – Rev 1	Illustrative
As existing and proposed detailed south elevation		DCO-PP-16X-VCTEF-180018 – Rev 1	Illustrative
As existing and proposed west elevation		DCO-PP-16X-VCTEF-180019 – Rev 1	Illustrative

3 Need for the proposed changes

Title	Sheet	Drawing number	Status
As existing and proposed north elevation		DCO-PP-16X-VCTEF-180020 – Rev 1	Illustrative
Proposed mooring access details		DCO-PP-16X-VCTEF-180027 – Rev 1	Illustrative
Construction phases - phase 1 Site setup		DCO-PP-16X-VCTEF-180028 – Rev 1	Illustrative
Construction phases - phase 2 Shaft construction and tunnelling		DCO-PP-16X-VCTEF-180029 – Rev 1	Illustrative
Construction phases - phase 3 Construction of other structures		DCO-PP-16X-VCTEF-180030 – Rev 1	Illustrative
Construction phases - phase 4 Site demobilisation		DCO-PP-16X-VCTEF-180031 – Rev 1	Illustrative
Permanent highway layout		DCO-PP-16X-VCTEF-180044 – Rev 1	Illustrative
As existing and proposed detailed river elevation - impact on listed structure	1 of 2	DCO-PP-16X-VCTEF-180047	Illustrative

Book of Reference

- 2.3.7 The revised sections to the *Book of Reference* are provided in Appendix C. In all cases where a Part of the *Book of Reference* has changed, the whole of that part (to allow context with other plots) has been provided. For the City of Westminster, revised Parts 1, 3 and 4 in their entirety have been provided. For Part 2 the only plots to have changed are the area of plots 13, 16 and 20, and therefore only the first page of this Part has been provided rather than the full 385 pages. This means that if the changes at Victoria Embankment Foreshore are accepted, each of the *Book of Reference* parts provided can replace the corresponding part in the original *Book of Reference*, with the exception of the Part 2 in City of Westminster, where the first page only is replaced.
- 2.3.8 In the Examining Authorities' letter of 25 July, the applicant was requested to provide schedules showing Crown Land, Statutory Undertakers' land and land subject to their rights or apparatus, and a general schedule showing all plots within the Order Land. Updates to all those schedules have been prepared indicating changes driven by the proposed minor amendments and would be available if requested.

Statement of Reasons

- 2.3.9 The proposed changes would involve minor amendments to the Statement of Reasons, see Section 8.

3 Need for proposed changes

- 3.1.1 The proposed changes relate to the detail associated with the temporary and permanent relocation of the Tattershall Castle. The vessel needs to be moved to facilitate the NSIP works at Victoria Embankment Foreshore.
- 3.1.2 As a result of further technical development and comments received from the owner of the Tattershall Castle relating to the length of the proposed access structure and the mooring arrangements for the vessel, Thames Water re-examined, in greater detail:
- the pedestrian access arrangement between the shore and the vessel
 - the proposed mooring arrangements for the Tattershall Castle
 - the in-river works to ensure safety of the relocated vessel and pontoon.
- 3.1.3 In relation to the pedestrian access structure, this revealed that the proposed arrangement in the application would not allow safe egress and access for the licensed capacity of the vessel. This would have resulted in a reduced operating capacity for the vessel, which would have a significant effect on the operation of the business. Following discussions with the Fire Brigade and the operators, it was revealed that at least two independent means of access from the vessel to the shore are required, instead of the single access in the application. The proposed amended access would enable the operation of the Tattershall Castle to continue unchanged.
- 3.1.4 The change to the in-river works is required to safely moor the Tattershall Castle and a service pontoon located to the south of the vessel. These comprise three parts as follows:
- Anchors and chains:** It was identified that Thames Water needed to continue to provide the anchors and chains as a secondary means of mooring the Tattershall Castle (the primary means would be the guide piles), this was an oversight and not shown in the submitted application.
 - Dredging and associated sheet piling:** Further consideration was given to whether the river bed needs to be lowered (dredged) to ensure adequate clearance to the underside of vessels at all states of the tide to prevent grounding, which could potentially damage the vessel. Following an assessment of the required dredging, Thames Water estimated the stable slope angle of the river bed and, where there was a risk that an unsupported dredged depression could undermine a nearby river wall, took a precautionary approach and indicated that sheet piled support to the river bed would be required to avoid affecting the structural integrity of river wall. For the same reason, dredge is required under the pontoon in order to ensure that they do not ground on the river bed.
 - Service mooring reinstated on guide piles:** City Cruises, which owns the service pontoon to the south of the Tattershall Castle that is proposed to be reinstated in the application, raised concerns about the

3 Need for the proposed changes

proximity of the reinstated mooring to the permanent Tattershall Castle berth. The application sought to replicate the existing mooring arrangement of chains and anchors. City Cruises was concerned that an arrangement of chains and anchors allowed the pontoon to range up and down the river and that it might clash with the bow of the Tattershall Castle. Therefore, in order to address these concerns, Thames Water proposes to reinstate the City Cruises service mooring on guide piles to be fixed horizontally still able to rise and fall with the tide.

4 Stakeholder engagement

4.1 Introduction

4.1.1 Although Thames Water undertook extensive pre-application consultation, the proposed changes at these sites could potentially affect the representations made by some consultees in relation to the application. Therefore, Thames Water decided to engage with interested parties potentially affected by the changes to give them an opportunity to express their views on the effect of the proposed changes. It was also necessary to allow time for Thames Water to consider and respond to any issues raised during further engagement without delaying the overall programme. Therefore this further engagement was undertaken on a targeted basis, focusing on stakeholders likely to be interested in or affected by the proposed minor changes.

4.2 Whom Thames Water engaged with

4.2.1 Thames Water identified the potentially affected stakeholders by having regard to the requirements of Section 42 of the Planning Act 2008 (Duty to Consult), which comprise:

- a. such persons as may be prescribed, (the prescribed persons are set out in Schedule 1 of the Infrastructure Planning (Applications: Prescribed Forms and Procedures) (APFP) Regulations 2009 as amended by the Infrastructure Planning (Prescribed Consultees and Interested Parties etc.) (Change) Regulations 2013
- b. each local authority that is within Section 43 of the Planning Act 2008
- c. the Greater London Authority if the land is in Greater London; and
- d. each person who is within one or more of the categories set out in Section 44 of the Planning Act 2008 which covers land owners and persons who may be able to make a claim under the Compulsory Purchase Act 1965.

4.2.2 Thames Water also had regard to the minor nature of the proposed changes (described in Sections 4 and 5), which it considered only affected the specific interests of a relatively narrow range of stakeholders. Thames Water took the view that the proposed changes did not constitute a material change to the submitted application such that it would constitute a new project, since they are minor changes relating to mooring of vessels and associated marine works at two of the construction sites, rather than changes to the NSIP works themselves.

4.2.3 Thames Water did not believe the changes were significant enough to warrant a further round of publicity and formal consultation. It adopted instead a proportionate approach, focussing instead on those stakeholders who could be directly affected, rather than on all those consulted during pre-application stages. Thames Water therefore used its knowledge of those who had responded at these sites during the pre-application phases

of consultation, including Section 48 publicity and Section 56 representations, to identify those stakeholders for further engagement.

- 4.2.4 In addition, Thames Water had regard to the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended 2012) (EIA Regs) on consultation requirements for Environmental Impact Assessment (EIA). We noted that to comply with the EIA Regs, there should be consultation compliant with Section 42 of the Planning Act on preliminary environmental information prior to submission. There is no provision in the EIA Regulations for post-submission consultation. Thames Water undertook consultation on preliminary environmental information during its phase two consultation in autumn 2011. Thames Water has therefore also had regard to the EIA Regulations in undertaking targeted engagement on the proposed changes through the process of identifying interested parties under Section 42 of the Planning Act, described above.
- 4.2.5 In addition to the prescribed consultees under Schedule 1 of the APFP regs, Thames Water contacted landowners and potentially affected river users in compliance with Section 44 of the Planning Act. A full list of those consulted is contained in Appendix B.
- 4.2.6 Table 4.1 provides an analysis of those stakeholders in Schedule 1 and Section 43 that were notified of the changes, those who were not notified and the reasons why this was considered appropriate.

Table 4.1 Stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
Planning Act 2008: Section 42(1)(a)					
Statutory consultees					
The Welsh Ministers	N/A	N/A			
The Scottish Executive	N/A	N/A			
The relevant Northern Ireland Department	N/A	N/A			
The relevant Responsible Regional Authority	GLA	Yes		No	No
The Health and Safety Executive	The Health and Safety Executive	No	The changes were not considered to raise health and safety issues and the Health and Safety Executive had not previously commented on detailed matters at this site.		
The relevant Strategic Health Authority	London Strategic Health Authority (NHS London)	No	The changes proposed were not considered to raise health issues and NHS London had not previously commented on detailed matters at this site.		
The relevant Health Board	N/A	N/A			
Natural England	Natural England	Yes		Yes	Yes
The Historic Buildings and Monuments Commission for England	English Heritage	Yes		Yes	Yes

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
The relevant fire and rescue Authority	London Fire Brigade / London Fire and Emergency Planning Authority	Yes		No	Yes
The relevant police authority	Metropolitan Police Authority (MPA)	No	The changes were not considered to effect matters of law and order or security and the Metropolitan Police Authority had not previously commented on the detailed design of the proposed moorings and relocated pier.		
The relevant parish council, or, where the application relates to land Wales or Scotland the relevant community council	N/A	N/A			
The Environment Agency	The Environment Agency	Yes		Yes	Yes
The Scottish Environment Protection Agency	N/A	N/A			
Commission for Architecture and the Built Environment	Design Council CABE	Yes		Yes	Yes
The relevant Regional Development Agency	London Development Agency	No	The agency was closed on 31 March 2012.		
The Equality and Human Rights Commission	The Equality and Human Rights Commission	No	The changes were not considered to effect matters of equality or human rights and the Equality and Human Rights Commission had not previously		

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
			commented on detailed matters at this site.		
The Scottish Human Rights Commission	The Scottish Human Rights Commission	N/A			
The Commission for Sustainable Development	The Commission for Sustainable Development	No	The changes were not considered significant and the Commission for Sustainable Development had not previously commented on detailed matters at this site.		
AONB Conservation Boards	N/A	N/A			
Royal Commission on Ancient and Historical Monuments of Wales	N/A	N/A			
The Countryside Council for Wales	N/A	N/A			
The Homes and Communities Agency	The Homes and Communities Agency	No	The changes were not considered to effect any regeneration or housing areas and the Homes and Communities Agency had not previously commented on detailed matters at this site.		
The Joint Nature Conservation Committee	The Joint Nature Conservation Committee	No	The changes were not considered significant and Thames Water considered that involving Natural England was sufficient to understand any effects on nature conservation.		

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
The Commission for Rural Communities	N/A	N/A			
Scottish Natural Heritage	N/A	N/A			
Maritime and Coastguard Agency	Maritime and Coastguard Agency	No	The Maritime and Coastguard Agency had not previously commented on detailed matters at this site and Thames Water considered the Port of London Authority (PLA) to be the technical authority to consult on navigational issues in London.		
The Marine and Fisheries Agency	The Marine and Fisheries Agency	No	Substituted by the Marine Management Organisation under the Infrastructure Planning (Prescribed Consultees and Interested Parties etc.) (Change) Regulations 2013.		
The Scottish Fisheries Protection Agency	N/A	N/A			
The Civil Aviation Authority	The Civil Aviation Authority	No	The changes were not considered to affect air space over the site and the Civil Aviation Authority had not previously commented on detailed matters at this site.		
The Highways Agency	The Highways Agency (HA)	No	The changes do not affect any		

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
			Highways Agency Roads and it had not previously commented on detailed matters at this site.		
Integrated Transport Authorities and Passenger Transport Executives –	Integrated Transport Authorities and Passenger Transport Executives –	N/A			
The relevant Highways Authority	City of Westminster (as relevant highways authority)	Yes		Yes	Yes
Transport for London	Transport for London	Yes		Yes	Yes
The Passengers Council	The Passengers Council	No	The changes were not considered to affect rail passengers and the Passengers Council had not previously commented on detailed matters at this site.		
The Disabled Persons Transport Advisory Committee	The Disabled Persons Transport Advisory Committee	No	The changes were not considered significant and the Disabled Persons Transport Advisory Committee had not previously commented on detailed matters at this site.		
The Coal Authority	The Coal Authority	No	The changes were not considered to affect coal resources or production and the Coal Authority had not previously commented on detailed matters at this site.		

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
The Office of Rail Regulation and approved operators	The Office of Rail Regulation and approved operators	No	The changes were not considered to affect rail passengers or routes and the Office of Rail Regulation and approved operators had not previously commented on detailed matters at this site.		
Network Rail Infrastructure	Network Rail Infrastructure	Yes		Yes	No
The Gas and Electricity Markets Authority	The Gas and Electricity Markets Authority (OFGEM)	No	The changes were not considered to affect gas supply or production and the authority had not previously commented on detailed matters at this site.		
The Water Services Regulation Authority	The Water Services Regulation Authority (OFWAT)	No	OFWAT had not previously commented on the details of the proposals at the site.		
The Water Industry Commission of Scotland	N/A	N/A			
The relevant waste regulation	East London Waste Authority	No	The authority had not previously commented on the details of the		

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
authority ⁱ			proposals at this site and it was not considered that the changes raised significant issues relating the disposal of waste.		
	North London Waste Authority	No	The authority had not previously commented on the details of the proposals at this site and the changes were not considered to raise significant issues relating the disposal of waste.		
	West London Waste Authority	No	The authority had not previously commented on the details of the proposals at this site and it was not considered that the changes raised significant issues relating to the disposal of waste.		
	Western Riverside Waste Authority	No	The authority had not previously commented on the details of the proposals at this site and it was not considered that the changes raised significant issues relating	No	No

ⁱ Each of the four sub-regional waste regulation authorities was consulted, ie. the East London Waste Regulation Authority, North London Waste Regulation Authority, West London Waste Regulation Authority and Western Riverside Waste Regulation Authority. The membership of these authorities is understood to comprise the following London Boroughs: LB Newham, LB Redbridge, LB Barking & Dagenham, LB Havering, LBH&F, LB Lambeth, LB Wandsworth, RBKC, LB Brent, LB Ealing, LB Harrow, LB Hillingdon, LB Hounslow, LB Richmond upon Thames, LB Barnet, LB Camden, LB Enfield, LB Hackney, LB Haringey, LB Islington and LB Waltham Forest. The remaining London local authorities (not members of the four sub-regional groups) who operate as the waste regulation authority in their areas were consulted individually (as local authorities).

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
			to the disposal of waste.		
The relevant internal drainage board	N/A	N/A			
The British Waterways Board	The British Waterways Board (Canals and Rivers Trust)	No	The proposals do not affect any waterways or canals under the remit of the British Waterways Board (Canals and Rivers Trust) and it had not previously commented on the details of the proposals at either site.		
Trinity House	Trinity House (TH)	No	Trinity House had not previously commented on detailed matters at this site and Thames Water considered the PLA as the technical authority to consult on navigational issues in London.		
The Health Protection Agency	The Health Protection Agency	No	The agency had not previously commented on the details of the proposals at this site		
The relevant local resilience forum	London Regional Resilience Forum / London Resilience Team ⁱⁱ	No	The forum had not previously commented on the details of the proposals at this site.		

ⁱⁱ In London the Local Resilience Forums (LRFs) are area based, with six LRFs representing a group of local authority areas. However, GLA advised the project that with effect from 1/4/2011 the statutory function would be transferred from each area team to the London Resilience Team (LRT) at the GLA. The LRT at the GLA has therefore been consulted from Phase 1 onwards in preference to the London Regional Resilience Forum.

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
The Crown Estate Commissioners	The Crown Estate Commissioners	Yes	Potentially directly affected local authorities ('B' authorities)	Yes	No
Planning Act 2008: Section 42(1)(b)					
Potentially directly affected local authorities ('B' authorities)					
	City of Westminster	Yes	The changes were not considered significant enough to affect the submissions received from the neighbouring authorities that had also not previously commented on detailed matters relating to this site.	Yes	Yes
Neighbouring local authorities ('A' authorities)					
	Other neighbouring authorities	N/A			
Planning Act 2008: Section 42(1)(c)					
The relevant Regional Planning Body	Greater London Authority	Yes	No	No	No
Planning Act 2008: Section 42(1)(aa)					
	Marine Management Organisation	Yes	River wall (increase in permanent landtake to provide access to the Tattershall Castle).	No	No
Planning Act 2008: Section 42(1)(d)					
Landowners	City of Westminster	Yes	Owner of Tattershall Castle (vessel) with a lease of part of	Yes	Yes

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
			the river bed from Crown Estate and the PLA (but land already identified as land in Book of Reference).		
	Port of London Authority (PLA)	Yes	River bed – area affected by minor amendment. Lease of part to TCG and mooring licences to City Cruises and Thames Luxury Charters.	Yes	Yes
	TCG Management Services Ltd	Yes	Marine consultant to TCG – no land interest.	No	Yes
	Crown Estate	Yes	Joint user of service mooring with Thames Luxury Charters. Mooring required.	Yes	No
	London Offshore Consultants Ltd	Yes	1. Owner of RS Hispaniola berthed adjacent to the LLAU 2. User of service mooring held on licence from Crown Estate – mooring to be temporarily displaced and reinstated afterwards.	No	Yes
	Mainstream Catering Company	Yes	Joint user of service mooring with Mainstream Catering Company - mooring required.	No	No
	City Cruises Ltd	Yes	Operates from pier downstream from Embankment Pier – not directly affected?	Yes	Yes
	Thames Luxury Charters	Yes	User/operator of mooring upstream from LLAU towards	No	Yes

4 Need for stakeholder engagement

Consultee prescribed by APFP Regulations 2009 (as amended): Regulation 3	Consultee	Targeted engagement	Comment	Responded in writing	Attended meeting/workshop
			Westminster Pier – mooring not required but navigation may be affected.		
	Woods' Silver Fleet	Yes		No	Yes
	Thames Cruises	Yes	The changes were not considered significant enough to affect or change the response provided by community consultees who had responded on the proposals at this site.	No	Yes
	Community consultees	No	Trinity House had not previously commented on detailed matters at this site and Thames Water considered the PLA as the technical authority to consult on navigational issues in London.		

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4.3 How targeted engagement was undertaken

- 4.3.1 A letter and the material listed in Section 4.4 below was sent to the identified stakeholders on 12 July 2013 explaining the changes to the *Draft DCO* scheme and inviting attendance at a meeting to explain the proposed changes. Stakeholders were offered the choice of attending meetings, which were held on 17 and 18 July 2013, with three alternative times offered for each of the two sites. In the event that stakeholders could not make those dates, individual meetings were offered. An example of the letters is provided in Appendix A.
- 4.3.2 In addition to direct verbal engagement at the meetings, Thames Water also allowed a 28-day period from the date of the notification letter for stakeholders to comment on the amended proposals. The period was applied flexibly and minor extensions were permitted to allow for the summer holiday period.
- 4.3.3 When the engagement period closed, Thames Water collated the comments received and amended the proposals where possible.

4.4 Engagement material

- 4.4.1 The following material was produced to explain the proposed Victoria Embankment Foreshore amendments to stakeholders:
- a. *Proposed minor amendments to the application Victoria Embankment Foreshore Environmental effects arising from proposed scheme amendments* (document ref: 100-RG-ENV-VCTEF-000001)
 - b. *Victoria Embankment Foreshore Revision of Navigational Issues and Preliminary Risk Assessment*
 - c. Vessel layout plan sheet 1 of 2 (drawing ref: 110-DA-ENG-VCTEF-000941)
 - d. Vessel layout plan sheet 2 of 2 (drawing ref: 110-DA-ENG-VCTEF-000946)
 - e. Proposed permanent landscape plan (drawing ref: 110-DA-ARC-VCTEF-000939)
 - f. Proposed temporary landscape plan (drawing ref: 110-DA-ARC-VCTEF-000940).

4.5 Workshops/meetings

- 4.5.1 The letters sent out on the 12 July 2013 invited stakeholders to attend their choice of the information sessions held on 17 July 2013 at 12pm or 3pm and 18 July 2013 at 12:55pm or 4pm to explain the amendments at Victoria Embankment Foreshore further.
- 4.5.2 The workshops were hosted by project staff at etc venues on North Wharf Road, Paddington on behalf of Thames Water. At the workshops, attendees were provided with hard copies of the documents listed in

paragraph. 4.4.1 above. The project team then gave a presentation to explain the amendments, the predicted environmental and navigational effects and the suggested way forward.

4.5.3 Additional meetings were held with individual stakeholders that were unable to attend these workshops.

4.5.4 Table 4.1 records who attended workshop or meetings as part of the engagement.

4.6 Gathering feedback

4.6.1 The stakeholders were given a period of 28 days in which to comment from 15 July 2013 to 12 August 2013. Responses were invited in writing to the head of Thames Tideway Tunnel, Phil Stride, or by email to info@tidewaytunnels.co.uk. The stakeholders who responded are recorded in Table 4.1.

4.6.2 The feedback received and Thames Water's response to the targeted engagement for Victoria Embankment Foreshore is contained in Appendix B.

4.7 How feedback from targeted engagement was incorporated into the proposed changes

4.7.1 In response to navigational concerns raised by the PLA to locating the Tattershall Castle 8m further out into the river during the construction phase with longer access brows (to avoid fixing the brow to the listed wall), Thames Water changed the proposal presented at targeted engagement to move the vessel 8m closer to the river wall in the construction phase and attach its access brow directly to the listed wall the same as for the existing and proposed permanent arrangement.

4.7.2 In response to concerns expressed by the City Cruises that its service mooring would be very close to the Tattershall Castle vessel and could represent a hazard, the service mooring would now be reinstated on guide piles (rather than on anchors and chains as at present) and the green line (zone within which all permanent site structures would be located) extended to allow for this, and for flexibility to reinstate it slightly further from the Tattershall Castle.

4.7.3 Thames Water would include the additional area of habitat loss arising from the amendments into the wider discussions with the Environment Agency (EA) on the proposed ecological compensation package. The compensation package to address the adverse effects resulting from habitat loss form part of the terms of reference for an independently chaired working group that has been set up with stakeholders including representatives from the EA, Natural England, the PLA and the London Wildlife Trust. The EA confirmed in the first inception meeting of this working group, held on 23 July 2013, that it would accept the recommendation of the group in addressing the above compensation issue.

4 Need for stakeholder engagement

- 4.7.4 Thames Water plans to conduct further engagement with stakeholders to resolve matters relating to detailed design or construction methodology through the examination period including, for example, navigational risk assessment with the PLA.

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5 Environmental effects

5.1 Introduction and scope

- 5.1.1 This section describes the potential environmental effects of the proposed minor changes to the scheme at Victoria Embankment Foreshore.
- 5.1.2 The approach adopted in this review was to use the assessment methodology and findings used in the *ES* as a starting point. The effects of the proposed changes were then considered qualitatively (unless otherwise stated) and compared to the findings reported in the *ES*. Any effects that are materially different to the *ES* are expected to arise are set out in this section.
- 5.1.3 At the outset, it was necessary to determine the scope of the exercise, identifying the environmental topics that required detailed consideration. The results this are presented in Table 5.1; where no potential effects were identified, this is explained in the table. For topics where the proposed changes have the potential to give rise to materially different effects to those presented in the *ES*, they are considered further below.

Table 5.1 Scope of environmental review

Environmental topic assessed in the <i>ES</i> Vol 17	Coverage within this environmental review
Air quality and odour	No material changes are anticipated to the <i>ES</i> findings due to the limited variation to the construction methods associated with the proposed minor changes or to the operational scheme. The proposed changes would not lead to material changes in emissions during construction, nor would they amend the functioning of the operational infrastructure as far as it relates to interception of the CSO. Therefore this topic is not considered further.
Ecology – aquatic	Covered in Section 5.1 below.
Ecology – terrestrial	Construction and operational effects for terrestrial ecology at Victoria Embankment Foreshore were scoped out of the EIA in the <i>ES</i> (Vol 17, Section 6), on the basis that no significant adverse effects are anticipated during either construction or operation. This is because no notable species or habitats are known to be present, or potentially present, on or adjacent to the site. The proposed minor changes would not change this situation; therefore this topic is not considered further.
Historic environment	Covered in Section 5.3 below.
Land quality	No material changes are anticipated to the <i>ES</i> findings as the proposed changes would not introduce any new sources, pathways or receptors of pollution. In addition, the measures outlined in the <i>Code of Construction Practice</i> Part A would ensure that appropriate procedures and working methods would be followed. For these reasons, this topic is not considered further.
Noise and vibration	Covered in Section 5.4 below.

Environmental topic assessed in the ES Vol 17	Coverage within this environmental review
Socio-economics	No material changes in the assessment findings presented in the <i>ES</i> are anticipated to result from proposed minor changes to the design for the temporary and permanent relocation of the Tattershall Castle. The socio-economic assessment assumed that the Tattershall Castle business would be temporarily suspended during relocation but any effects would be offset by the Thames Tideway Tunnel compensation programme. This situation has not changed; therefore this topic is not considered further. Therefore this topic is not considered further.
Townscape and visual	The proposed minor changes at Victoria Embankment Foreshore would not introduce material changes to the assessment findings. The construction activities would remain sufficiently similar to those assessed in the <i>ES</i> . The proposed design changes to the mooring locations, access brow and types of mooring would not be substantial enough to alter the effects on townscape character or visual receptors reported in the <i>ES</i> . Therefore this topic is not considered further.
Transport	No material changes to the <i>ES</i> findings are anticipated due to the limited variation in construction methods associated with the proposed minor changes, which would lead to minimal change to traffic and transport. Therefore this topic is not considered further.
Water resources – groundwater	No material changes are anticipated to the <i>ES</i> findings as the proposed minor changes would not impact on groundwater receptors (upper or lower aquifers); therefore this topic is not considered further.
Water resources – surface water	Covered in Section 5.5 below.
Water resources – flood risk	Covered in Section 5.6 below.
Interaction of effects and cumulative effects	Potential additional cumulative effects and interactions arising from the proposed minor changes were considered as part of this review. Due to the relatively minor nature of the proposed minor changes and related effects, no additional cumulative effects or interactions above those reported in the <i>ES</i> are anticipated. Therefore this topic is not considered further.

5.2 Aquatic ecology

5.2.1 The assessment for aquatic ecology can be found in *ES* Vol 17, Section 5. The proposed changes that result in variations to the assumptions underpinning the assessment of effects on aquatic ecology in the *ES* comprise:

- a. dredging at the temporary (approximately 750m³) and permanent (approximately 4,000m³) mooring locations of the Tattershall Castle
- b. sheet piling at the temporary (approximately 50m) and permanent (approximately 100m) mooring locations

- c. removing temporary sheet piling and infilling the dredged area using a similar material to the existing river bed
 - d. installing mooring anchors at the temporary location
 - e. installing guide piles for the reinstatement of the service mooring.
- 5.2.2 In relation to dredging, based on the assumptions in the *ES* at sites where dredging is proposed (e.g., Blackfriars Bridge Foreshore), it is estimated that the spilled material from the dredging operation at this site would be approximately 37.5m³ (or 75t for a 750m³ dredge) for the temporary mooring location and 200m³ (or 400t for a 4,000m³ dredge) for the permanent mooring location of the Tattershall Castle.
- 5.2.3 The receptors for aquatic ecology are the same as described in the *ES* since the total assessment area has not changed substantially as a result of the proposed changes.
- 5.2.4 During construction, there would be temporary landtake from sub-tidal habitats at the temporary mooring location due to dredging and installing sheet piling. The surface area subject to temporary landtake would be minimal (approximately 1,100m²) and would recover following the removal of the sheet piles. The effect of dredging and subsequent infilling of the dredged area would be a temporary disturbance to foraging and migratory habitat for fish, and foraging habitat for invertebrates. However, the area does not form spawning habitat for fish or habitat of specific importance for other aquatic ecology receptors.
- 5.2.5 At the permanent mooring location, there would be permanent landtake associated with the installation of sheet piling. The substrate within the new footprint of the vessel further into the river channel would also be disturbed and compacted. The additional effects associated with relocation of the vessel and the sheet piling would be negligible. However, the sheet piling represents a permanent modification of the river bed that may cause localised changes to the value of the-sub tidal habitat in the vicinity of the sheet piles.
- 5.2.6 Sheet piling to maintain the dredge pockets at the temporary and permanent mooring locations is expected to cause minimal changes to scour and accretion patterns since the sheet piles would be driven in to bed level.
- 5.2.7 Any potential scour development during construction would be monitored and, if relevant trigger levels are reached, appropriate protection measures would be implemented. Further details are provided in the *Scour and Accretion Monitoring and Mitigation Plan for Temporary Works in the Foreshore* (Vol 3, Appendix L.4).
- 5.2.8 Additional noise and vibration would arise during construction from installation of new piles and removal of the temporary ones. Piling (sheet and guide piling) would be undertaken using vibro-piling techniques, as described in *ES*, and would be subject to the controls outlined in the *Code of Construction Practice* Part A. Although piling noise associated with the proposed minor changes would be additional to that assessed in the *ES*, it would not be sufficient to elevate the level of impact from the low negative

magnitude attributed in the *ES*. This is due to the short duration of the additional piling work. Therefore the effect remains as described in the *ES*.

- 5.2.9 Dredging would result in the release of sediment, which has the potential to increase turbidity leading to effects on aquatic ecology receptors. Current sediment levels in the tidal Thames are 4,000kg/second in the lower Thames estuary and at present more than 40,000t (or 20,000m³) of sediment passes the site four times a day during spring tides. Approximately 240m³ of material is anticipated to be released into the water column as a result of spillage from dredging (see para. 5.2.2). In comparison with the sediment estimated to be carried on each spring tide, this is considered to be minimal. Therefore the expected effects would be negligible, as assessed and presented in the *ES*.
- 5.2.10 All other effects would be as detailed in the *ES*. Therefore the proposed changes would not result in any material changes to the likely significant effects presented in the *ES*.

5.3 Historic environment

- 5.3.1 The assessment for historic environment can be found in *ES* Vol 17, Section 7. The proposed changes to the scheme that result in changes to the assumptions underpinning the assessment of effects on the historic environment in the *ES* comprise:
- dredging at the temporary (approximately 750m³) and permanent (approximately 4,000m³) mooring locations.
 - altering the mooring of the Tattershall Castle, including access brows, chains and anchors
 - fixing temporary and permanent gangways to the listed river wall.
- 5.3.2 The full details of this methodology are presented in *ES* Vol 2, Section 7.
- 5.3.3 As noted in the *ES*, it is probable that all alluvial deposits and any archaeological remains in the channel beside the river wall have already been removed by past dredging and water action. Although there is low potential for remains, the dredging required for the temporary and permanent locations for the vessel would materially change the conclusions of the *ES*. Mitigation measures such as scanning and monitoring the arisings of the dredging as proposed at other project sites would be required. With these measures in place, no additional significant effects would occur.
- 5.3.4 The modifications required to the vessel, including mooring chains, would be minor and the vessel itself is an asset of low significance. The effect of fixing the brows to the listed river wall during both the construction and operational phases would not materially change the conclusions reached in the *ES*. A photographic record of this section of the wall and the vessel would be undertaken prior to commencing the works in order to mitigate any effects. With this measure in place, no additional significant effects would arise.

- 5.3.5 The installation of guide piles would have no archaeological impact. They would be located within an area that would have been dredged as part of the temporary relocation of the Tattershall Castle during the construction phase. Dredging would have already entirely removed any archaeological remains present.
- 5.3.6 The proposed minor changes would not result in any material changes to the likely significant effects presented in the *ES*.

5.4 Noise and vibration

- 5.4.1 The assessment for noise and vibration can be found in *ES* Vol 17, Section 9. The additional piling to facilitate dredging works and the construction of temporary and permanent moorings required for the proposed minor changes to the scheme alter the assumptions underpinning the noise and vibration assessment in the *ES*.
- 5.4.2 The effects arising from the additional piling were considered quantitatively, based on the methodology in the *ES* and professional judgement. The additional piling would not result in activities being closer to any receptors, and the noise and vibration receptors would remain as presented in the *ES*.
- 5.4.3 During the construction phase, the proposed minor changes would result in some change to the noise levels predicted in the *ES*. For the residential receptor at Whitehall Court, the predicted daytime external noise level would increase and exceed the ABC impact criterion threshold level by 1dBIⁱⁱⁱ. However, in accordance with the methodology in *ES* Vol 2, the internal noise level was also estimated and this would not exceed the relevant criteria set out in BS8233^{iv}. The effect would therefore remain not significant for this receptor. It should be noted that the duration of this effect is for the additional piling works associated with the proposed minor changes only (estimated to be approximately 4 weeks) and that works would be undertaken during the daytime.
- 5.4.4 The proposed minor changes would also result in some variations to the noise levels for non-residential receptors predicted in the *ES*. However, the increased levels would be below the ambient noise level and the effects would remain not significant, as stated in the *ES*.
- 5.4.5 There are no changes to the vibration effects predicted in the *ES*. The tables in Appendix C set out the calculations for the proposed minor changes and compare them to those presented in the *ES*. These tables also reflect changes identified since submission of the application and reflected in the *ES* errata. These changes do not affect the significance of effects at any receptors.

ⁱⁱⁱ British Standards Institution, BS 5228 *Code of Practice for Noise and Vibration Control on Open Construction Sites* (2009).

^{iv} British Standards Institution, BS 8233 *Sound insulation and noise reduction for buildings* (1999).

- 5.4.6 As the proposed changes relevant to the noise and vibration assessment would occur within the construction phase only, there are no changes to the operational assessment in the *ES*.
- 5.4.7 Therefore the proposed minor changes to the scheme would not result in any material changes to the likely significant effects presented in the *ES*.

5.5 Water resources – surface water

- 5.5.1 The assessment for surface water can be found in *ES* Vol 17, Section 14. The proposed changes to the scheme that result in changes to the assumptions underpinning the assessment of effects on surface water in the *ES* comprise dredging at the temporary (approximately 750m³) and permanent (approximately 4,000m³) mooring locations
- 5.5.2 The requirement for dredging would not result in activities being closer to any other receptors (i.e., waterbodies). The surface water receptors would remain as presented in the *ES*.
- 5.5.3 The spilled material from the dredging operation would be approximately 37.5m³ for the temporary location and 200m³ for the permanent location (see para. 5.2.2). These dredge volumes would not be significant when compared to current sediment levels in the tidal Thames (see para. 5.2.9).
- 5.5.4 The spilled dredgings associated with the amended works at this site do not change the conclusion in the *ES* that there would be no significant adverse effects on water quality during the construction or operational phases. The conclusions of the project-wide assessment in the *ES* (which included an assessment of the impact of dredging on the whole tidal Thames) would also be unchanged. That is, dredging would have a negligible effect on water quality due to the high levels of sediment currently present in the tidal Thames.
- 5.5.5 The approach to scour in the operational phase would be reactive and mitigation measures would only be implemented if required. Further details of the approach are provided in Section 3.8 of the *Engineering Design Statement*, which accompanied the application.
- 5.5.6 All other effects would be as detailed in the *ES*. Therefore the proposed minor changes would not result in any material changes to the likely significant effects presented in the *ES*.

5.6 Water resources – flood risk

- 5.6.1 The flood risk assessment can be found in *ES* Vol 17, Section 15. The proposed minor changes to the scheme that result in changes to the assumptions underpinning the assessment of effects on flood risk in the *ES* comprise attaching temporary and permanent access brows from the Tattershall Castle directly onto the river wall in the permanent location.
- 5.6.2 No material changes are anticipated to the *ES* flood risk assessment as a result of the proposed minor changes to the means of attaching the access brows to the river wall during the temporary and operational phases. The section of the river wall where the proposed access brows

would be located is in the same condition^v (fair condition [Grade 3]) as the wall where the vessel is currently moored. For this reason, the structural integrity of the flood defence wall at the new access brow location would not be adversely impacted. The position of the access brows does not change the conclusion in the *ES* that the proposed relocation of the vessel and its associated moorings would not impact on local flood defences.

- 5.6.3 In addition, the approach to scour in the operational phase (see also para. 5.5.5) would be reactive and mitigation measures would only be implemented if required.
- 5.6.4 All other effects would be as detailed in the *ES*. Therefore the proposed minor changes would not result in any material changes to the likely significant effects presented in the *ES*.

^v Environment Agency *Condition Assessment Manual* (2006)

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6 Policy implications

6.1 Introduction

- 6.1.1 The *Planning Statement* submitted with the application provides an analysis of the key planning considerations associated with the proposed works, considering the issues and factors identified in the NPS. Appendix P of the *Planning Statement* (doc ref: 7.01) is specific to Victoria Embankment Foreshore.
- 6.1.2 This section sets out the planning policy assessment of the proposed minor changes under the policy areas set out below.

6.2 Meeting the need

- 6.2.1 The proposed minor changes relate to associated development which would not affect the principal works central to the NSIP to tackle the unacceptable discharges from the Regent Street CSO and ten other CSOs along the north bank of the river by connecting the northern Low Level Sewer No.1 to the main tunnel. This would make an important contribution to meeting the wider need for the project as identified in the NPS.
- 6.2.2 As a result, there are no policy implications as a result of the proposed minor changes.

6.3 Good design

- 6.3.1 The proposed minor changes are necessary to meet the mooring and access requirements of the Tattershall Castle, which would be displaced by the main works.
- 6.3.2 The proposed changes to the arrangement comprise two shorter and wider gangways replicating the existing scenario which is fit for purpose. This would reduce the scale of the proposed works for the proposed access over the river wall, although it would require fixing directly to the wall, which is discussed in the historic environment assessment below (Section 6.10).
- 6.3.3 In response to an accessibility and fire audit of the Tattershall Castle, Thames Water amended the draft proposed design in the following ways:
- a. A level landing and call point were introduced to the upstream brow to provide a means of attracting attention, where assistance may be required and ensured that the waiting area would be provided with shelter.
 - b. Due to space constraints on the Thames Path, Thames Water would be unable to widen the ramp to allow two wheelchair users to pass each other along its length. However, there would be a clear line of sight between the passing places at level landing to the top of the upstream brow and the base of the ramp on the Thames Path. These positions are less than 50m apart.

- c. Thames Water has optimised the height of the landside 'up and over' landing to minimise gradients on the landside ramp and canting brows.

6.3.4 As a result the proposed changes do not have any material effect on the policy analysis presented in the *Planning Statement*.

6.4 Water resources and flood risk

Water quality and resources

6.4.1 There would be no changes to the reduced annual flows as a result of the proposed minor changes and there are no policy implications on water quality and resources as a result.

Flood risk

6.4.2 There would be no increase to flood risk as a result of the proposed minor changes, in line with the NPS.

6.5 Air quality, emissions, dust and odour

6.5.1 There are no policy implications for air quality, emissions, dust and odour arising from the proposed minor changes.

6.6 Biodiversity and geological conversation

Biodiversity

6.6.1 The submitted design would avoid significant harm to aquatic and terrestrial ecology at this site and Thames Water sought to conserve and enhance biodiversity through the design principles and the *Code of Construction Practice* in accordance with para. 4.5.3 of the NPS.

6.6.2 There are no policy implications as a result of the proposed minor changes.

Geological conversation

6.6.3 The site is not designated for its geology or geomorphological importance and no policy implications arise from the proposed minor changes.

6.7 Landscape and visual effects (including townscape)

6.7.1 The proposed minor changes, including the revised mooring arrangement and the additional steps on the road side of the embankment wall, would not be substantial enough to alter the effects on townscape character or visual receptors reported in the *ES*.

6.7.2 The revised mooring arrangement would replicate the existing arrangement with some improvements to accessibility and be smaller than that in the application and therefore have less impact.

6.7.3 The conclusions of the policy assessment do not change in light of the proposed minor changes.

6.8 Land use including open space, green infrastructure and green belt

- 6.8.1 The proposed extension of the LLAU at this site was discussed with the landowner, the Crown Estate, and does not involve any new land owner not previously consulted on the project.
- 6.8.2 An extended area of footpath would to be temporarily stopped up to allow for the works to relocate the Tattershall Castle and build the access brows. This would be mitigated through provision of a pedestrian diversion route maintained at clear width.
- 6.8.3 There are no new policy implications as a result of the proposed minor changes.

6.9 Noise and vibration

- 6.9.1 As identified in Section 5.4 above, the proposed minor changes would result in some change to the noise levels predicted in the *ES* during construction; however, the effects would not be significant.
- 6.9.2 The proposed changes do not give rise to any change in the anticipated operational noise or vibration and there are no additional policy implications.

6.10 Historic environment

Listed buildings and structures

- 6.10.1 The effect of fixing the gangway to the listed river wall during both the construction and operational phases would not materially change the conclusions in the *ES* and the change would only affect a small area of the total listed river wall.
- 6.10.2 In order to mitigate the fixing to the river wall in the construction phase, Thames Water would repair the wall after the temporary gangway is removed, in compliance with a DCO Requirement. Details would be submitted to the City of Westminster for approval in consultation with English Heritage to ensure the significance of the river wall would not be diminished.
- 6.10.3 The minor changes would not change the effect on the setting of the listed buildings or the conservation areas adjacent to the works and there would be no material change to the policy assessment.

Archaeology

- 6.10.4 It is probable that all alluvial deposits and any archaeological remains in the channel beside the river wall have already been removed by past dredging and water action but mitigation measures such as scanning and monitoring the arisings of the dredging as proposed at other project sites would be required. With these measures in place, no additional significant effects would occur. Monitoring the effects of river scour satisfies para. 4.10.14 of the NPS in accordance with NPS paras. 4.10.18 to 4.10.21.

6.10.5 There are no new policy implications with regards to archaeology.

6.11 Light

6.11.1 No additional lighting is proposed as part of the minor changes and therefore no policy implications arise.

6.12 Traffic and transport

6.12.1 With the existing proposed mitigation in place there would be no material change to the policy assessment as a result of the proposed minor changes.

6.13 Waste management

6.13.1 No waste management issues would arise at this site as a result of the proposed minor changes and therefore no policy implications.

6.14 Socio-economic

6.14.1 The need for the proposed amendment to the gangway was identified to address access needs of the vessel. The proposed amendments to the scheme therefore seek to reduce socio-economic impacts by ensuring the business is relocated and its facilities restored in line with para. 4.15.12 of the NPS.

6.14.2 The minor amendments would require the temporary use of an additional area of the Victoria Embankment footpath (Thames Path) to relocate the Tattershall Castle. The short addition to the proposed diversion route would be largely imperceptible to users and it is therefore considered that the minor adverse effect conclusion in the *ES* would remain unchanged.

6.14.3 There would be significant socio-economic impacts from the loss of employment, daytime and night time activity should the proposed changes not be made and the Tattershall Castle not satisfactorily relocated with adequate access provided.

6.14.4 There are no new policy implications as a result of the proposed changes.

6.15 Policy conclusion

6.15.1 The proposed minor changes do not result in a material change to the policy assessment of the submitted application.

7 Navigational Risk Assessment

7.1 Summary

- 7.1.1 A supplementary Navigation issues and preliminary risk assessment (doc ref. 7.20) has been produced to support the proposed amendments at Victoria Embankment Foreshore (see Appendix D).
- 7.1.2 The assessment identified that extending the boundary of the LLAU to the south and installing mooring facilities for the Tattershall Castle may impact on Thames Cruises Ltd's ability to use the mooring facilities situated between Whitehall Stairs and Westminster Pier.
- 7.1.3 In response to the findings, Thames Water will consult with Thames Cruises Ltd regarding the use of the mooring pontoon and the likely impact of the vessel's new temporary mooring position on existing operations.
- 7.1.4 If the discussions reveal that a potential impact remains, then Thames Water will investigate an alternative mooring system/arrangement for the vessel. If such a system/arrangement is required, it can be provided within the LLAU; therefore no extra land would be required.
- 7.1.5 Mitigation measures have been embedded in the proposed design. The design and in-river footprint of both the temporary and permanent sites would be minimised and constraints placed on the working areas within the river to minimise the duration and extent of the obstruction.
- 7.1.6 Residual risks would be mitigated through understanding the operational procedures to ensure minimum disruption to and interaction with existing users. A structural analysis of the mooring system will be completed for both the temporary and permanent locations.
- 7.1.7 During construction, a site berthing co-ordination manager would be appointed to liaise with all operators in the area and deal with potential areas of conflict and concern. Notices to Mariners would be issued to inform operators and river users of planned operations.

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8 Statement of Reasons

8.1 Introduction

8.1.1 This section explains the need for the alterations in acquisition powers and related matters which arise out of the proposed minor changes. *The Statement of Reasons* as submitted with the application (document ref. 4.1) sets out information on the need for acquisition powers for the entire project. Table 8.1 below indicates that most sections of that Statement are unchanged by this application. Otherwise this section deals with the need for the changes in acquisition powers and the effect of the extension of the LLAU on the application of the Infrastructure Planning (Compulsory Acquisition) Regulations and negotiations with landowners.

Table 8.1 Summary of changes to Statement of Reason

Statement of Reasons	Change required
The Purpose of the Application	None
The Requirement For and Content of a Statement of Reasons	None
Powers of Compulsory Purchase Under the Planning Act 2008	None
Powers Pursuant to the Draft Order For the Project	None
Justification For the Acquisition of Land and Rights	None
Location and Description of the Site	There is no change to the location and the description is amended only through increasing the site area to 1.8ha (formerly 1.6ha)
Matters For the Decision Maker	None
The Justification For the Use of the Powers of Compulsory Acquisition	Yes, see Table 8.2 below
Approach to Land Acquisition	Every land owner or interest affected by the proposed modifications was contacted during the engagement exercise. Table 4.1 records whether they have responded and Appendix B records the responses received.
Alternatives to Compulsory Acquisition	None
National Policy and Government Position	None
Special Considerations and Impediments	Yes, see Table 8.3 below. Additional Crown land is required.
Funding the Project	None
The Human Rights Act 1998	None
Related Applications and Orders Etc	None
Open Space and the Growth and Infrastructure Bill	None, No additional open space is required.

Statement of Reasons	Change required
Information For People Affected by the Order	None
Conclusion	None

8.2 Description of development sites

- 8.2.1 The site comprises an area of the foreshore of the River Thames and a section of pavement and carriageway of Victoria Embankment. The site area after allowing for minor changes is approximately 1.8ha, an increase of approximately 0.2ha. A permanently moored vessel, the Tattershall Castle, and two service moorings lie within the site. The site lies at the eastern edge of the Whitehall Conservation Area. Victoria Embankment is characterised by an avenue of mature London Plane trees, which receive a level of protection as part of the conservation area. The site also falls within the Lundenwic and Thorney Island Area of Archaeological Priority. The section of river wall within the site features Grade II listed features.
- 8.2.2 The site is bounded to the north, east and south by the River Thames and to the west by Victoria Embankment. The restaurant ship Hispaniola is moored nearby downstream. The northern Golden Jubilee footbridge, Embankment Millennium Pier and the Embankment London Underground Station lie beyond. A Grade II listed memorial is located approximately 25m to the north of the site. Along the west side of Victoria Embankment lies Whitehall Gardens, a Grade II registered park and garden, which is part of Victoria Embankment Gardens. The closest buildings to the site, including residential properties and the Grade II* listed Royal Horse Guards Hotel and National Liberal Club, are situated along Whitehall Court to the west of Whitehall Gardens. Charing Cross Station is located to the northwest of the site.

8.3 The Justification for the use of the powers of Compulsory Acquisition

- 8.3.1 Table 8.2 would be substituted for the table in section 9 of the Statement of Reasons if the proposed minor changes are accepted. The description of the development would not change, reflecting the very minor nature of these proposed amendments.

Table 8.2 Justification for the use of the powers of Compulsory of Acquisition

Site 14: Victoria Embankment Foreshore			
Interest to be acquired	Required for	Plot Numbers	Area (m ²)
Permanent acquisition of land - surface and subsoil	Construction and maintenance of permanent works including CSO drop shaft (Work No. 16a), foreshore structure, new storm overflow, Low Level	City of Westminster: [13b, 17a, 17c,] 18, 19, [19b] and 20	4,943 [10,734]

Site 14: Victoria Embankment Foreshore			
Interest to be acquired	Required for	Plot Numbers	Area (m²)
	<p>Sewer overflow weir chamber, other chambers, culverts, pipes, ducts, electrical and control equipment, kiosks, ventilation columns, other ventilation structures and equipment, scour protection, outfall apron, river wall, amenity building and landscaping (Work No. 16c).</p> <p>Construction of permanent works associated with the relocation of Tattershall Castle (part of Work No. 16c).</p> <p>Subsurface only - construction and maintenance of Low Level Sewer overflow weir chamber beneath Victoria Embankment (part of Work No. 16c).</p>		
Permanent acquisition subsoil only	Construction and maintenance of main tunnel (Work No. 1c) and Regent Street connection tunnel beneath the site (Work No. 16b).	City of Westminster: [13a,] 14, 23 and 25	5,422 [2,532]
Temporary possession	Areas required for construction of Work Nos. 16a, 16b and 16c including utility supplies, working area in the foreshore, temporary campshed, moorings, craneage, enclosures, concrete batching plant, workshop and stores, office, parking and welfare facilities, and vehicle and pedestrian circulation areas. Areas for construction works associated with the relocation of Tattershall Castle.	City of Westminster: [13a,] 14, 15, 16, 17, [17b, 19a,] 21, 22, 23, 23a, 25, 26, 27, 28	40,577 [6,844]
Works to streets further to Articles 10 and 11 and	Highway and utility works to Victoria Embankment (part of Work No. 16c).	City of Westminster: 16, 20, 21, 28	3,188

Site 14: Victoria Embankment Foreshore			
Interest to be acquired	Required for	Plot Numbers	Area (m²)
Schedules 4 and 5 of the draft Order			
Rights over third party land	None	None	

8.4 Special Considerations and Impediments

8.4.1 Table 8.3 would be substituted for the table in section 13 of the Statement of Reasons if the proposed minor changes are accepted.

Table 8.3 Local Authority and Statutory Undertaker Plots

	Number of Book of Reference plots affected by surface works	Number of Book of Reference plots affected by subsoil works
Local authorities	416 [415]	422
rail	57	66
TfL	84 [83]	79
Electricity	98	46
Gas	63	14
Other	43	132

8.5 Engagement with Landowners

8.5.1 As noted in paragraph 10.22 of the Statement of Reasons for the application for development consent, the applicant is engaged in discussion with land owners on this site, including vessel owners, the Port of London Authority as licensing authority and the Crown Estate, which owns the foreshore of the river in this area. Those discussions continue and all land owners and asset owners have been advised of the proposed amendments as set out in Table 4.2 of this Supporting Statement. No new owners of land or vessels would be affected as a result of the proposed amendments.

8.6 The Infrastructure Planning (Compulsory Acquisition) Regulations 2010

8.6.1 These regulations (the 'IP(CA) regs') provide for a formal procedure where it is proposed to include 'additional land' within an application. Under regulations 5 to 19, where it is proposed to introduce 'additional land' within an application for development consent, a number of formalities must be complied with including making a formal application to the

Secretary of State and then, if the application is accepted, a formal consultation period for affected land owners and other key statutory and other bodies.

- 8.6.2 In considering the minor amendments, consideration was given as to whether these regulations were engaged. The key definition in concluding whether it is necessary to follow the IP(CA) Regs procedures relates to the definition of 'additional land' in regulation 2 (1). That states that 'additional land' means land which it is proposed shall be subject to compulsory acquisition and which was not identified in the *Book of Reference* submitted with the application as land.
- 8.6.3 Affected landowners and others were engaged in the targeted engagement process (see Section 4) and the nature of the changes and its effect on land acquisition proposals was considered in the context of the IP(CA) Regs . The changes to the *Book of Reference* and Land plans are described in Section 2.3.
- 8.6.4 With regard to the works to provide mooring chains and anchors to secure the Tattersall Castle, this has resulted in an increase in the area of the LLAU and the addition of new plots which are shown on the revised Land plans as plots 13a, 13b, 17b, 17c, 19a and 19b. In context of the definition of 'additional land' whilst this land was not previously identified in the *Book of Reference* as land, these new plots are in the ownership of the Crown Estate. For that reason these new plots cannot be proposed for compulsory acquisition because Section 135 (1) of the Planning Act 2008 makes it clear that Crown interests in land cannot be compulsorily acquired at all. For that reason the IP(CA) Regs are not engaged and these additional plots will form part of the private treaty negotiations with the Crown Estate Commissioners which are on-going.
- 8.6.5 The need for areas to reinstate moorings, and to accommodate mooring chains and anchors of the vessel, the Tattershall Castle (with associated dredging and sheet piling), results in a change to plots 13, 14, 15 and 17. These works involve an extension of the area in which unrestricted powers to acquire land will be needed and these are now shown as extensions to plots 18 and 19 with four new plots, 13b, 17a, 17c and 19b, created to accommodate the change. As these plots were previously identified in the submitted *Book of Reference* as land (plots 13, 14, 15 and 17) and thus no 'additional land' is involved and the IP(CA) Regs are not engaged.
- 8.6.6 The area to accommodate the second gangway for the Tattersall Castle for revised access arrangements extends the area in which unrestricted powers to acquire land are needed. This area was originally within plot 16. The extended area for acquisition is now shown as an extension to plot 20. As this area was previously identified in the submitted *Book of Reference* as land (plot 16), no 'additional land' is involved and the IP(CA) Regs are not engaged.

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Appendix A: Example Letter to stakeholders



Mr Barry Aldous

Director and Company Secretary
City Cruises Ltd
Cherry Garden Pier
Cherry Garden Street
London
SE16 4TU

Unique Ref: 100-OG-CMN-CCRUS-000001
Ref: 100-CO-CMN-MULTI-000071

12 July 2013

Dear Mr Aldous

Thames Tideway Tunnel – Victoria Embankment Foreshore

We wish to propose some minor alterations to our plans for the Thames Tideway Tunnel, which we believe may affect you.

Ongoing design development work and stakeholder engagement, have led us to re-examine, in greater detail, the capacity of the proposed access structures to the Tattershall Castle. This has revealed that at least two independent means of departure from the vessel to the shore are required, instead of the single access as currently shown in our existing proposal.

We are proposing that the design of the temporary and permanent access arrangements be modified to reflect a similar arrangement to that which is currently in place.

The temporary arrangements will include two access ramps. These would, each be approximately three metres wide, positioned in parallel and span from the Tattershall Castle to a new piled support structure (bank seat) close to the listed river wall. The ramps would then continue over the parapet of the listed river wall onto structures located in the footway. Steps will then be provided from the parapet level down to the footway for the northern ramp. For the southern ramp a combined ramp and step access will be provided. Management of the access and egress would be the responsibility of the operator. The inclusion of the bank seat would result in the vessel needing to move out into the river by about eight metres but, this would reduce the potential adverse effect on the listed wall during the construction period as the temporary access will not be fixed to the wall itself. The move would not result in the vessel being moored within the authorised channel.

The proposed permanent arrangement will be similar to the temporary arrangement. The exception is that the two access ramps will be fixed directly to the listed wall replicating the current arrangement (i.e. no bank seat). This would allow the vessel, once in its permanent location, to be moored as close to the shore as possible. In the event that the ramps could not be fixed to the river wall the arrangement of the ramps would be the same as the temporary arrangement and would have the effect of moving the vessel out into the river by eight metres but, not to within the authorised channel.

Freeport RTCL-HJLR-ZUST
Thames Tideway Tunnel
London
W2 1AF

Tel: 0203 147 7700
Fax: 0203 147 7701
Web: www.thamestidewaytunnel.co.uk

Registered in England and Wales No. 2366661
Registered office: Clearwater Court, Vastern Road
Reading, Berkshire, RG1 8DB

We have also identified the need to provide the vessels with mooring chains and anchors. We also need to undertake dredging and associated sheet piling to ensure there is sufficient draft beneath its hull at low tide, at both the temporary and permanent locations for the vessel.

These changes mean that we will need to extend the temporary works beyond the boundary we originally identified for the Limit of Land to be Acquired or Used (LLAU) and extend the permanent works beyond the boundaries we originally identified for the extent of our permanent site structures and above ground structures. The change to the LLAU will extend the Order limits for which we are seeking approval for.

We propose to amend the wording in Schedule 1 of the draft Development Consent Order to reflect these changes. The revised text would be as follows:

Work no. 16(c) (xi) removal of existing mooring for the Tattershall Castle attached to listed wall (and associated access ramps), temporary relocation of the existing mooring (ramped over listed wall) to the south and use of the temporary mooring, the construction and use of a new permanent mooring attached to the listed wall for a permanently moored vessel to the south of Work No. 16c(ii), and means of access including access brows, bank seats and gangways, mooring chains and anchors fixed to the river bed, construction of a river piled wall and dredging to accommodate the relocated vessel in both the permanent and temporary locations for the vessel.

In order to assist you with your consideration of these proposed amendments we have enclosed the following information:

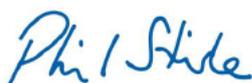
- a) Vessel layout plan sheet 1 of 2 (drg ref. 110-DA-ENG-VCTEF-000941)
- b) Vessel layout plan sheet 2 of 2 (drg ref. 110-DA-ENG-VCTEF-000946)
- c) Proposed permanent landscape plan (drg ref. 110-DA-ARC-VCTEF-000939)
- d) Proposed temporary landscape plan (drg ref. 110-DA-ARC-VCTEF-000940)
- e) Environmental effects arising from proposed scheme amendment (document ref. 100-RG-ENV-BLABF-000001)

We are also arranging eight briefing sessions to discuss these proposals with you. These will be held on Wednesday 17 and Thursday 18 July at ETC. Venues, 57 North Wharf Road, Paddington, London. The following table sets out the proposed start time for each briefing. Should you or a colleague be unable to make these sessions, we will gladly visit you at a time convenient for you.

Site	17 July	18 July
Victoria – lunch meeting	12.00	12.55
Victoria	15.00	16.00

We would very much welcome your comments and suggestions on these proposed changes and should be grateful if you would send them in writing to email info@tidewaytunnels.co.uk by **5pm on Monday 12 August 2013**. All feedback will be taken into account. Where we are able to we will accommodate any comments into our proposals. We will seek consent from the Planning Inspectorate to amend our proposals at the preliminary meeting due to be held in September.

Yours sincerely



Phil Stride
Head of Thames Tideway Tunnel

Appendix B: Responses from stakeholder

B.1 Victoria Embankment Foreshore: Stakeholder feedback

- B.1.1 The feedback received from the targeted engagement at Victoria Embankment Foreshore is summarised in Table B.1 below.
- B.1.2 The final column of these tables, ‘C’, specifies whether the feedback lead to change or no change.
- B.1.3 The following classifications are used to identify change or no change:
- C: Where Thames Water has made a change or have proposed mitigation to the proposals presented during the pre-application process in response to feedback received.
 - N: Where in response to the feedback received Thames Water did not amend the proposals.
 - N/A: The Planning Inspectorate’s Advice note fourteen (April 2012) indicates that feedback should relate to site, route, design, form or scale of the scheme. For project-wide sections, a column addressing change has not been inserted. For site-specific sections, where feedback does not relate to these categories, N/A has been used in the ‘C’ column.

Table B.1 Victoria Embankment Foreshore: Stakeholder feedback

Ref.	Stakeholder	Response	Our comment	C
VEF 01.	Design Council CABE	The additional information provided is substantially the same as the material Thames Water reviewed in March 2013. Our letter of 31 May 2012 therefore represents our formal response to this consultation.	No comment required.	N
VEF 02.	English Heritage	<i>“English Heritage considers that the relocation of the Tattershall Castle harms the setting of a wide range of heritage assets by virtue of cumulative impacts with the proposed new structure for the TTT NSIP development. We further consider that the impact of the TTT NSIP structure would be substantially reduced were the Tattershall Castle to be removed to another location rather than relocated near to its current location.”</i>	The effect arising from the proposed minor amendments is no different to that of the scheme included in the application. Thames Water is aware of English Heritage’s view on the relocation of the Tattershall Castle and the	N

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Ref.	Stakeholder	Response	Our comment	C
			proposed amendments have not altered this.	
VEF 03.	English Heritage	<i>“Should it be determined that it is necessary to retain the Tattershall Castle in the proposed temporary and permanent locations, English Heritage concurs that the amended temporary arrangements are preferable to those proposed in the original application submission. Paragraph 4.10.18 of the NPS indicates that applicants should design their proposals to avoid unnecessary damage to the historic environment. You have stated in your letter of 12 July 2013 that the temporary arrangements could apply ‘permanently’ and this would suggest that the permanent proposals that involve drilling into the listed wall are not necessary”.</i>	<p>Noted with respect to the revised proposed minor amendments to attach the gangway directly to the river wall in the temporary location.</p> <p>The effect on the wall will be mitigated through the submission of details of the proposed works to the listed wall under the DCO Requirements for Victoria Embankment Foreshore. This requirement would be for approval by the local planning authority in consultation with English Heritage.</p> <p>In the event that the PLA withdraws its objection to navigational risk and safety, Thames Water would be able to re-examine the permanent arrangements.</p>	C
VEF 04.	English Heritage	<i>“Given the significance of the setting issues in this location, English Heritage considers that it would have been useful to have visualisations of the different ‘permanent’ arrangements in order to better assess which option creates the greater harm to the historic environment i.e. whether or not the Tattershall Castle is rendered more intrusive in the settings of heritage assets if the temporary arrangement is used in the permanent location”.</i>	<p>Revised elevations and details are provided in the amended set of plans for Victoria Embankment Foreshore.</p> <p>The preparation of further visualisations and any further details of the works required to discharge the relevant requirement for works to the listed wall would be submitted for approval by the local planning authority in consultation</p>	N/A

Ref.	Stakeholder	Response	Our comment	C
			with English Heritage.	
VEF 05.	English Heritage	<i>In addition, English Heritage considers it unfortunate that such a large dredge will be required if it is decided that it is necessary to facilitate this relocation. We will, however, be content with the proposed mitigation of scanning the dredge arisings for archaeological mater, provided this is appropriately monitored</i>	Noted	
VEF 06.	Natural England	<i>“The proposed amendments do not significantly alter the proposed scheme but have the potential to impact on foraging and migratory routes for fish and invertebrates”.</i>	The serial or cumulative impacts of the foreshore structures on juvenile fish migration was assessed and reported in the ES using an individual-based modelling approach. The study concluded that although the structures would cause juvenile fish to move into deeper water where they are at greater risk of predation and ‘wash out’, the refuges from the currently proposed structures would offset this negative impact. Given the scale of the amendments, the conclusions in relation to fish migration are unchanged. No effects on benthic invertebrates are expected since the areas of loss would be limited and the communities that occur in this area are widespread in the tidal Thames.	N
VEF 07.	Natural England	<i>“Relocation of infrastructure and temporary mooring of the Tattershall Castle is likely to require the Limits of Land Acquired/Used (LLAU) to be increased, potentially up to 0.2 hectares. The potential for additional habitat loss must be discussed with the Environment Agency, both in respect of this site and the cumulative impact on the scheme as a whole”.</i>	Additional areas of permanent habitat loss arising from the proposed minor amendments will be incorporated into the overall habitat loss calculations and considered as part of the	C

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Ref.	Stakeholder	Response	Our comment	C
			compensation package. The compensation package to address the adverse effects resulting from habitat loss form part of the terms of reference for an independently chaired working group that has been set up with stakeholders including representatives from the EA, Natural England, PLA and the London Wildlife Trust. The EA confirmed in the first inception meeting of this working group held on 23 July 2013 that they would accept the recommendation of the group in addressing the above compensation issue.	
VEF 08.	Natural England	<i>“On the basis of the information submitted in support of the above, the Natural England is of the opinion that the proposed amendments to the Victoria Embankment Foreshore do not significantly alter the scheme and that our previous Statement of Relevant Representation dated 24 May 2013 is still valid”.</i>	Noted.	N/A
VEF 09.	Natural England	<i>Pro rata compensation for habitat loss should be discussed with the Environment Agency as part of their ongoing consultation and Statement of Relevant Representation, as well as part of any compensatory package to be agreed.</i>	Noted	
VEF 10.	Natural England	<i>Ongoing discussion with the Environment Agency, to identify and assess suitable and appropriate foreshore habitat compensation as part of the Development Consent Order application, is to be undertaken as per our comments in the Statement of Relevant Representation dated 24 May 2013. Natural England is prepared to offer advice and support, where appropriate and as requested to both parties.</i>	Noted	
VEF 11.	Network Rail	<i>“Network Rail is in ongoing negotiations with TWUL regarding the</i>	An Asset Protection Agreement is	N

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Ref.	Stakeholder	Response	Our comment	C
		<i>proposed amendments at Victoria Embankment Foreshore as well as the provision of appropriate protective provisions for statutory undertakers. Pending the satisfactory conclusion of these discussions Network Rail reserves its position regarding the proposed project amendments and consequential amendments to the DCO”.</i>	under discussion between Network Rail and Thames Water and is at an advanced stage. Draft protective provisions are also being negotiated.	
VEF 12.	Port of London Authority	<i>“It is unfortunate that these amendments, and their implications on the River Thames, do not appear to have been formally raised or discussed with the PLA prior to this consultation”.</i>	The project engaged with all stakeholders at the same time, as soon as the proposed minor amendments were formulated.	N/A
VEF 13.	Port of London Authority	<i>“The PLA is most concerned that the proposed temporary mooring arrangements will result in the vessel being situated closer to the navigational channel than is currently the case or will be in the proposed permanent arrangement and, furthermore, extends further riverward than the outside face of the construction cofferdam. Notwithstanding, that no assessment appears to have been undertaken on the implications of this approach on the river’s regime, the PLA believes the proposal could increase the navigational risks during construction”.</i>	In response to the PLA’s concerns regarding navigational safety, Thames Water now proposes to locate the Tattershall Castle closer to the river wall during the construction period by using a shorter brow, fixed to the river wall.	C
VEF 14.	Port of London Authority	<i>“[...] the PLA believes the proposal could increase the navigational risks during construction”.</i>		C
VEF 15.	Port of London Authority	<i>The PLA’s views on the revisions to the Navigational Issues and Preliminary Risk Assessment reflect its more general position on these documents as submitted with the DCO, as to whether they adequately and appropriately address all the relevant issues. In this regard, the PLA notes that the most recent document appears to conclude that the Tattershall Castle’s mooring chains – and therefore the reason for extending the LLAU – will have an impact on the use of the Thames Cruises’ mooring, yet seems to provide no appropriate mitigation.</i>	Having undertaken further work on this matter, Thames Water does not now think there will be a conflict between the mooring chains of the vessel during the construction period and the operations of Thames Cruises Ltd. We are in discussion with the Thames Cruises Ltd to ensure the impact on their operations is minimised.	N
VEF 16.	Port of London Authority	<i>“No detailed justification for the proposed methodology and extent of the proposed dredging (both permanent and, if necessary, maintenance) or the construction of a sheet piled wall landward of</i>	The extent of dredging proposed is to ensure that the vessels and pontoons maintain 0.5m draft at	N

Ref.	Stakeholder	Response	Our comment	C
		<p><i>the dredged box. The proposal to include sheet piling is not common practice on the River Thames and there is no guarantee that the proposed depths will maintain and that such an approach will result in minimal scour; further justification for this scheme element is therefore required. The PLA is also concerned that any scour will expose the sheet piles and therefore increase the risk of damaging service and other vessels transiting to the inshore side of the Tattershall Castle”.</i></p>	<p>lowest astronomical tide. Associated sheet piling is proposed where the natural angle of repose of river bed deposits from the dredged area could result in potential loss of material at the foot of existing river walls. We want to avoid affecting the stability of the existing river walls and so without the sheet piling to support the river bed deposits, the loss of any toe support at the base of river walls could affect their stability.</p> <p>A precautionary approach to estimating the extent of dredging and associated sheet piling was taken to ensure that Thames Water did not under-represent the impact when preparing the application. It may be that during the detailed design stage, the extent of these works can be reduced.</p> <p>The risk of vessels grounding on the sheet piling is considered low, but mitigation such as topping the piling with timber could be employed to reduce this risk.</p>	C
VEF 17.	Port of London Authority	<p><i>“Additionally, further details are required on the implications of the proposed dredging, including seasonality and cumulative effects. If it is determined, following assessment, that the intentional infilling of the dredge box following the completion of the temporary works is appropriate, it must be undertaken with suitably selected material which can support the surrounding riverbed from erosion and</i></p>	<p>At this stage, Thames Water intends to reinstate temporary dredged pockets and remove associated sheet piling from the river bed. This will be undertaken with suitable material and taking</p>	C

Ref.	Stakeholder	Response	Our comment	C
		<i>collapse</i> ".	<p>account of the stability of material supporting the existing river wall. Further work will be undertaken as part of the detailed design stage to address this issue.</p> <p>It is intended that the protective provisions will set out clauses to protect the PLAs position in respect of their statutory duties and a framework for an approval process for the detailed design of works (including capital dredging) to be authorised under the DCO.</p> <p>Negotiations are on-going between Thames Water Utilities Limited and the parties regarding the mechanism for securing the details of the approval regime, together with provisions relating to scour monitoring and mitigation, and co-operation between the PLA, EA and MMO in granting the approval of such works.</p>	
VEF 18.	Port of London Authority	<i>"Spillage from dredging at the volumes referred to within the documents does not accord with best practice and, more importantly, they are assessed as not significant without any reference to the sediment quality provided within the Environmental Statement submitted with the DCO"</i> .	<p>The ES as a whole and the report on the proposed amendments assumes a quoted spillage rate from dredging following a standard approach . This has been applied uniformly and therefore does not represent best practice.</p> <p>Appropriate controls would form part of the dredging plan required by the <i>Code of Construction Practice</i>, submitted with the</p>	N/A

Ref.	Stakeholder	Response	Our comment	C
			<p>application, and this would reduce spillage rates to best practice levels.</p> <p>It is intended that the protective provisions will set out clauses to protect the PLAs position in respect of their statutory duties and a framework for an approval process for the detailed design of works (including capital dredging) to be authorised under the DCO.</p> <p>Negotiations are on-going between Thames Water Utilities Limited and the parties regarding the mechanism for securing the details of the approval regime, together with provisions relating to scour monitoring and mitigation, and co-operation between the PLA, EA and MMO in granting the approval of such works.</p>	C
VEF 19.	Port of London Authority	<p><i>“The PLA would also question the proposed approach adopted for the mooring of the vessel following the completion of the works. This appears to be based on the use of anchors and chains rather than, as is generally regarded as best practice, a solution based on dolphins. The approach to the permanent mooring of the vessel should be more fully considered in conjunction with the PLA”.</i></p>	<p>There may be some confusion on this issue because it is indeed Thames Water’s proposal to moor the Tattershall Castle using both dolphins and anchors and chains as per the existing situation.</p> <p>It is intended that the protective provisions will set out clauses to protect the PLAs position in respect of their statutory duties and a framework for an approval process for the detailed design of works</p>	N

Ref.	Stakeholder	Response	Our comment	C
			(including capital dredging) to be authorised under the DCO. Negotiations are on-going between Thames Water Utilities Limited and the parties regarding the mechanism for securing the details of the approval regime, together with provisions relating to scour monitoring and mitigation, and co-operation between the PLA, EA and MMO in granting the approval of such works..	
VEF 20.	TfL	<i>“TfL does not envisage any serious adverse impacts upon our assets or operations from your proposed changes to amend and increase the sheet piling and works boundary for dredging. This comment is however subject to ongoing communication between TUWL and TfL and, taking London Underground as an example, adherence to LUL’s standard requirements / constraints for piling in close proximity to its structures during the detailed design and construction phases of your project”.</i>	We will continue to work closely with TfL and other stakeholders to ensure Thames Water complies with all relevant standards and maintain effective channels of communication.	N/A
VEF 21.	City of Westminster	<i>“We have the yet to be convinced of the necessity for relocating the Tattershall Castle, and it is unclear how the DCO process will be applied to secure its relocation”.</i>	It is right and proper for Thames Water to include in the application provision for the temporary relocation of the vessel. Although elsewhere, the application does not make provision for the relocation of businesses affected by the works, the situation at Victoria Embankment Foreshore is different because the relocation would be temporary and could be achieved by the physical relocation of the business premises itself. Furthermore, the alternative would	

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Ref.	Stakeholder	Response	Our comment	C
			mean the extinguishment of a substantial and popular business and consequent loss of employment.	
VEF 22.	City of Westminster	<i>“The proposed relocation of the Tattershall Castle will lead to significant negative impacts on the heritage assets at and in the vicinity of Victoria Embankment Foreshore. We are seriously concerned that the proposed four years of temporary location will lead significant impact on the heritage assets/views at Victoria Embankment, and the proposed permanent operational location is only marginally better. Also given the limited level access available onboard the vessel, we would question whether the harm caused to the public realm, the setting of the conservation area, and the fabric and appearance of the listed embankment wall is justified and reasonable”.</i>	<p>The effect arising from the proposed amendment is no different to that of the scheme included in the application. We suggest that no further action is required.</p> <p>The effect on the wall will be mitigated through the submission of details of the proposed works to the listed wall under the DCO Requirements for Victoria Embankment Foreshore. This requirement would be for approval by WCC</p>	N
VEF 23.	City of Westminster	<i>“The dredging activity associated with the revised proposals appears to be significant and we would wish to see Thames Water’s impact assessments for the proposed dredging activity on the City Council’s Assets e.g. Hungerford Foot Bridge, Listed Embankment Wall, and how these will be mitigated for”.</i>	<p>The extent of dredging proposed is to ensure that the vessels and pontoons maintain 0.5m draft at lowest astronomical tide.</p> <p>Associated sheet piling is proposed where the natural angle of repose of river bed deposits from the dredged area could result in potential loss of material at the foot of existing river walls. We want to avoid affecting the stability of the existing river walls and so without the sheet piling to support the river bed deposits, the loss of any toe support at the base of river walls</p>	N

Ref.	Stakeholder	Response	Our comment	C
			<p>could affect their stability.</p> <p>A precautionary approach to estimating the extent of dredging and associated sheet piling was taken to ensure that Thames Water did not under-represent the impact when preparing the application. It may be that during the detailed design stage, the extent of these works can be reduced.</p> <p>Thames Water does not believe that the dredging works at Victoria will have any adverse effect on the Council's Assets such as Hungerford footbridge or the Embankment. However, Thames Water will undertake a full assessment of scour during detailed design. If that concludes some protection is needed Thames Water will commit to providing that mitigation.</p> <p>Thames Water is in discussions with WCC regarding an Asset Protection Agreement to give WCC comfort that suitable mitigation will be in place to protect their assets.</p>	C
VEF 24.	City of Westminster	<i>"The increased extent of the LLAU is also a great concern and we would wish to understand how this significant increase is justified, what are the likely impacts on heritage assets such as the listed RAF memorial, listed river wall, and views, and how will these be mitigated for".</i>	The limits of land to be acquired or used (LLAU) would be extended to include the mooring chains and anchors for the Tattershall Castle and guide piles for the relocated service mooring only.	N

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Ref.	Stakeholder	Response	Our comment	C
			The addition of the mooring chains for the construction and operational phases would not alter the appearance to the extent that there would be material changes to the townscape and visual effects as assessed and would be in keeping with the area.	
VEF 25.	City of Westminster	<i>“If, the necessity for relocation is established, then the attachment option that presents the least intervention to the heritage asset is preferable (i.e. the temporary option)”.</i>	Noted. The effect on the wall will be mitigated through the submission of details of the proposed works to the listed wall under the DCO Requirements for Victoria Embankment Foreshore. This requirement would be for approval by WCC	C
VEF 26.	City of Westminster	The cumulative visual impact of the new foreshore structure and the retained, but relocated Tattershall Castle, is considered harmful – particularly compromising the appearance and setting of the listed embankment wall. Also, given the challenging access issues onboard the Tattershall Castle, we would question the reasonableness of providing the large ramp structure adjacent to the listed embankment wall. The ramp will add considerable visual clutter to the footway and will compromise the clean line of the listed wall. As the ramp provides only very limited access to the vessel, then it is considered that the harm caused to the public realm and the listed wall is neither justified nor reasonable.	The work undertaken in determining the potential effects of the proposed amendments (See Table 3.1 of the <i>Proposed minor amendments to the application: Victoria Embankment Foreshore</i>) indicates that the addition of the mooring chains for the construction and operational phases would not change the appearance to the extent that there would be material changes to the townscape and visual effects as assessed and would be in keeping with the area.	N
VEF 27.	City of Westminster	<i>“The revised drawings for the amended scheme should be referred to in Requirements VCTEF 7 and 10”.</i>	Noted. The Requirements will be updated with revised drawings.	C

Ref.	Stakeholder	Response	Our comment	C
VEF 28.	Environment Agency	<i>“Why is dredging and the retaining piled walls necessary when the positions of the vessels are no nearer to the river wall than they currently are today?”</i>	The incoming and outgoing action of the tide has a scouring effect beneath existing vessels that usually creates and maintains a depression in the river bed. When vessels are moved to a new location, Thames Water needs to consider whether the river bed needs to be lowered to ensure adequate clearance to the underside of vessels at all states of the tide to prevent grounding. In order to assess this, Thames Water estimated the stable slope angle of the river bed and, where there was a risk that an unsupported dredged depression could undermine a nearby river wall, Thames Water took a precautionary approach. We therefore indicated that sheet piled support to the river bed would be required to ensure the structural integrity of river walls is not affected.	N
VEF 29.	Environment Agency	<i>“Why were dredging and the retaining piled walls not shown in the current DCO application?”</i>	As a result of on-going technical developments work, it was established that additional dredging and associated sheet piling would be required.	N/A
VEF 30.	Environment Agency	<i>“What is the justification for the extent of the dredged areas proposed? The areas appear to include dredging beneath the pontoons and connecting brow and be greater than simply to accommodate the vessels”.</i>	Further to the response to query VEF 28 above, Thames Water need to ensure that pontoons do not ground on the river bed.	N/A

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Ref.	Stakeholder	Response	Our comment	C
VEF 31.	Environment Agency	<i>"The amended applications should be revised to explain / illustrate the above points".</i>	The explanation of these points is set out in the main part of the supporting statement.	N
VEF 32.	Environment Agency	<i>Changes to river velocities and associated scour (EA relevant rep Issue 4.1) "The proposed alterations add nothing to our understanding of the impact on river hydraulics and the magnitude of scour effects."</i>	The approach to scour modelling, monitoring and mitigation has been developed over a two year period in discussion with the EA and a draft strategy for monitoring and mitigation of scour is being further updated. Thames Water will undertake a full assessment of scour during detailed design. If that concludes some protection is needed Thames Water will commit to providing that mitigation.	N/A
VEF 33.	Environment Agency	<i>"The way this matter is being addressed in the proposal of minor alterations is the same as the original application i.e. scour impacts are not being fully identified, rather reliance is being made on monitoring and mitigating actions and significance of impact / risk is reported assuming such actions have been carried out. In this instance the mitigation proposals are the sheet piles to retain the foreshore, the gabion mattresses and if monitoring identifies possible further protection then other measures will be put in place".</i>		N
VEF 34.	Environment Agency	<i>"The re-siting of the boat, piers and associated works will need to be additionally included within the scour and accretion modelling. The outcome of this modelling will have direct implications on the scour and accretion monitoring and mitigation".</i>	It is intended that the protective provisions will set out clauses to protect the EAs position in respect of their statutory duties and a framework for an approval process for the detailed design of works (including capital dredging) to be authorised under the DCO. Negotiations are on-going between Thames Water Utilities Limited and the parties regarding the mechanism for securing the details of the approval regime, together with provisions relating to scour monitoring and mitigation, and co-operation between the PLA, EA and MMO in granting the approval of such works.	C

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Ref.	Stakeholder	Response	Our comment	C
VEF 35.	Environment Agency	<p><i>Significance and extent of foreshore loss (EA relevant rep Issues 2.1 and 2.2)</i></p> <p><i>“The proposed alterations represent an increase in the area of permanent loss of foreshore and river bed modification. We continue to seek that permanent loss and modification be kept to a minimum and that figures within the current DCO application, identifying areas of loss and modification, need to be amended to reflect changes. The outcome of the assessment of significance and extent of foreshore habitat loss will have direct implications on any proposed ecological compensation package. There should be consideration of the reinstatement of the foreshore following the use of temporary locations of the vessels”.</i></p>	<p>The outcome of the assessment will inform the compensation package. The compensation package to address the adverse effects resulting from habitat loss form part of the terms of reference for an independently chaired working group that has been set up with stakeholders including representatives from the EA, Natural England, PLA and the London Wildlife Trust. The EA confirmed in the first inception meeting of this working group held on 23 July 2013 that they would accept the recommendation of the group in addressing the above compensation issue.</p> <p>The method of foreshore reinstatement is appended to Vol 3 of the ES.</p>	C
VEF 36.	The Crown Estate	<p>The Crown Estate have no comments to make in relation to the proposed minor changes at Victoria Embankment as far as their land ownership of these areas of foreshore is concerned.</p>	Noted	N/A

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Appendix C: Book of Reference

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
1	27 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
2	3385 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
3	536 square metres Subsoil below bridge carrying public road and footways (Lambeth Bridge, A3203) above river (River Thames) and bed thereof	City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP London Borough of Lambeth Lambeth Town Hall Brixton Hill London SW2 1RW Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of the River Thames beneath Lambeth Bridge, London, SW1P) Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)		City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP London Borough of Lambeth Lambeth Town Hall Brixton Hill London SW2 1RW Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of the River Thames beneath Lambeth Bridge, London, SW1P) Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)	

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		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
4	10389 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
5	9196 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
6	352 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
7	761 square metres Subsoil below bridge (Westminster Bridge) carrying public road and footways (Westminster Bridge, A302) and river (River Thames) and bed thereof	<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Borough of Lambeth Lambeth Town Hall Brixton Hill London SW2 1RW</p> <p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of River Thames beneath Westminster Bridge, London, SW1A)</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>		<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Borough of Lambeth Lambeth Town Hall Brixton Hill London SW2 1RW</p> <p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of River Thames beneath Westminster Bridge, London, SW1A)</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>	
8	354 square metres Subsoil below river (River Thames) and bed thereof	<p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG</p>		<p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG</p>	
9	220 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>		<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>	

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		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
10	1295 square metres Subsoil below river (River Thames) and bed thereof	London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Jubilee line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Jubilee line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
11	964 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
12	1683 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
13	4757 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
13a	144 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
13b	1081 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
14	1531 square metres Vessel (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		Livett's Launches Limited 14 Church Row Chislehurst BR7 5PG (in respect of moorings, London, SW1A) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of river works licence) TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works license and mooring, Victoria Embankment, London, SW1A 2HR) The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
15	420 square metres River (River Thames), foreshore and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
16	314 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>		<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Power Networks plc Newington House 237 Southwark Bridge Road London SE1 6NP (in respect of agreement dated 18/03/1942 for lighting of Victoria Embankment, London, SW1)</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>	
17	203 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>		<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>	
17a	104 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>		<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
17b	116 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
17c	21 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
18	4581 square metres Vessel (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		Livett's Launches Limited 14 Church Row Chislehurst BR7 5PG (in respect of moorings, London, SW1A) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of river works licence) TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works license and mooring, Victoria Embankment, London, SW1A 2HR) The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
19	3505 square metres Access bridge (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		Livett's Launches Limited 14 Church Row Chislehurst BR7 5PG (in respect of moorings, London, SW1A) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of river works licence) TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works license and mooring, Victoria Embankment, London, SW1A 2HR)	
19a	109 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	
19b	562 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
20	880 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>		<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Power Networks plc Newington House 237 Southwark Bridge Road London SE1 6NP (in respect of agreement dated 18/03/1942 for lighting of Victoria Embankment, London, SW1)</p> <p>TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle, as licensee in respect of access stairs at Victoria Embankment, London, SW1)</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>	
21	1616 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all				

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
Cont'd	interests of the Crown)	<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Circle Line and District line)</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>		<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Power Networks plc Newington House 237 Southwark Bridge Road London SE1 6NP (in respect of agreement dated 18/03/1942 for lighting of Victoria Embankment, London, SW1)</p> <p>London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Circle Line and District line)</p> <p>TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle, as licensee in respect of access stairs at Victoria Embankment, London, SW1)</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London</p>	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
Cont'd				SW1H 0TL (in respect of red route)	
22	197 square metres Vessel and access bridge (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of river works licence) TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works license and mooring, Victoria Embankment, London, SW1A 2HR) The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
23	3 square metres Mooring post and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX (in respect of the foreshore and bed of the River Thames, London, WC2N)	TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works licence and mooring post, London, WC2N)	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of river works licence) TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works licence and mooring post, London, WC2N) The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX (in respect of the foreshore and bed of the River Thames, London, WC2N)	Irish Bank Resolution Corporation Limited Stephen Court 18-21 St. Stephen's Green Dublin 2 Ireland (as mortgagee for TCG Bars Limited in respect of Tattershall Castle, Victoria Embankment, London, SW1A 2HR) Tattershall Castle Group Limited PO Box 255 Trafalgar Court Les Banques St. Peter Port Guernsey GY1 3QL (as mortgagee for TCG Bars Limited in respect of Tattershall Castle, Victoria Embankment, London, SW1A 2HR)

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
23a	2 square metres Mooring post and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX (in respect of the foreshore and bed of the River Thames, London, WC2N)	TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works licence and mooring post, London, WC2N)	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of river works licence) TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works licence and mooring post, London, WC2N) The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX (in respect of the foreshore and bed of the River Thames, London, WC2N)	Irish Bank Resolution Corporation Limited Stephen Court 18-21 St. Stephen's Green Dublin 2 Ireland (as mortgagee for TCG Bars Limited in respect of Tattershall Castle, Victoria Embankment, London, SW1A 2HR) Tattershall Castle Group Limited PO Box 255 Trafalgar Court Les Banques St. Peter Port Guernsey GY1 3QL (as mortgagee for TCG Bars Limited in respect of Tattershall Castle, Victoria Embankment, London, SW1A 2HR)
24	7 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
25	854 square metres Vessel (Tattershall Castle) and river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works license and mooring, Victoria Embankment, London, WC2N)	
26	953 square metres Vessel and access bridge (Tattershall Castle) and river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works license and mooring, Victoria Embankment, London, WC2N)	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
27	4 square metres Mooring posts and river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works licence and mooring posts, London, WC2N)	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG TCG Bars Limited Regus House Windmill Hill Business Park Whitehill Way Swindon SN5 6QR (trading as Tattershall Castle in respect of river works licence and mooring posts, London, WC2N)	Irish Bank Resolution Corporation Limited Stephen Court 18-21 St. Stephen's Green Dublin 2 Ireland (as mortgagee for TCG Bars Limited in respect of river works licence and mooring post, London, WC2N) Tattershall Castle Group Limited PO Box 255 Trafalgar Court Les Banques St. Peter Port Guernsey GY1 3QL (as mortgagee for TCG Bars Limited in respect of river works licence and mooring post, London, WC2N)

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
28	378 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>		<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Power Networks plc Newington House 237 Southwark Bridge Road London SE1 6NP (in respect of agreement dated 18/03/1942 for lighting Victoria Embankment, London, WC2N)</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p> <p>Transport for London The Property Asset Register Manager Windsor House 42-50 Victoria Street London SW1H 0TL (in respect of red route)</p>	
29	1156 square metres Subsoil below river (River Thames) and bed thereof	<p>London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Bakerloo line)</p> <p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG</p>		<p>London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Bakerloo line)</p> <p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG</p>	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
30	139 square metres Subsoil below bridge (Golden Jubilee Footbridge) and river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP	City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
31	217 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
32	895 square metres Subsoil below bridge (Hungerford Bridge) carrying railway and works (London Waterloo East and Charing Cross) above river (River Thames) and bed thereof	Network Rail Infrastructure Limited Kings Place 90 York Way London N1 9AG (in respect of Hungerford Bridge, London, SW1A) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of the River Thames beneath Hungerford Bridge, London, SW1A)		Network Rail Infrastructure Limited Kings Place 90 York Way London N1 9AG (in respect of Hungerford Bridge, London, SW1A) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of the River Thames beneath Hungerford Bridge, London, SW1A)	
33	208 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
34	139 square metres Subsoil below bridge (Golden Jubilee Footbridge) and river (River Thames), and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP	City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
35	874 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of the River Thames)		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG (in respect of the River Thames)	
36	56 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO Tunnel - BT Openreach St. Martin's Tunnel) London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO Tunnel - BT Openreach St. Martin's Tunnel) London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
37	11 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
38	377 square metres Subsoil below river (River Thames) and bed thereof	British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO Tunnel - BT Openreach St. Martin's Tunnel) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO Tunnel - BT Openreach St. Martin's Tunnel) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
39	109 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO Tunnel - BT Openreach St. Martin's Tunnel) London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO Tunnel - BT Openreach St. Martin's Tunnel) London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
40	213 square metres Subsoil below river (River Thames) and bed thereof	British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO tunnel - BT Openreach St. Martin's Tunnel) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		British Telecommunications plc 81 Newgate Street London EC1A 7AJ (in respect of GPO tunnel - BT Openreach St. Martin's Tunnel) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
41	14 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
42	17 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnels - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
43	72 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line) Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
44	10 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
45	312 square metres Subsoil below river (River Thames) and bed thereof and London Underground tunnel (Northern line)	London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line)		London Underground Limited 55 Broadway London SW1H 0BD (in respect of London Underground tunnel - Northern line)	
		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
46	1853 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
47	40 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
48	5035 square metres Subsoil below river (River Thames) and bed thereof	Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG		Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG	
49	1832 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX		The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX	

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Number on Plan	Description of Property	Category 1			Category 2
		Owners or Reputed Owners	Lessees or Tenants	Occupiers	
50	742 square metres Subsoil below bridge (Waterloo Bridge) carrying public road and footways (Waterloo Bridge, A301) and river (River Thames) and bed thereof (excluding all interests of the Crown)	<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Borough of Lambeth Lambeth Town Hall Brixton Hill London SW2 1RW</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX (in respect of the River Thames beneath Waterloo Bridge, London, WC2R)</p>		<p>City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP</p> <p>London Borough of Lambeth Lambeth Town Hall Brixton Hill London SW2 1RW</p> <p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX (in respect of the River Thames beneath Waterloo Bridge, London, WC2R)</p>	
51	4347 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>		<p>The Crown Estate Commissioners The Crown Estate 16 New Burlington Place London W1S 2HX</p>	
52	7914 square metres Subsoil below river (River Thames) and bed thereof	<p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG</p>		<p>Port of London Authority London River House Royal Pier Road Gravesend DA12 2BG</p>	

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City of Westminster - Part 2

Number on Plan	Description of Land	Potential claims under Compulsory Purchase Act 1965 s.10 or Land Compensation Act 1973 Part 1
13	4757 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	Livett's Launches Limited 14 Church Row Chislehurst BR7 5PG (in respect of moorings, London, SW1A)
16	314 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	Thames Water Utilities Limited Clearwater Court Vastern Road Reading RG1 8DB (in respect of rights relating to underground sewer, London, SW1A)
20	880 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	Thames Water Utilities Limited Clearwater Court Vastern Road Reading RG1 8DB (in respect of rights relating to underground sewer, London, SW1A)
21	1616 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	Thames Water Utilities Limited Clearwater Court Vastern Road Reading RG1 8DB (in respect of rights relating to underground sewer, London, SW1A)
28	378 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	Thames Water Utilities Limited Clearwater Court Vastern Road Reading RG1 8DB (in respect of rights relating to underground sewer, London, WC2N)
31	217 square metres Subsoil below river (River Thames) and bed thereof	City of Westminster Westminster City Hall 64 Victoria Street London SW1E 6QP (in respect of horizontal connecting support structures between the north and south pedestrian Hungerford Bridges, London, WC2N)

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Number on Plan	Description of Land	Persons entitled to enjoy easements or rights over the land
16	314 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	Thames Water Utilities Limited (in respect of rights relating to underground sewer, London, SW1A)
20	880 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	Thames Water Utilities Limited (in respect of rights relating to underground sewer, London, SW1A)
21	1616 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	Thames Water Utilities Limited (in respect of rights relating to underground sewer, London, SW1A)
28	378 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	Thames Water Utilities Limited (in respect of rights relating to underground sewer, London, WC2N)

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Number on Plan	Description of Land	Owner of Crown Interest in the Land
1	27 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
5	9196 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
9	220 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
11	964 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
13	4757 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
13a	144 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
13b	1081 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
14	1531 square metres Vessel (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
15	420 square metres River (River Thames), foreshore and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
16	314 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	The Crown Estate Commissioners

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Number on Plan	Description of Land	Owner of Crown Interest in the Land
17	203 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
17a	104 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
17b	116 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
17c	21 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
18	4581 square metres Vessel (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
19	3505 square metres Access bridge (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
19a	109 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
19b	562 square metres River (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
20	880 square metres Public footway (Victoria Embankment, A3211) (excluding all interests of the Crown)	The Crown Estate Commissioners
21	1616 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	The Crown Estate Commissioners

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Number on Plan	Description of Land	Owner of Crown Interest in the Land
22	197 square metres Vessel and access bridge (Tattershall Castle) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
23	3 square metres Mooring post and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners (in respect of the foreshore and bed of the River Thames, London, WC2N)
23a	2 square metres Mooring post and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners (in respect of the foreshore and bed of the River Thames, London, WC2N)
24	7 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
28	378 square metres Public road, central reservation and footway (Victoria Embankment, A3211) and parking and stairs (excluding all interests of the Crown)	The Crown Estate Commissioners
49	1832 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners
50	742 square metres Subsoil below bridge (Waterloo Bridge) carrying public road and footways (Waterloo Bridge, A301) and river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners (in respect of the River Thames beneath Waterloo Bridge, London, WC2R)
51	4347 square metres Subsoil below river (River Thames) and bed thereof (excluding all interests of the Crown)	The Crown Estate Commissioners

Appendix D: Noise and vibration – proposed minor changes

D.1 Noise

Table D.1 Comparison of impacts at residential receptors (daytime only)

Receptor	ABC impact criterion threshold level ^{vi}	Noise levels: Maximum-minimum(typical), dBL _{Aeq}		Total duration above criterion for all works (Months)		Worst case excess above criterion, dBL _{Aeq}	
		ES	Amended scheme	ES	Amended scheme	ES	Amended scheme
VE1 Whitehall Court	70	55-70 (64)	57-71 (64)	0	1	0	+1

Table D.2 Comparison of impacts at non-residential receptors (daytime only)

Receptor	Ambient baseline noise level	Noise levels: Maximum-minimum(typical), dBL _{Aeq}		Total duration above ambient for all works (months)		Worst case excess above ambient, dBL _{Aeq}	
		ES	Amended scheme	ES	Amended scheme	ES	Amended scheme
VE2 Whitehall Gardens	66	53-68 (51)	53-68 (51)	1	2	+2	+2
VE3 Jubilee Gardens	67	47-66 (60)	53-66 (60)	0	0	-1	-1
VE4 Ministry of Defence	65	57-73 (64)	57-73 (64)	8	10	+8	+8
VE5 Playhouse	69	49-63 (56)	49-65 (56)	0	0	-6	-4

^{vi} British Standards Institution, BS 8233 Sound insulation and noise reduction for buildings (1999)

Receptor	Ambient baseline noise level	Noise levels: Maximum-minimum(typical), dBL _{Aeq}		Total duration above ambient for all works (months)		Worst case excess above ambient, dBL _{Aeq}	
		ES	Amended scheme	ES	Amended scheme	ES	Amended scheme
VE6 The Hispaniola	69	60-75 (67)	60-75 (67)	5	6	+6	+6
VE7 The Tattershall Castle	69	58-80 (65)	58-80 (65)	9	10	+11	+11

D.2 Vibration

Table D.3 Vibration: Comparison of human response to vibration impacts

Receptor	Impact (highest predicted eVDV, m/s ^{1.75})		Magnitude	
	ES	Amended scheme	ES	Amended scheme
VE1 Whitehall Court	<0.2	<0.2	No impact	No impact
VE2 Whitehall Gardens	<0.1	<0.1	No impact	No impact
VE3 Jubilee Gardens	<0.1	<0.1	No impact	No impact
VE4 Ministry of Defence	<0.1	<0.1	No impact	No impact
VE5 Playhouse	<0.1	<0.1	No impact	No impact
VE6 The Hispaniola	<0.1	<0.1	No impact	No impact
VE7 The Tattershall Castle	<0.1	<0.1	No impact	No impact

Table D.4 Vibration: Comparison of building vibration impacts and magnitudes

Receptor	Impact (highest predicted PPV, mm/s)		Magnitude	
	ES	Amended scheme	ES	Amended scheme
VE1 Whitehall Court	<1.0	<1.0	No impact	No impact
VE2 Whitehall Gardens	<2.0	<2.0	No impact	No impact
VE3 Jubilee Gardens	<0.5	<0.5	No impact	No impact
VE4 Ministry of Defence	<0.5	<0.5	No impact	No impact
VE5 Playhouse	<0.5	<0.5	No impact	No impact
VE6 The Hispaniola	<1.0	<1.0	No impact	No impact
VE7 The Tattershall Castle	<1.0	<1.0	No impact	No impact

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Appendix E: Navigation Issues and Preliminary Risk Assessment Addendum

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Application for Development Consent

Application Reference Number: WWO10001

Navigational Issues and Preliminary Risk Assessment Addendum

Victoria Embankment Foreshore

September 2013

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Thames Tideway Tunnel

Navigational Issues and Preliminary Risk Assessment Addendum: Victoria Embankment Foreshore

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1 Executive summary

- 1.1.1 The proposed works at the Victoria Embankment Foreshore site include the temporary relocation of the Tattershall Castle, a permanently-moored floating bar/restaurant.
- 1.1.2 Thames Water's application for development consent for the Thames Tideway Tunnel project, submitted in February 2013, included the *Navigational Issues and Preliminary Risk Assessment: Victoria Embankment Foreshore* (Doc ref: 7.20.09 *Victoria Embankment Foreshore*). This document described Thames Water's proposed temporary location for the vessel.
- 1.1.3 Thames Water proposes minor changes to the area designated as the limits of land to be acquired or used and to the pier arrangement of the Tattershall Castle.
- 1.1.4 Extending the boundary of the limits of land to be acquired or used (LLAU) to the south and installing mooring facilities for the Tattershall Castle may impact on Thames Cruises Ltd's ability to use the mooring facilities situated between Whitehall Stairs and Westminster Pier (PLA Chart 316 - mooring 7 & 8). If this is confirmed following discussions with Thames Cruises Ltd, then alternative mooring arrangements for the Tattershall Castle can be provided within the LLAU.

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2 Temporary mooring of Tattershall Castle

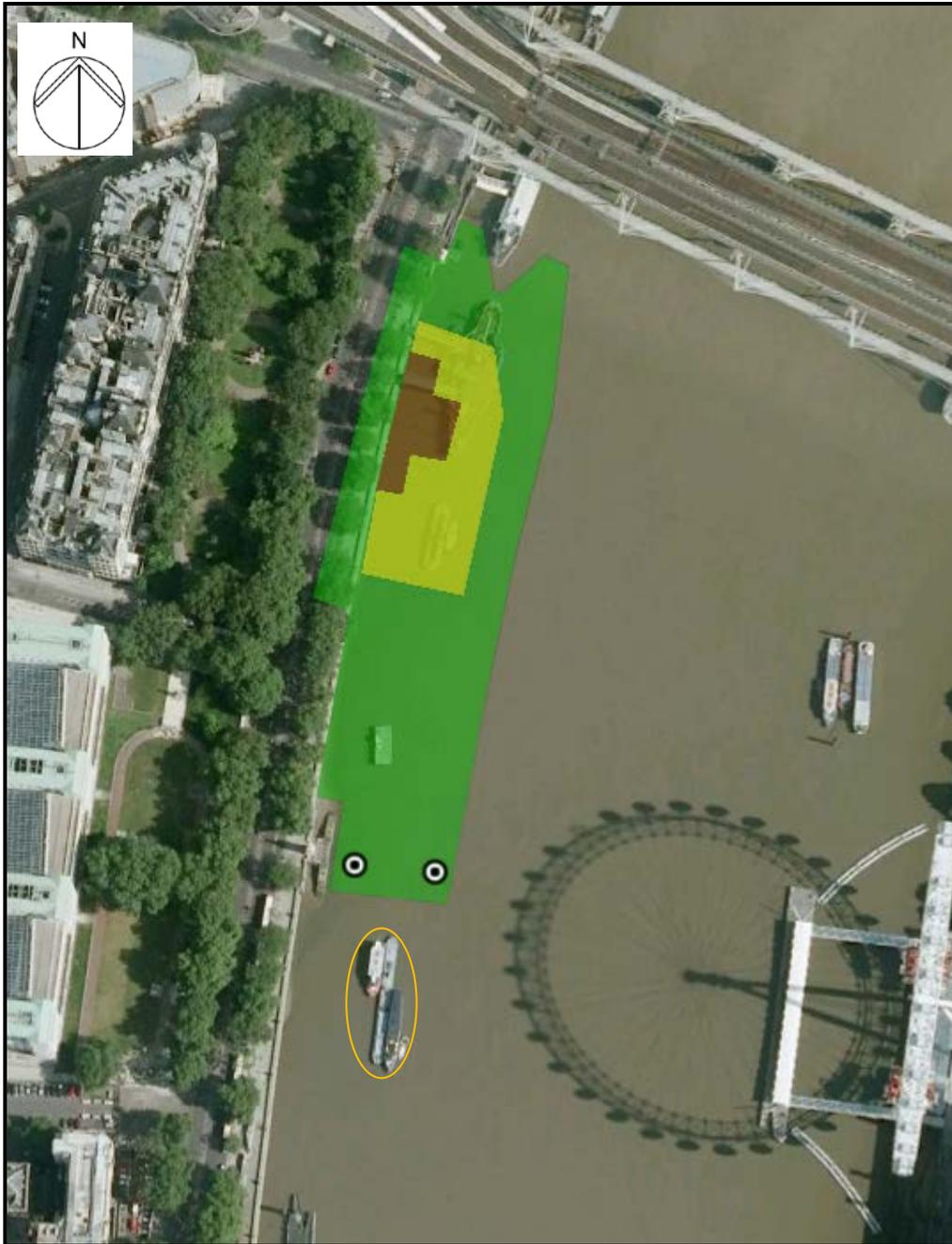
2.1 Description of proposed position

- 2.1.1 Thames Water proposes minor changes to the area designated as the limits of land to be acquired or used and to the pier arrangement of the Tattershall Castle. 2.1.3 The River foreshore zones of working drawing (DCO-PP-16X-VCTEF-180034 Rev1) is shown in figure 2.3.
- 2.1.2 Extending the boundary of the limits of land to be acquired or used to the south and installing mooring facilities for the Tattershall Castle may impact on Thames Cruises Ltd's ability to use the mooring facilities situated between Whitehall Stairs and Westminster Pier (PLA Chart 316 - mooring 7 & 8).
- 2.1.3 Based upon the existing arrangement, mooring chains would be required at the bow and stern of the Tattershall Castle in order to secure the vessel in the correct position on the temporary mooring.
- 2.1.4 The bow mooring would be located approximately 30m from the Thames Cruises Ltd mooring screw positions (7 & 8) marked on PLA Chart 316. Thames Cruises Ltd moors craft to the pontoon attached to the mooring screws 24 hours a day seven days a week. Both the inner and outer faces of the pontoon are in use and it is accessed from both upriver and downriver, depending on the tide and prevailing weather conditions.

2 Temporary mooring of Tattershall Castle

- 2.1.5 Figure 2.1 shows the pontoon with two moored craft (facing upriver) and its proximity to the proposed bow mooring points for the vessel.

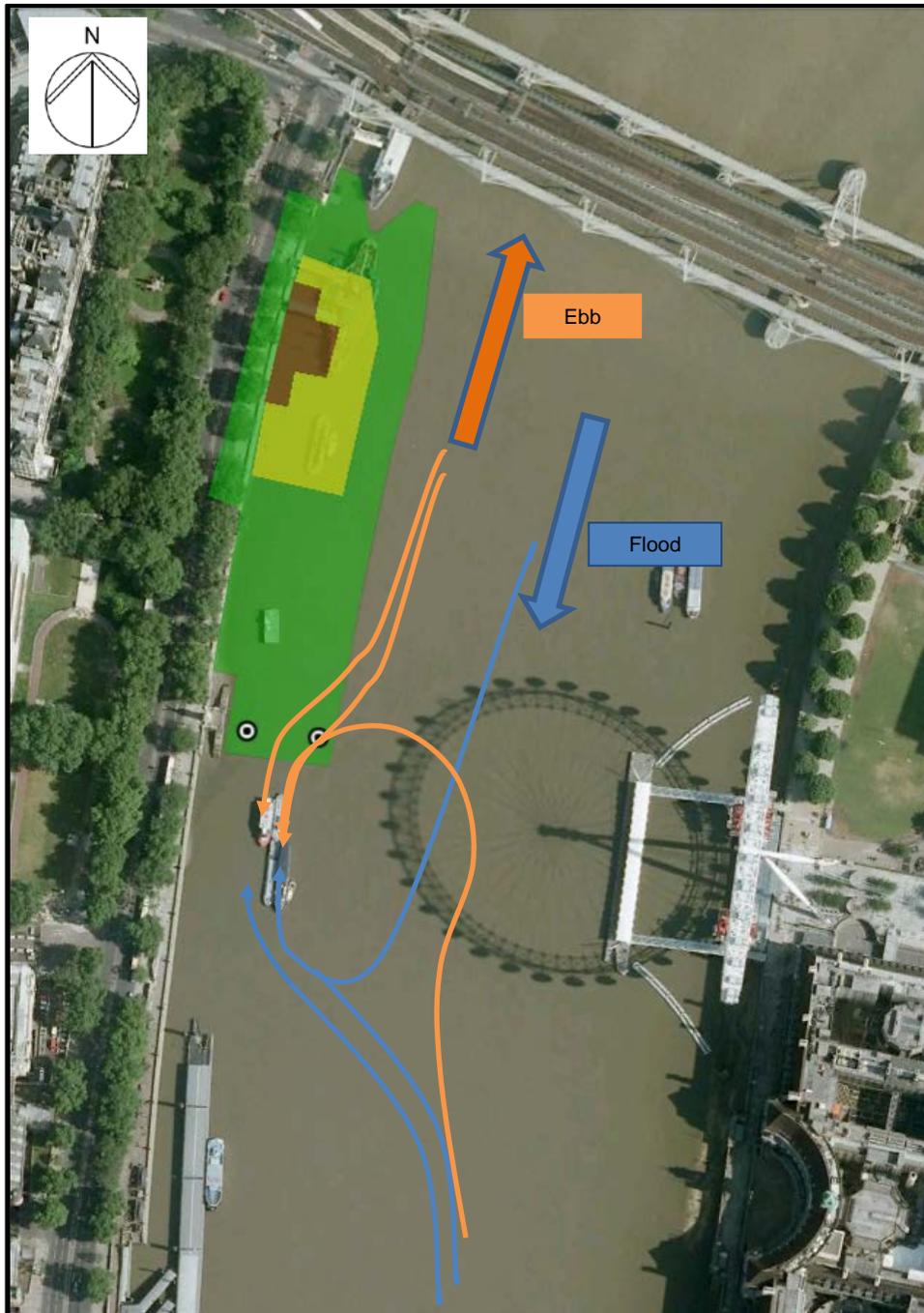
Figure 2.1 Thames Cruise Ltd mooring pontoon



2 Temporary mooring of Tattershall Castle

2.1.6 Figure 2.2 shows indicative routes for craft approaching the Thames Cruises Ltd mooring pontoon from upriver (orange tracks) and downriver (blue tracks).

Figure 2.2 Upriver and downriver approaches to the Thames Cruises Ltd mooring pontoon



2.1.7 Restricting access or preventing craft from accessing the pontoon from the downriver direction may negatively impact on the operators' ability to use this facility.

2.2 Actions required

2.2.1 Required actions include:

- a. Consult with Thames Cruises Ltd regarding the use of the mooring pontoon and the likely impact of the vessel's new temporary mooring position on existing operations.
- b. If the discussions outlined in a. reveal that a potential impact remains, then consideration should be given regarding an alternative mooring system/arrangement for the vessel. If such a system/arrangement is required it can be provided within the LLAU; therefore no extra land would be required.

2.3 Mitigation measures: Design

2.3.1 The following measures are embedded in the design of the temporary and permanent sites. This assessment only considers the residual risk assuming these measures to be effectively implemented.

- a. The design and in-river footprint of the temporary and permanent sites was minimised.
- b. Constraints would be placed on the working areas within the river to minimise the duration and extent of the obstruction.

2.3.2 The following sections propose mitigation measures to address the residual risks.

2.4 Mitigation measures: Physical

2.4.1 Measures to address physical issues include:

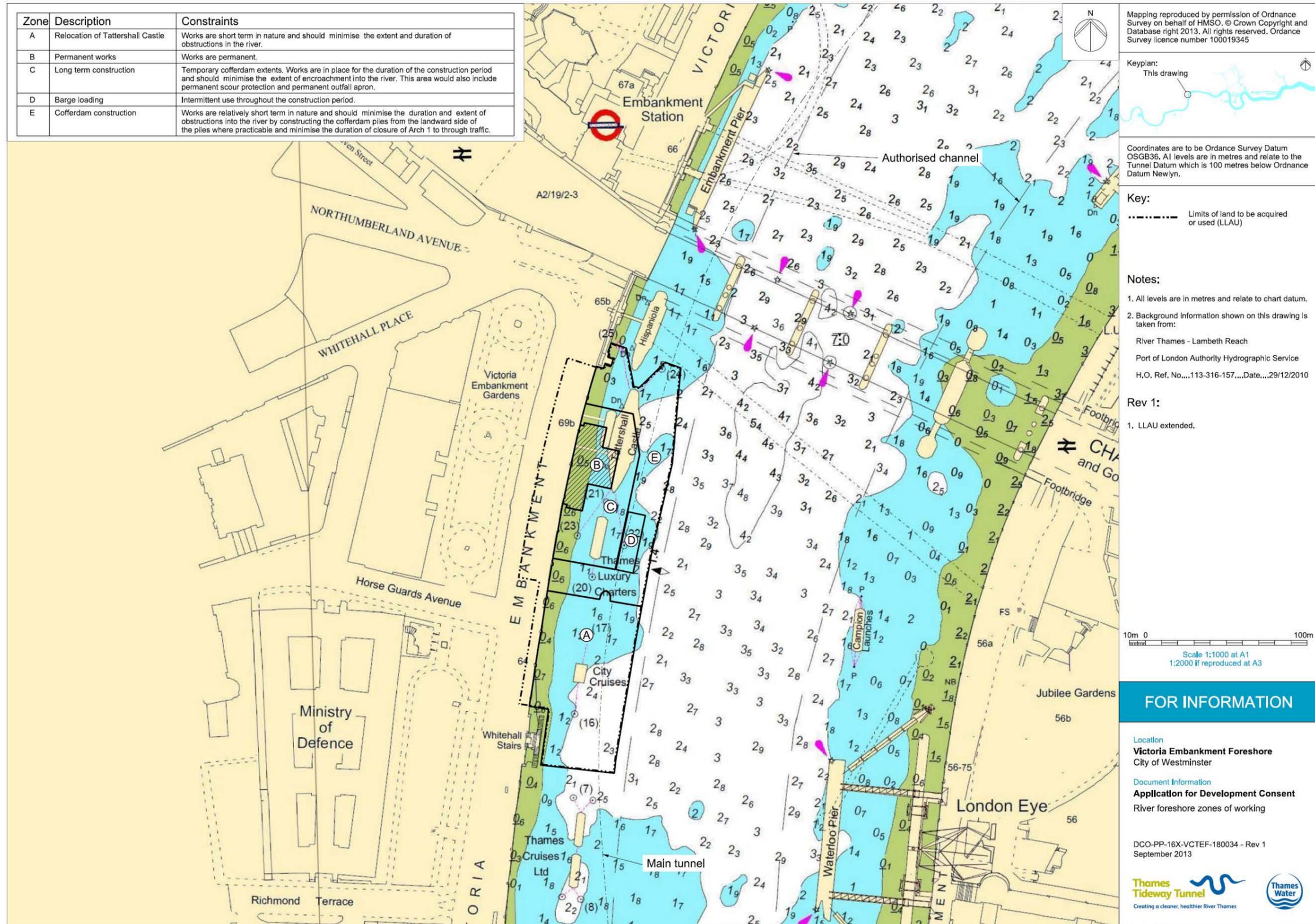
- a. Assess and understand operating procedures to ensure minimum disruption to/interaction with existing users.
- b. Complete a structural analysis of the mooring system securing the vessel to its temporary position and to its final position once the project works at this site are complete.

2.5 Mitigation measures: River operations

2.5.1 Measures to address river operations issues include:

- a. Appoint a Site Berthing Co-ordination Manager to liaise with all operators in the local area and deal with potential areas of concern/conflict.
- b. Issue Notices to Mariners informing operators and river users of planned operations in the area and highlighting times when project tugs and tows would likely be operating.

Figure 2.3 River foreshore zones of working (updated)



Appendix F: Proposed minor changes to the Book of Plans

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

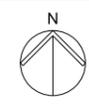
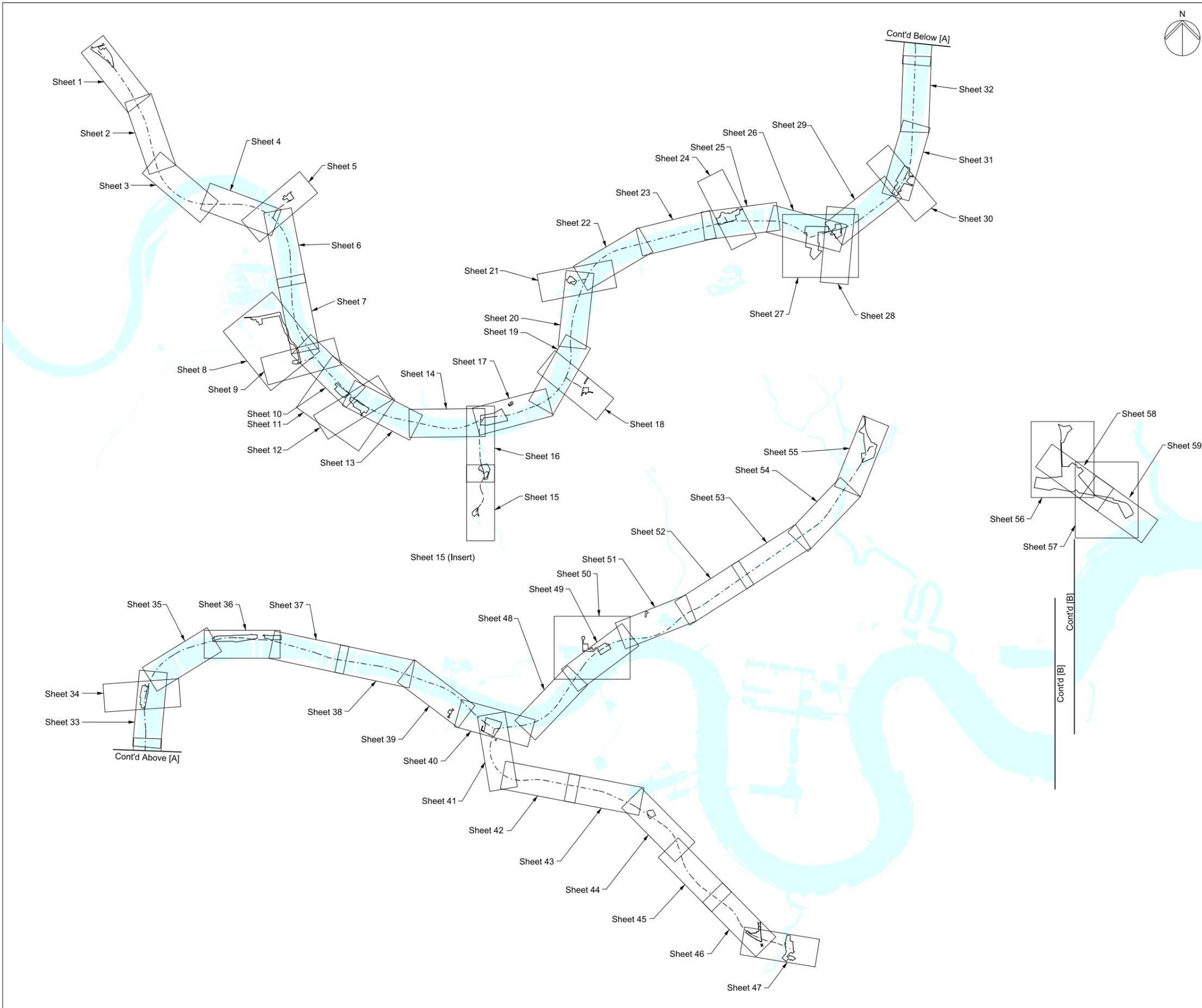
Application Reference Number: WWO10001

Victoria Embankment Foreshore

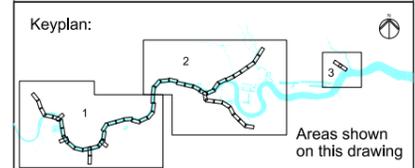
Appendix F Book of Plans: Proposed Minor Changes

September 2013

**Thames
Tideway Tunnel** 
Creating a cleaner, healthier River Thames

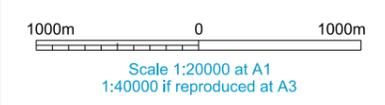


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Rev 1:
1. LLAU revised on sheets 33 and 34.

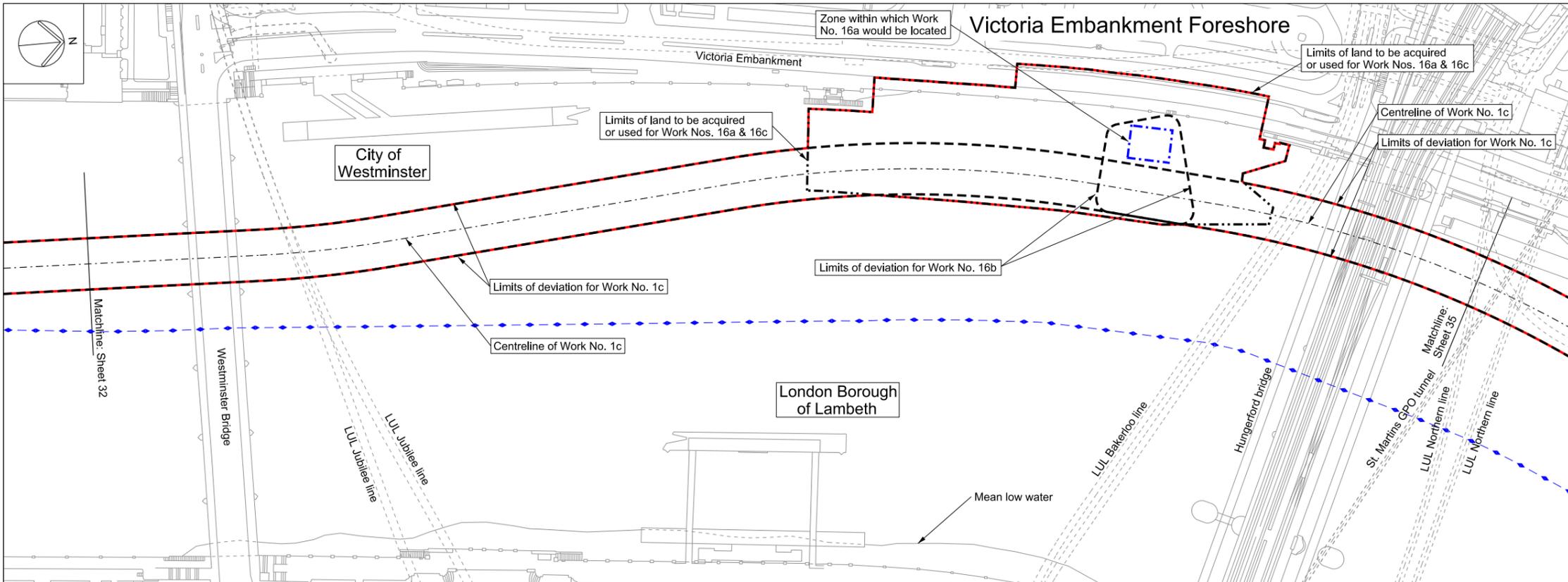


FOR APPROVAL

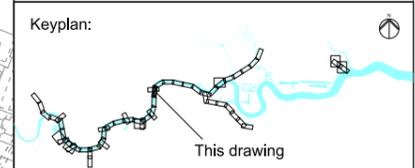
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Document Information
Application for Development Consent
Works plan and section
Sheet location plan
Book of plans - section 1
DCO-WP-000-ZZZZ-010001 - Rev 1
September 2013





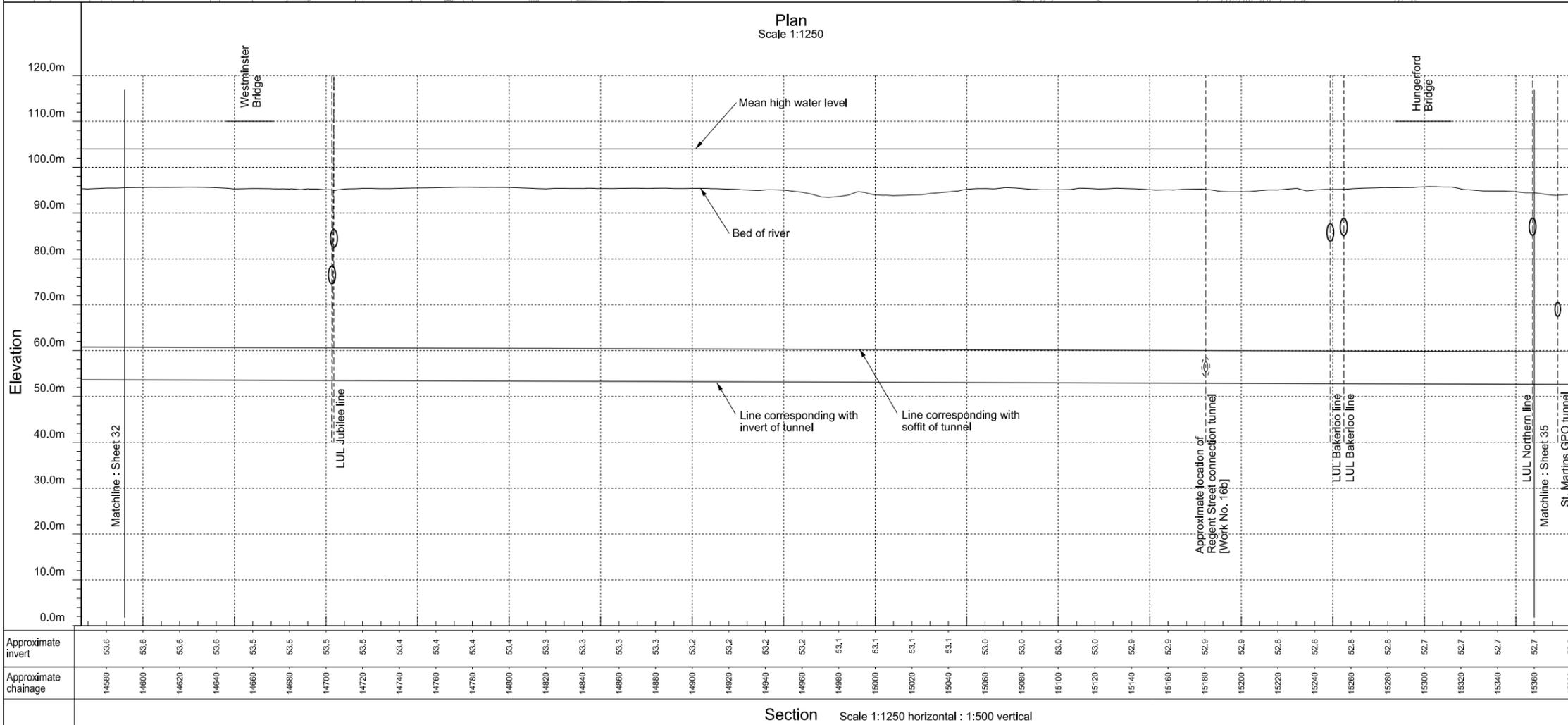
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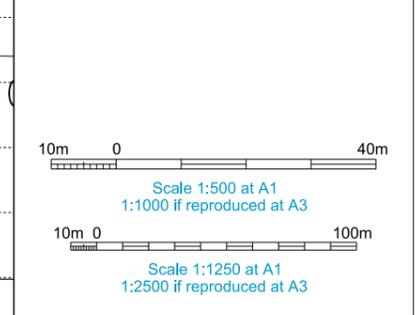
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Local authority boundary
 - Order limits
 - - - Limits of land to be acquired or used (LLAU)
 - - - Tunnel limits of deviation (LOD)
 - - - Works centreline
 - - - Zone within which the shaft would be located

- Notes:**
1. Invert and soffit levels are applied to the internal surface of the finished tunnel lining and are subject to the vertical limits of deviation specified in the Draft Development Consent Order.
 2. Chainages are calculated from the centre of the anticipated location of the shafts within the zones within which they would be located and are subject to the horizontal limits of deviation shown on the Works Plans.
 3. This section is drawn along the centreline of Work No. 1c.



- Rev 1:**
1. LLAU revised at Victoria Embankment Foreshore.



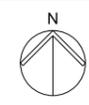
FOR APPROVAL

Location
Project wide
London

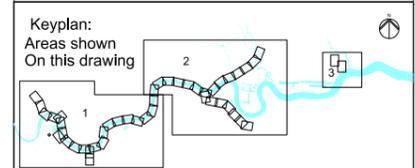
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Works plan and section
Main tunnel sheet 33
Book of plans - section 1
DCO-WP-000-ZZZZ-010034 - Rev 1
September 2013



Section Scale 1:1250 horizontal : 1:500 vertical

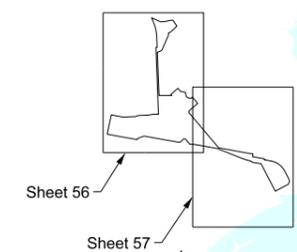
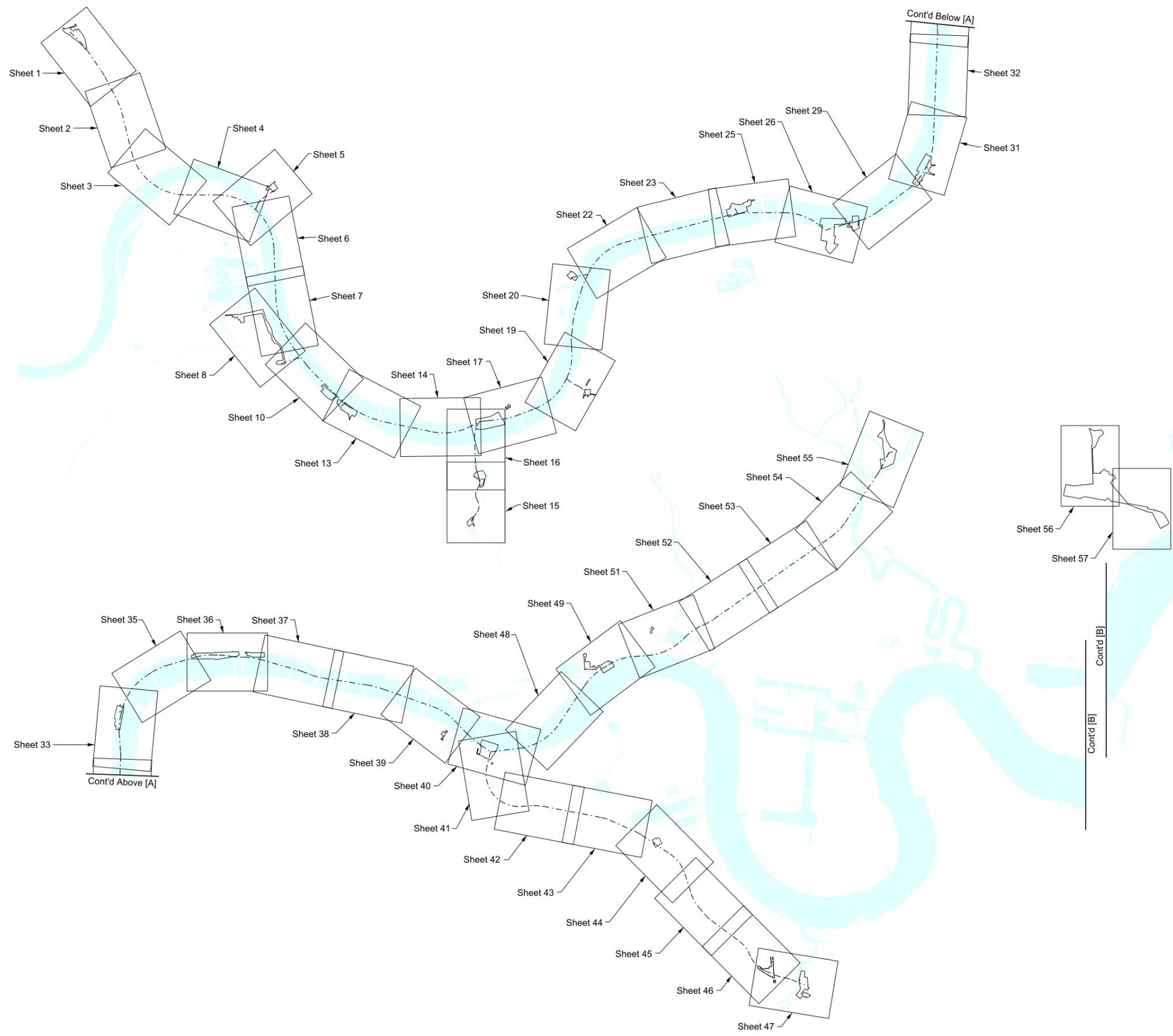


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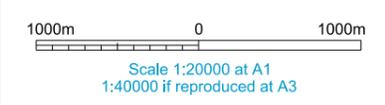
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

These Land acquisition plan sheet numbers follow the Works plans sheet numbers.
Land acquisition plan sheet numbers not used : 9, 11, 12, 18, 21, 24, 27, 28, 30, 34, 50, 58 and 59



Rev 1:

1. LLAU revised on sheet 33.

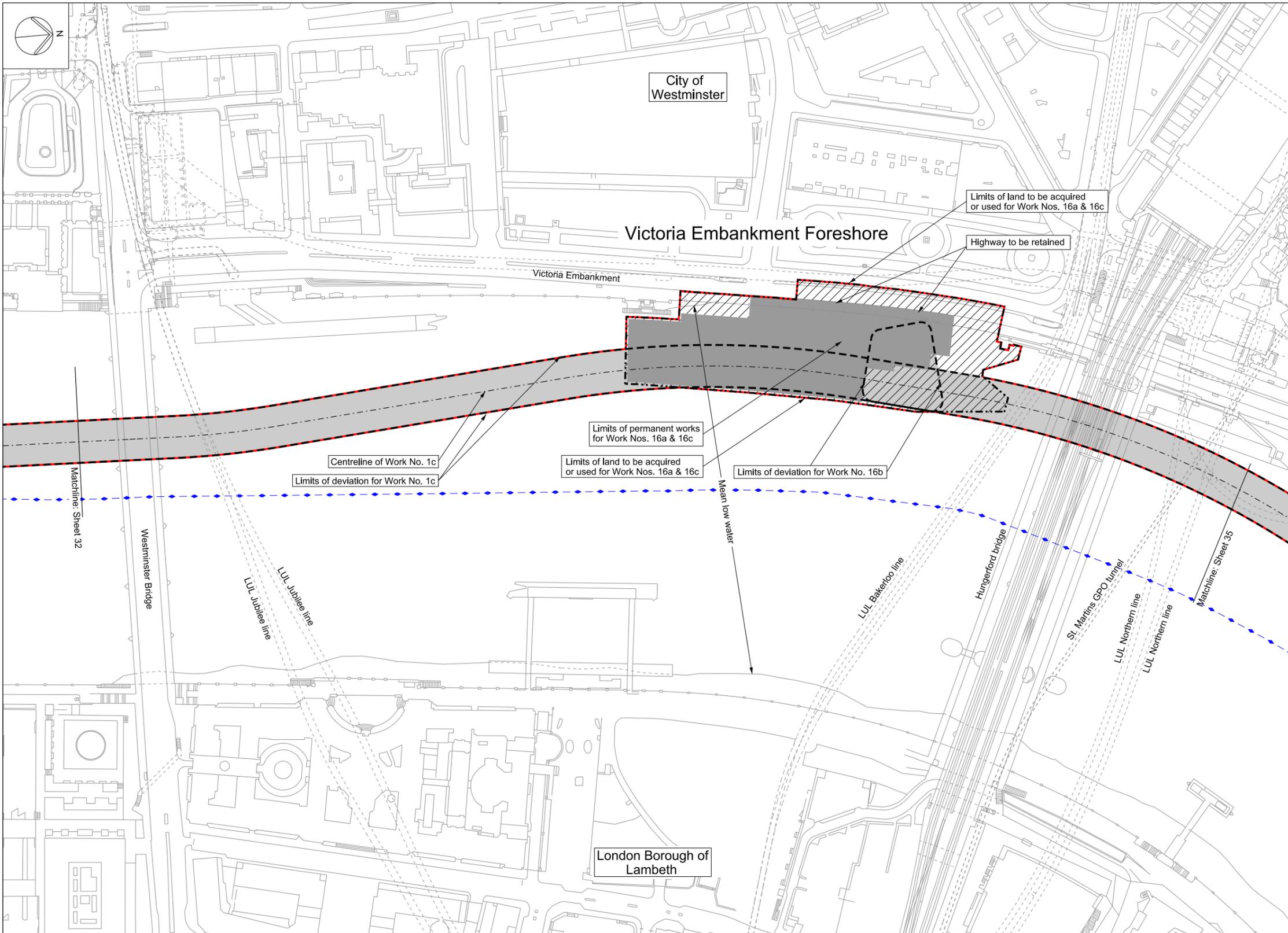


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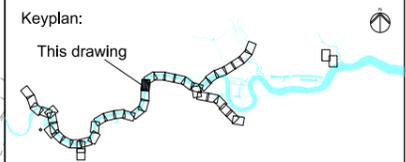
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Document Information
Application for Development Consent
Land acquisition plans
Sheet location
Book of plans - section 2
DCO-LA-000-ZZZZ-020001 - Rev 1
September 2013





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- Key:**
- Local authority boundary
 - Order limits
 - Limits of land to be acquired or used (LLAU)
 - Tunnel limits of deviation (LOD)
 - Works centreline
 - Permanent acquisition of land - surface and subsoil
 - Permanent acquisition of land - subsoil only
 - Land at the surface to be temporarily used
 - Land at the surface to be temporarily used and permanent acquisition of subsoil

Notes:

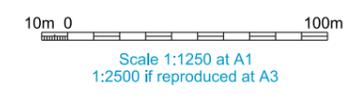
- Any areas of highway which are shown within the limits of permanent works will be retained as highway, but it may be appropriate to acquire the subsurface.

Rev 1:

- Key expanded to differentiate between land required for different purposes.

Rev 2:

- LLAU and permanent and temporary acquisition or use land areas amended at Victoria Embankment Foreshore.



FOR INFORMATION

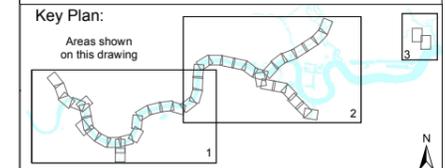
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Project wide
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Document Information
Application for Development Consent
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 Main tunnel sheet 33
 Book of plans - section 2
 DCO-LA-000-ZZZZ-020025 - Rev 2
 September 2013





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Land plan sheet numbers not used:
9, 11, 12, 18, 21, 24, 27, 28, 30, 34, 50, 58 and 59

Key:
 - - - - - Limits of deviation (LoD)
 ———— Limits of land to be acquired or used (LLAU)

Notes:
 Rev 1:
 1. LLAU revised on sheet 33

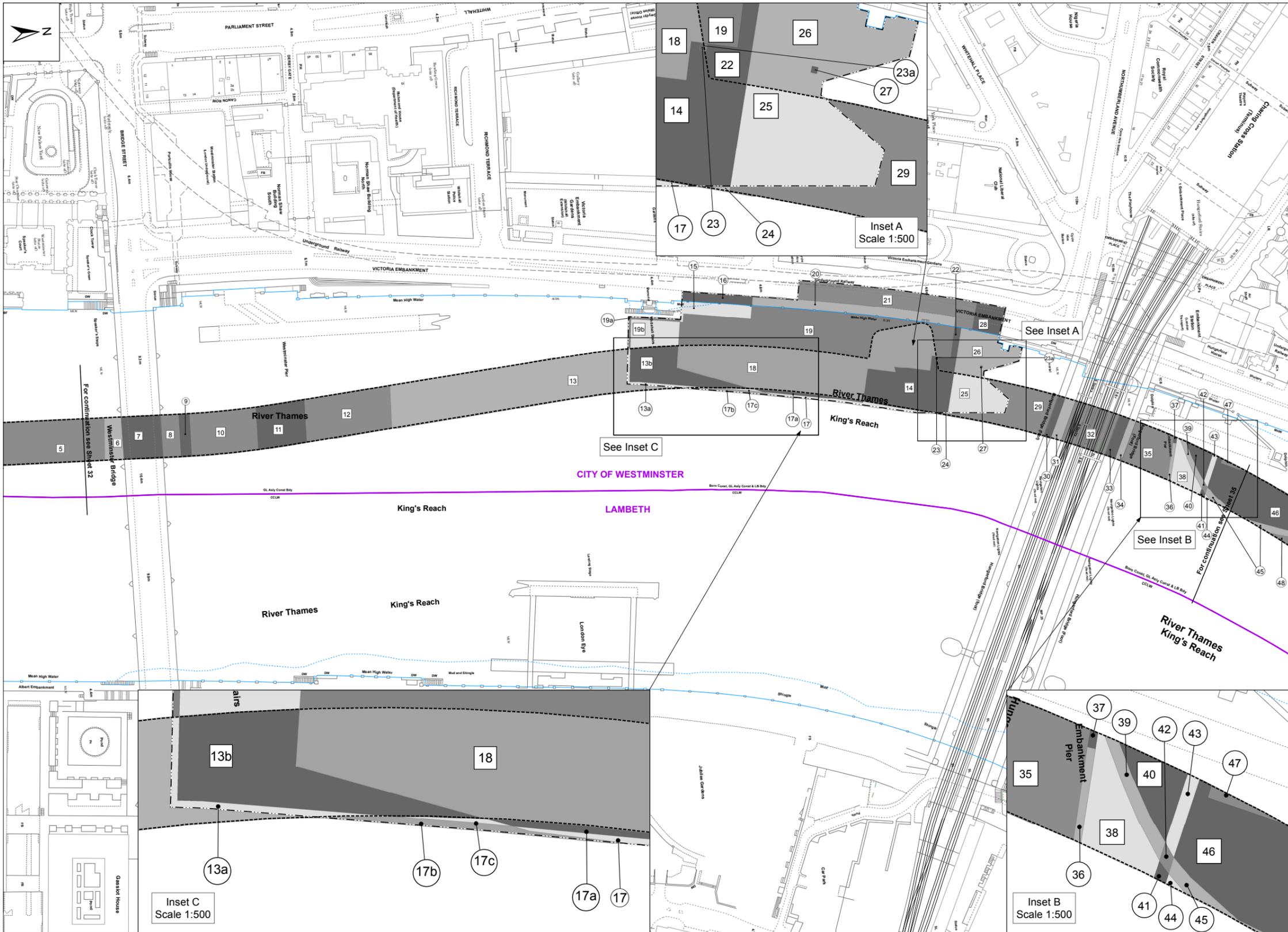
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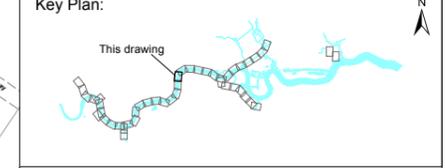
Location
Project wide
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Document Information
Application for Development Consent
 Land plan sheet location
 Book of plans - section 3
 DCO-LP-000-ZZZZZ-030001 - Rev 1
 September 2013





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Key:

- Limits of deviation (LoD)
- - - Limits of land to be acquired or used (LLAU)
- Local authority boundary

Land in relation to which it is proposed to extinguish, suspend or interfere with any easements, servitudes and other private rights

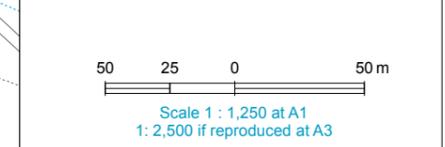
City of Westminster

Number on Plan
16, 20, 21 and 28

Notes:

Rev 1:
1. Symbology of local authority boundary has changed

Rev 2:
1. Change to LLAU and permanent and temporary acquisition or use land areas at Victoria Embankment Foreshore



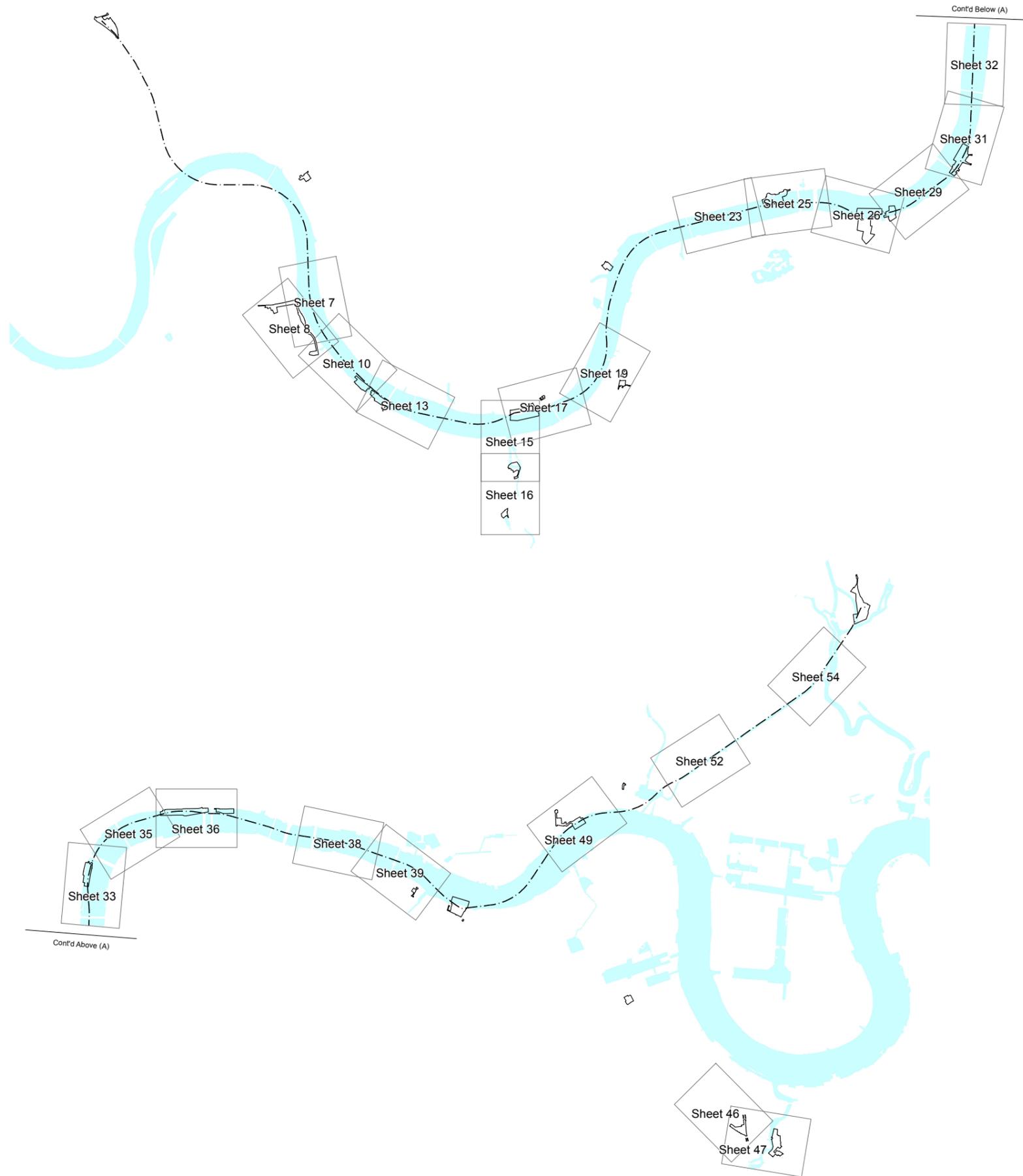
FOR APPROVAL

Location
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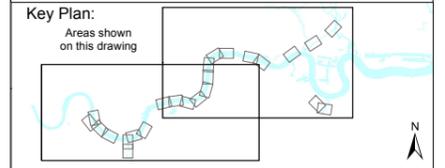
Document Information
Application for Development Consent
Land plan
Main tunnel sheet 33
Book of plans - section 3
DCO-LP-000-ZZZZ-030025 - Rev 2
September 2013



City of Westminster			
Unrestricted powers to acquire or use land	Powers limited to acquisition of subsoil only	Powers limited to temporary use of land or acquisition of rights	Powers limited to acquisition of subsoil or temporary use of land or acquisition of rights
Number on Plan	Number on Plan	Number on Plan	Number on Plan
13b, 17a, 17b, 17c, 18, 19, 19b and 20	5-13, 24, 29-47 and 48	15-17, 17b, 19a, 21, 22, 23a, 26, 27 and 28	13a, 14, 23 and 25



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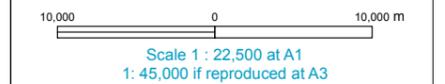
--- Limits of deviation (LoD)

— Limits of land to be acquired or used (LLAU)

Notes:

Rev 1:

1. LLAU revised on sheet 33



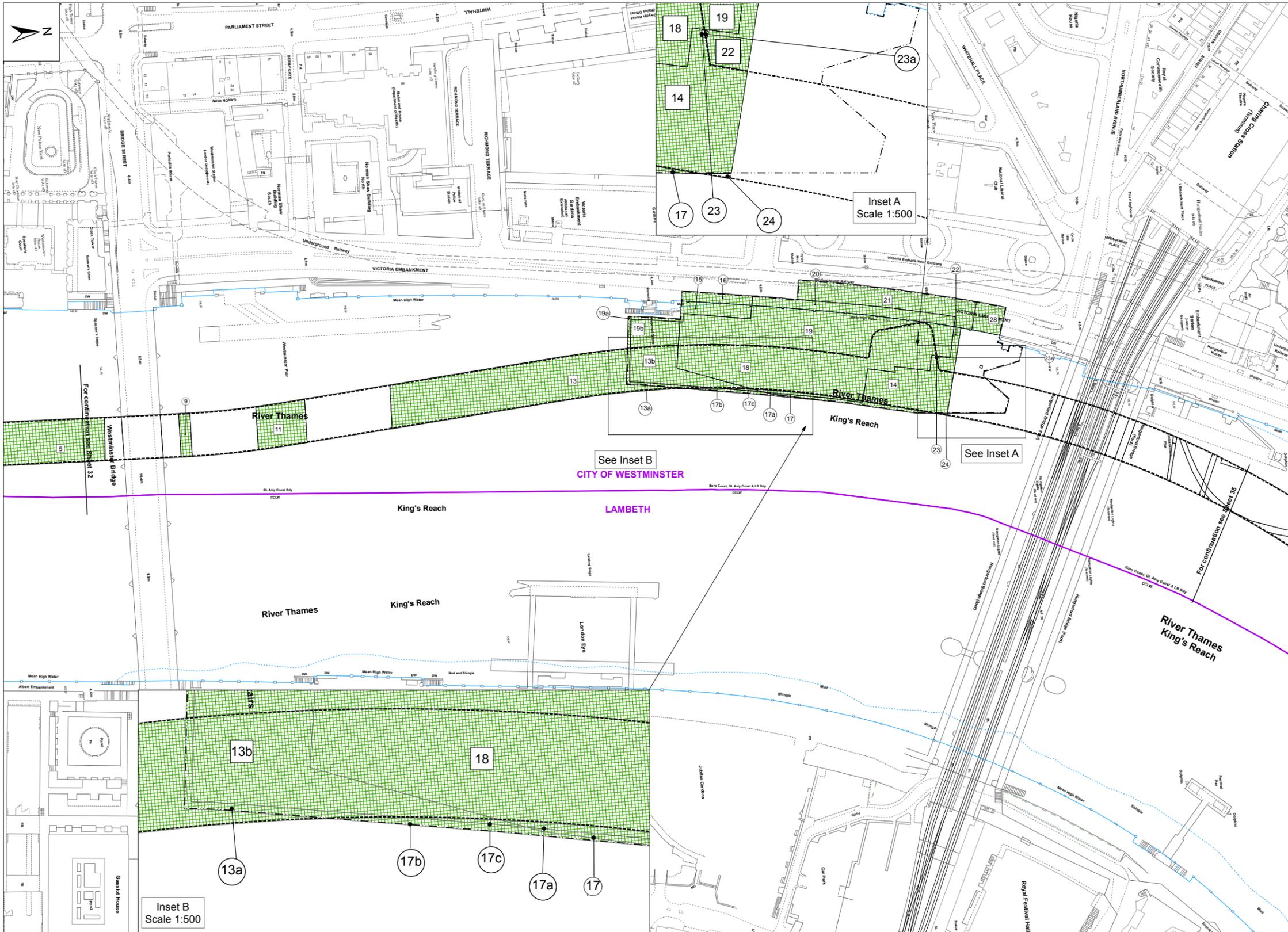
FOR APPROVAL

Location
Project wide
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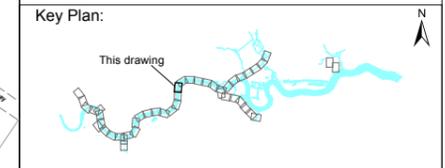
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Crown and special category land plan sheet location
Book of plans - section 4

DCO-LP-000-ZZZZZ-040001 - Rev 1
September 2013



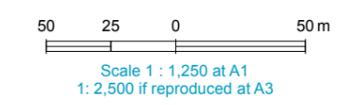


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- Key:
- - - Limits of deviation (LoD)
 - - - Limits of land to be acquired or used (LLAU)
 - Local authority boundary
 - ▨ Land identified as having one or more Crown interests

- Notes:
- Rev 1:
1. Symbology of local authority boundary has changed
- Rev 2:
1. Change to LLAU and permanent and temporary acquisition or use land areas at Victoria Embankment Foreshore



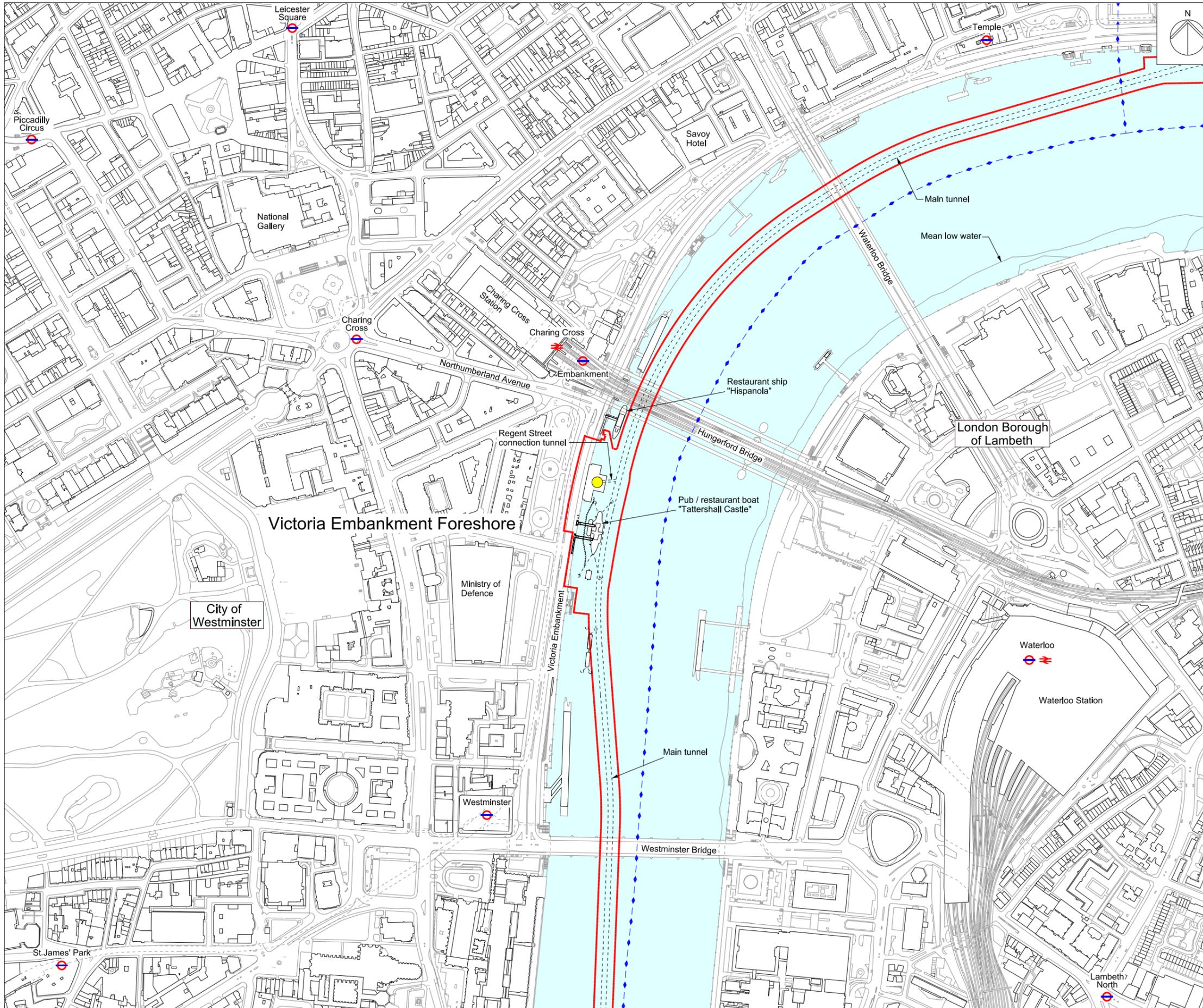
FOR APPROVAL

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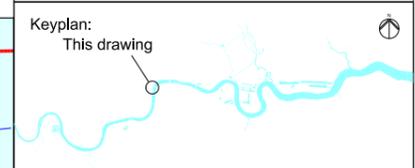
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 Crown and special category land plan
 Main tunnel sheet 33
 Book of plans - section 4
 DCO-LP-000-ZZZZZ-040016 - Rev 2
 September 2013



City of Westminster			
Unrestricted powers to acquire or use land	Powers limited to acquisition of subsoil only	Powers limited to temporary use of land or acquisition of rights	Powers limited to acquisition of subsoil or temporary use of land or acquisition of rights
Number on Plan	Number on Plan	Number on Plan	Number on Plan
13b, 17a, 17b, 17c, 18, 19, 19b and 20	5, 9, 11, 13 and 24	15-17, 17b, 19a, 21-23, 23a and 28	14



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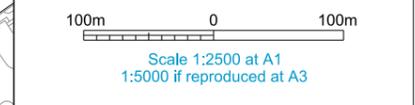
- Key:**
- - - - - Local authority boundary
 - Order limits
 - - - - - Tunnel
 - Shaft

Notes:

1. The alignment of the tunnels are illustrative within limits of deviation.

Rev 1:

1. Permanent vessel mooring access ramp revised. Anchors and chains shown. Permanent sheet piling revised. Pontoon reinstated on piles. Order limits extended

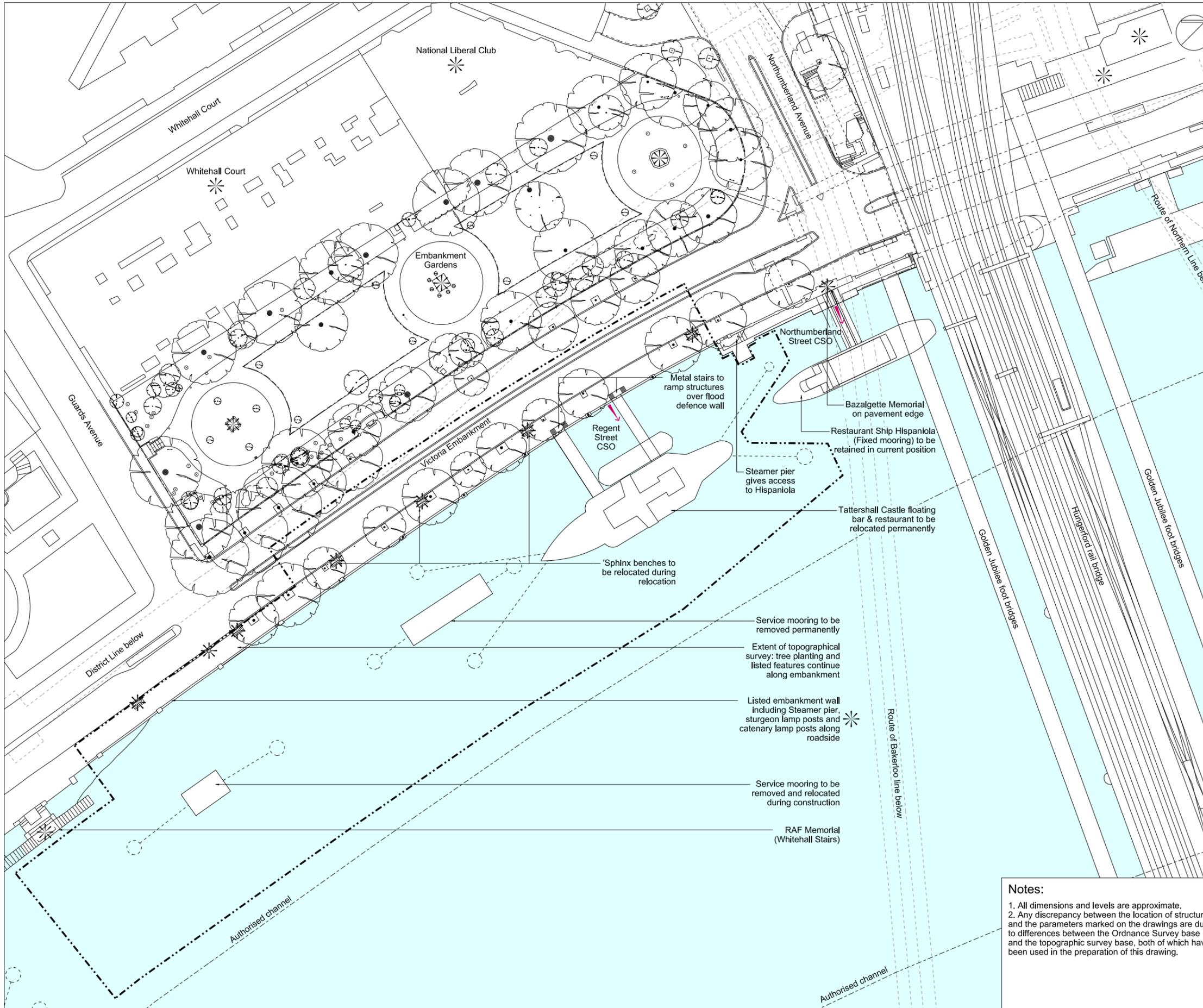


FOR INFORMATION

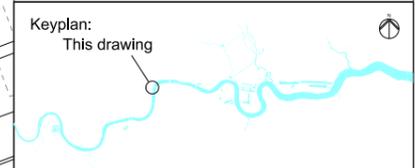
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Location plan

Book of plans - section 18
DCO-PP-16X-VCTEF-180001 - Rev 1
September 2013



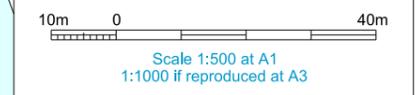
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - - - Authorised channel
 - ✱ Listed buildings/structures
 - Approximate position of CSO outlet
 - ⊙ Existing trees within surveyed area (trunk sizes vary)

Rev 1:
1. Anchors and chains shown. LLAU extended.



FOR INFORMATION

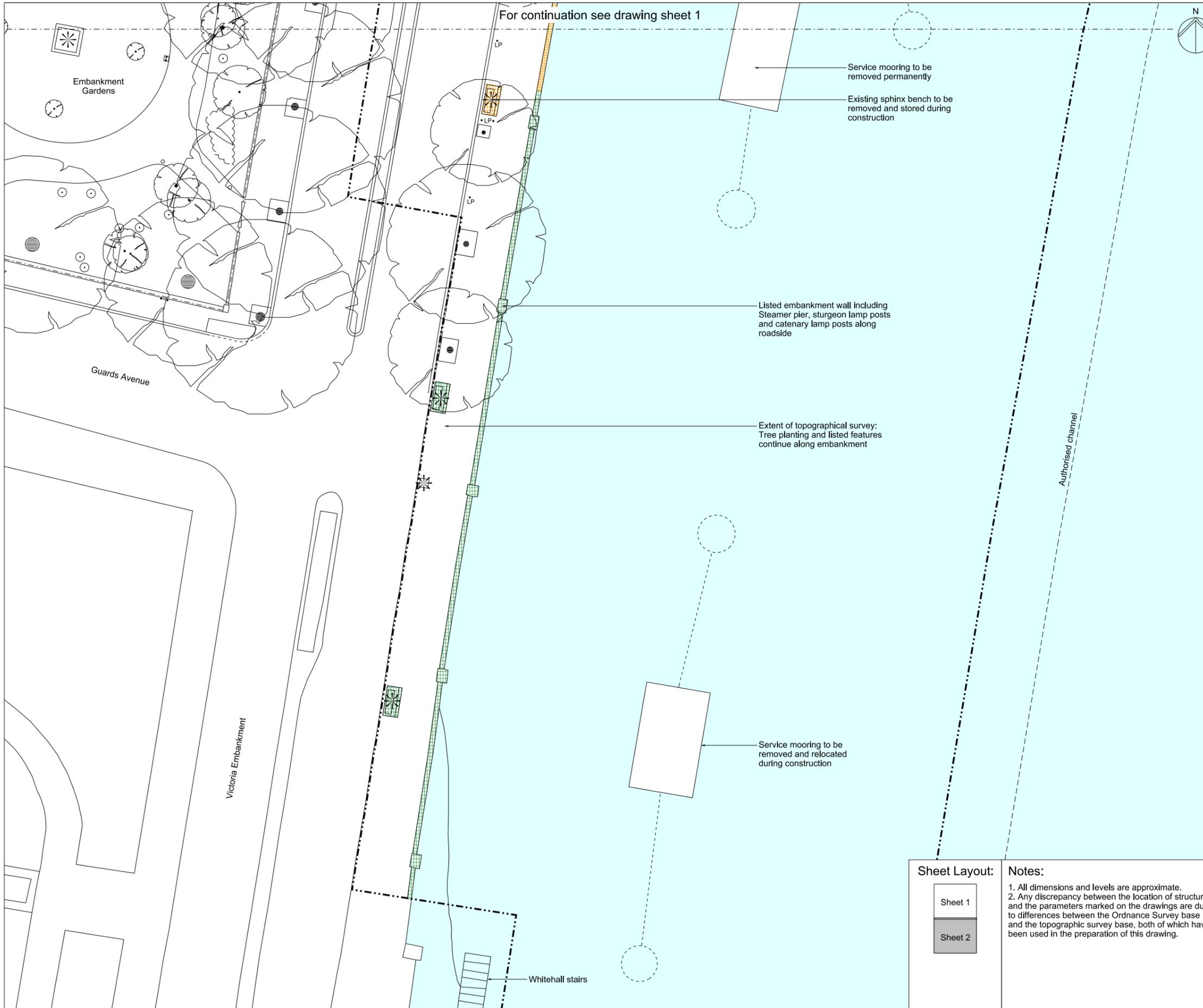
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing
Site features plan
Book of plans - section 18
DCO-PP-16X-VCTEF-180002 - Rev 1
September 2013



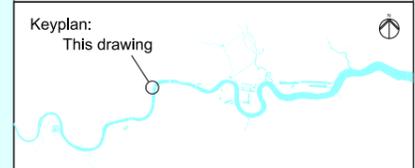
Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.



For continuation see drawing sheet 1

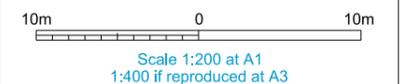
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Authorised channel
 - ✱ Listed buildings/structures
 - Existing trees within surveyed area (trunk sizes vary)
 - ▤ Listed buildings / structures within LLAU
 - ▨ Maximum temporary extent of loss of listed buildings / structures

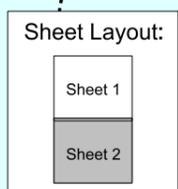
Rev 1:
1. LLAU extended.



FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing
Landscape plan sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180004 - Rev 1
September 2013

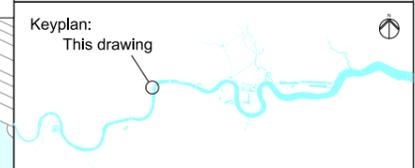


Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.



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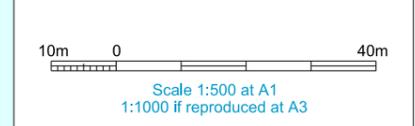
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Existing public right of way
 - Route of temporary diversion of right of way
 - Existing right of way temporarily stopped up
 - Area of highway to be temporarily stopped up
 - Area of temporary suspension of public rights of navigation
 - Maximum area of permanent extinguishment of public rights of navigation
 - Highway frontage within which access would be located

- Notes:**
- This plan does not show stopping up and diversions of limited duration (eg hoarding erection, minor utility diversions and minor highway works).
 - Only rights of way in or close to worksites are shown. The full extents of rights of way are not shown where they cease to be relevant to the project.
 - The point of the construction site access would be moved from time to time within this length of highway frontage to enable construction of development.

- Rev 1:**
- Area of permanent extinguishment of public rights of navigation changed to maximum area.

- Rev 2:**
- LLAU extended.



FOR APPROVAL

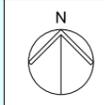
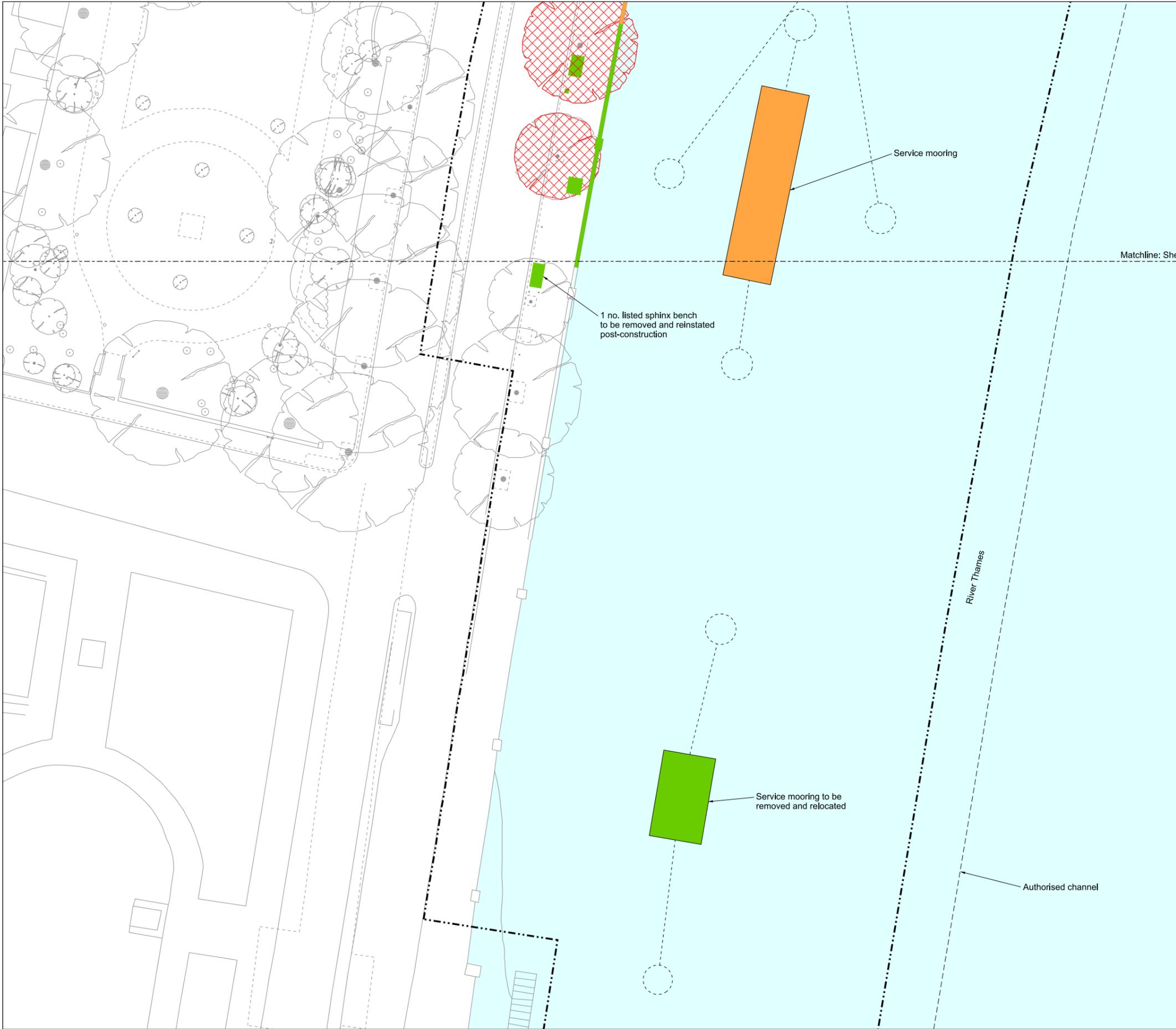
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Access plan

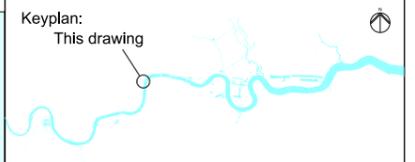
Book of plans - section 18
DCO-PP-16X-VCTEF-180005 - Rev 2
September 2013

Thames Tideway Tunnel
Creating a cleaner, healthier River Thames

Thames Water



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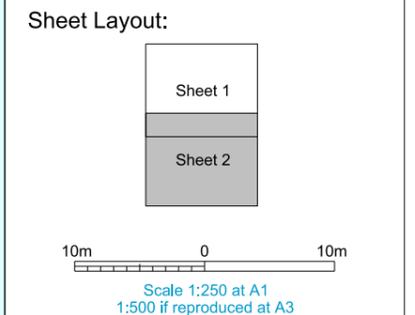


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Trees to be removed
 - Above ground structures to be removed
 - Structure to be removed and relocated or reinstated

- Notes:**
1. General activities of site clearance such as removal of hardstanding and foundations, stripping of topsoil and clearance of minor vegetation not shown.
 2. Minor items to be removed (e.g. barriers, bollards etc.) are not shown.
 3. All lamp standards, parapet sections and benches to be carefully removed and stored securely off site until reinstatement.

- Rev 1:**
1. LLAU extended.



FOR APPROVAL

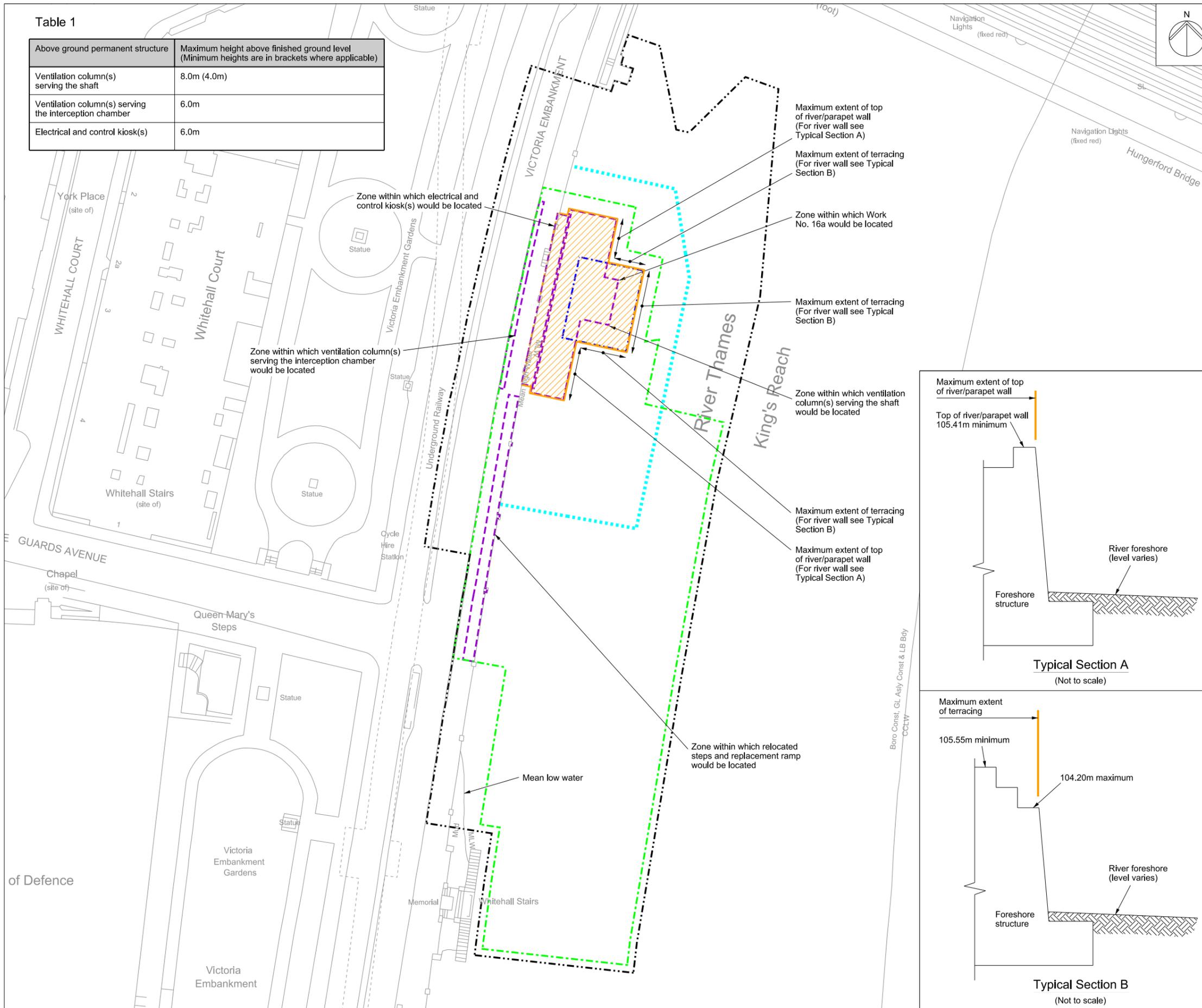
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Demolition and site clearance
Sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180007 - Rev 1
September 2013

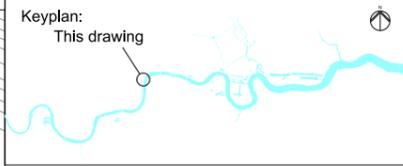


Table 1

Above ground permanent structure	Maximum height above finished ground level (Minimum heights are in brackets where applicable)
Ventilation column(s) serving the shaft	8.0m (4.0m)
Ventilation column(s) serving the interception chamber	6.0m
Electrical and control kiosk(s)	6.0m



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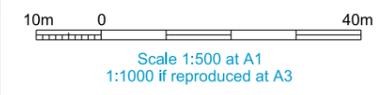
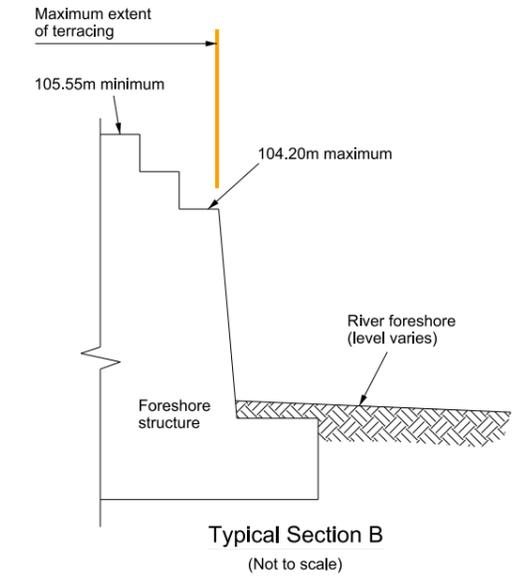
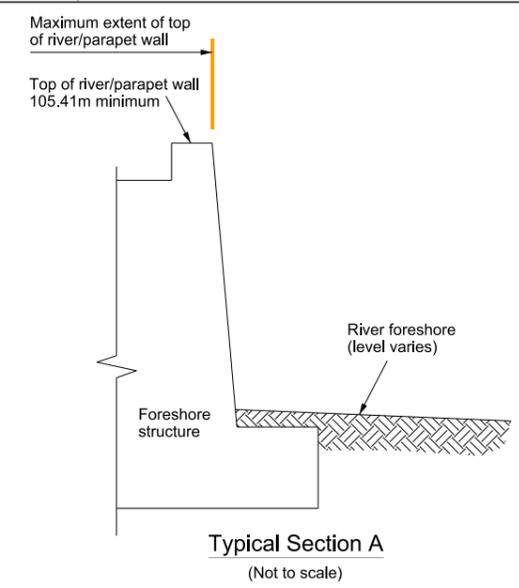


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located (those listed in Table 1)
 - ▨ Zone within which required landscaping would be located
 - Maximum extent of top of river/parapet wall or terracing
 - Maximum extent of temporary works platform

- Notes:**
- All dimensions and levels are approximate.
 - The Site Works Parameter Key Plan identifies each zone independently.
 - The zone within which the shaft would be located would include all permanent works including shaft walls (including appropriate allowances for construction tolerances) and if applicable under-reaming. Shaft construction temporary works may be located within or outside this zone provided they are located within the Limits of land to be acquired or used.

- Rev 1:**
- LLAU, zone within which all permanent site structures would be located and zone within which permanent above structures would be located extended.



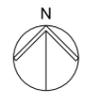
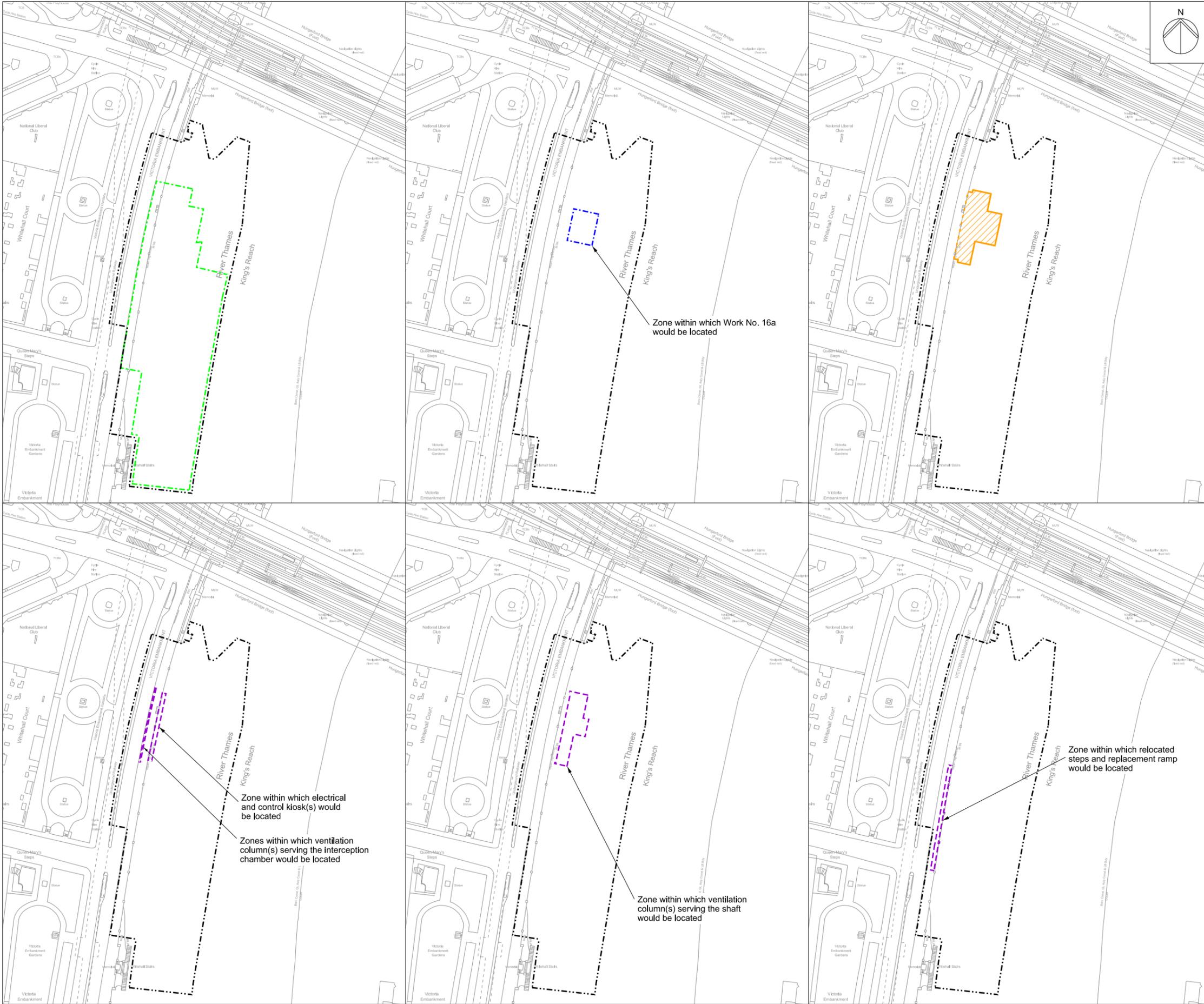
FOR APPROVAL

Location
Victoria Embankment Foreshore
 City of Westminster

Document Information
Application for Development Consent
 Site works parameter plan

Book of plans - section 18
 DCO-PP-16X-VCTEF-180008 - Rev 1
 September 2013





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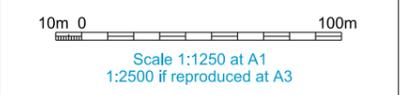


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located
 - Zone within which required landscaping would be located
 - Maximum extent of top of river/parapet wall

- Notes:**
1. All dimension and levels are approximate.
 2. The Site Works Parameter Key Plan identifies each zone independently. The zones are identical to those shown on the Site works parameter plan.
 3. The zone within which the shaft would be located would include all permanent works including shaft walls (including appropriate allowances for construction tolerances) and if applicable under-reaming. Shaft construction temporary works may be located within or outside this zone provided they are located within the Limits of land to be acquired or used.

- Rev 1:**
1. LLAU, zone within which all permanent site structures would be located and zone within which permanent above structures would be located extended.



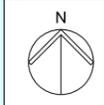
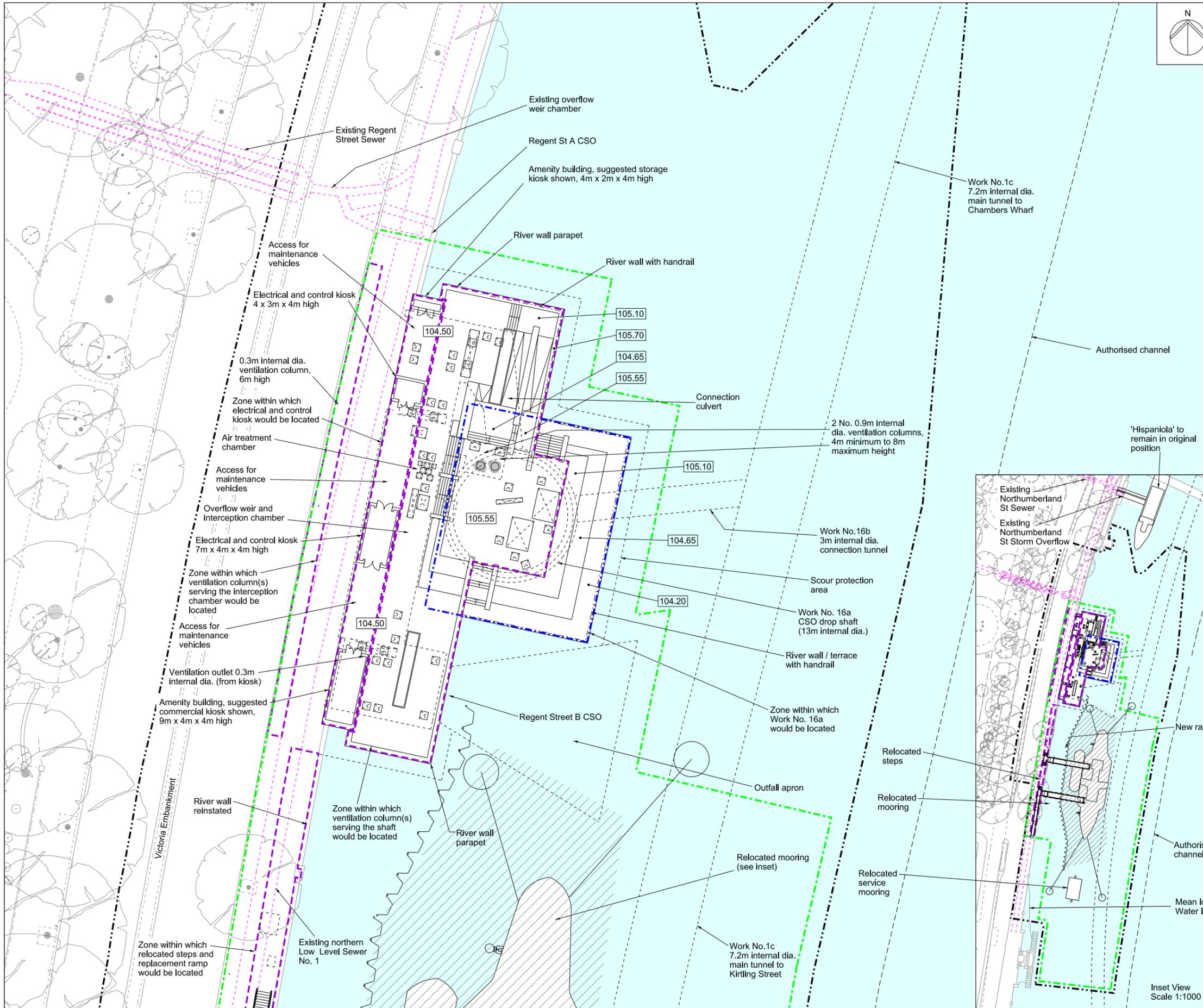
FOR INFORMATION

Location
Victoria Embankment Foreshore
City of Westminster

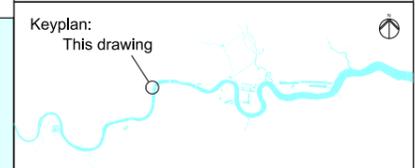
Document Information
Application for Development Consent
Site works parameter key plan

Book of plans - section 18
DCO-PP-16X-VCTEF-180009 - Rev 1
September 2013





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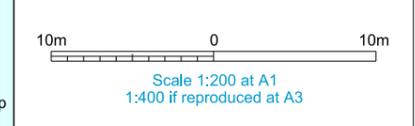


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Existing sewers
 - Proposed access cover
 - Proposed level (shown in metres above tunnel datum)
 - Zone within which all permanent site structures would be located
 - Zone within which the shaft would be located
 - Zone within which permanent above ground structures would be located
 - Dredged pocket (approximate)

- Notes:**
1. All dimensions and levels are approximate.
 2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and topographical survey base, both of which have been used in the preparation of this drawing.
 3. This drawing shows permanent site structures only. Landscaping hard works and soft works are shown on the Proposed landscape plan and/or Proposed site features plan.
 4. Access for external inspection of tidal flap gates in foreshore to be by boat.

- Rev 1:**
1. Permanent vessel mooring access ramp revised. Anchors and chains shown. Dredging and associated sheet piling revised. Pontoon reinstated on piles. LLAU, zone within which all permanent site structures would be located and zone within which permanent above structures would be located extended.



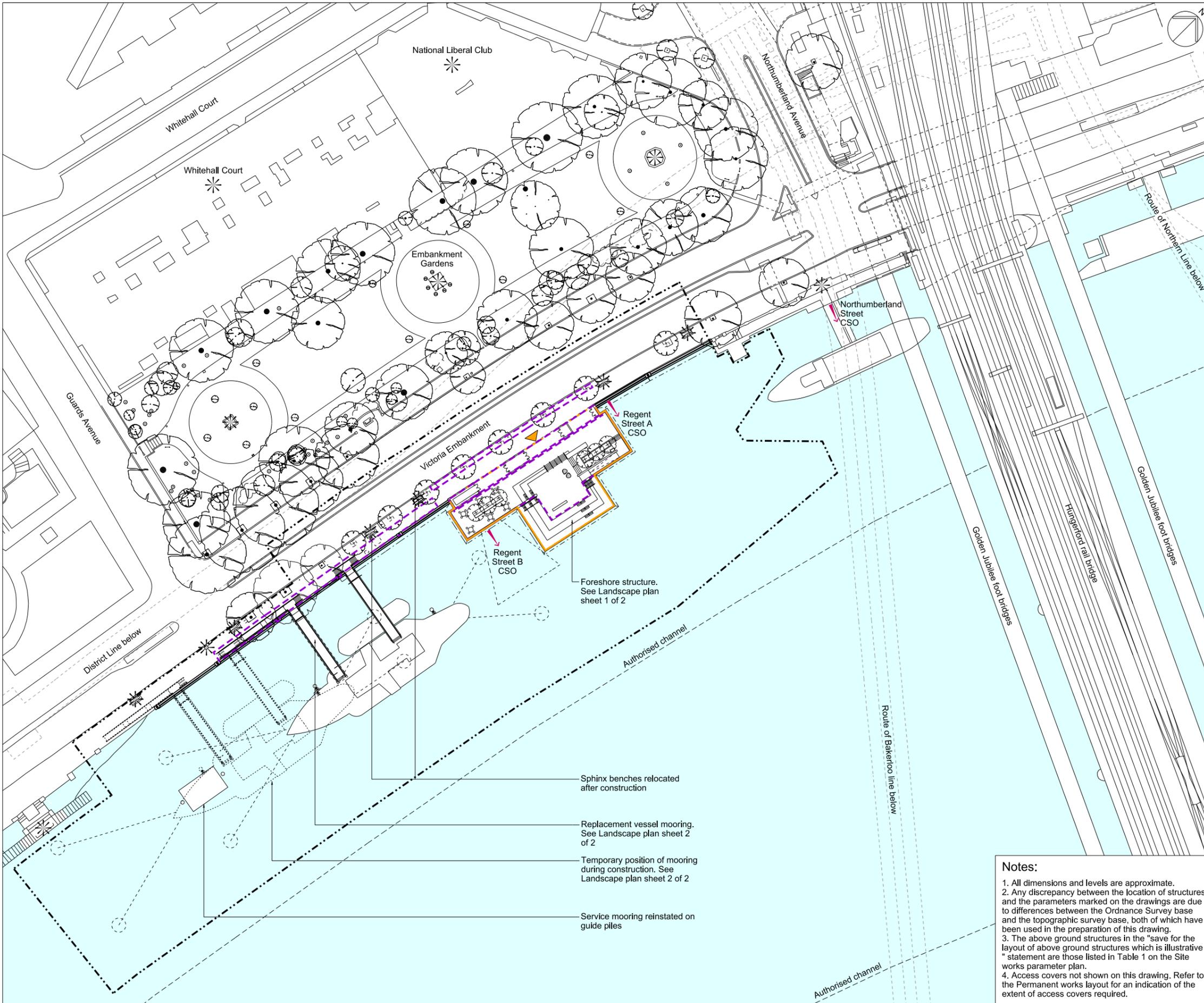
ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Permanent works layout

Book of plans - section 18
DCO-PP-16X-VCTEF-180010 - Rev 1
September 2013





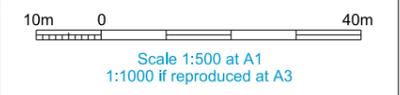
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Zone within which permanent above ground structures would be located
 - Maximum extent of foreshore structure
 - - - Authorised channel
 - * Listed buildings/structures
 - Approximate position of CSO outlet
 - ⊙ Existing trees within surveyed area (trunk sizes vary)
 - ⊕ Proposed trees
 - ▶ Thames Water access

- Rev 1:**
1. Temporary and permanent vessel mooring access ramp revised. Anchors and chains shown. Service mooring reinstated on piles. LLAU extended.



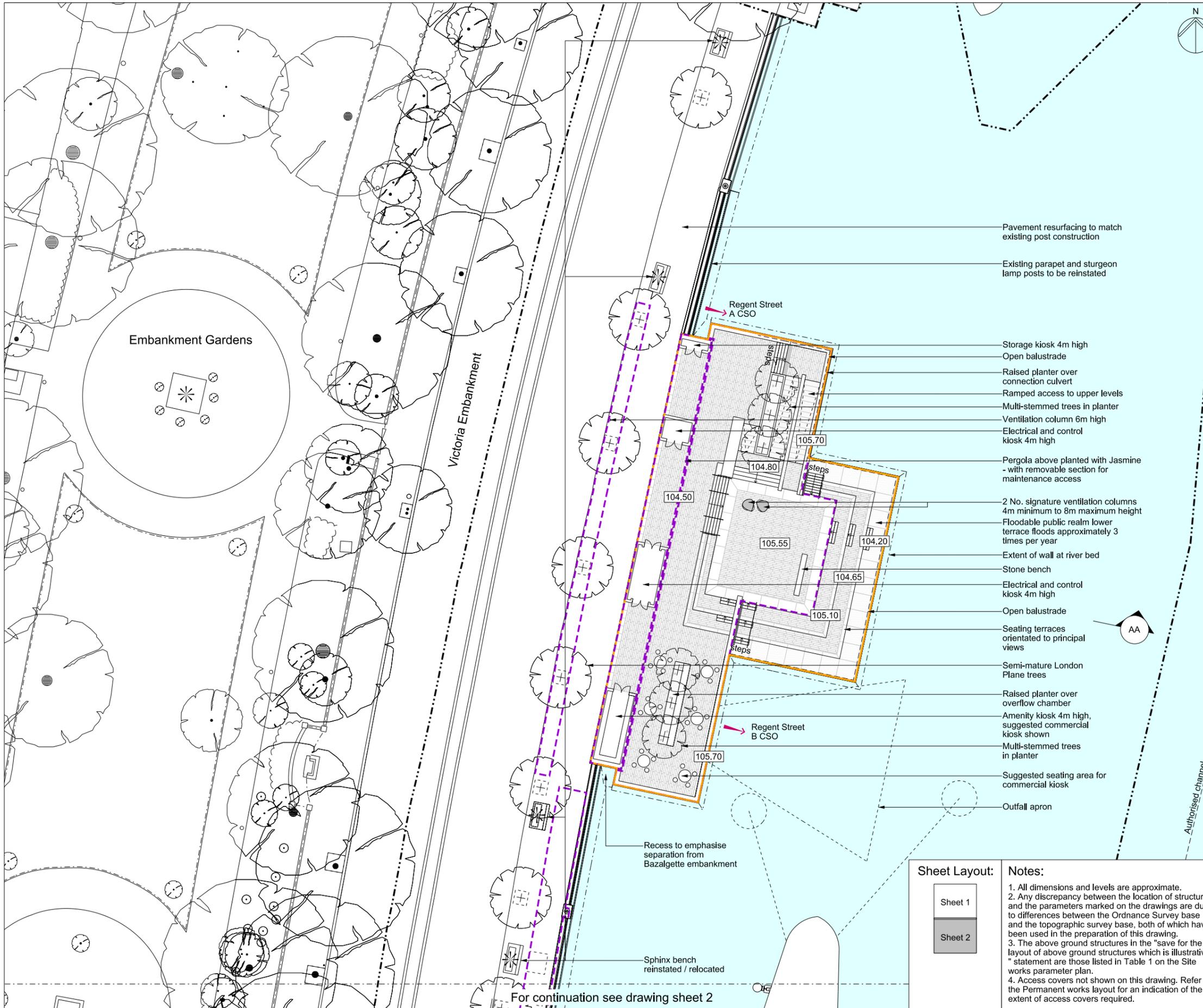
INDICATIVE
Save for layout of above ground structures which is illustrative

Location
Victoria Embankment Foreshore
City of Westminster

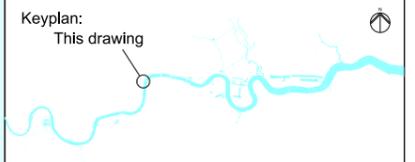
Document Information
Application for Development Consent
Proposed
Site features plan
Book of plans - section 18
DCO-PP-16X-VCTEF-180011 - Rev 1
September 2013



- Notes:**
1. All dimensions and levels are approximate.
 2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
 3. The above ground structures in the "save for the layout of above ground structures which is illustrative" statement are those listed in Table 1 on the Site works parameter plan.
 4. Access covers not shown on this drawing. Refer to the Permanent works layout for an indication of the extent of access covers required.



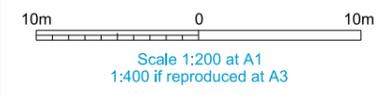
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Zone within which permanent above ground structures would be located
 - - - Zone within which required landscaping would be located
 - Maximum extent of foreshore structure
 - - - Authorised channel
 - 105.40 Proposed levels (shown in metres above tunnel datum)
 - * Listed buildings/structures
 - Approximate position of CSO outlet
 - Existing trees within surveyed area (trunk sizes vary)
 - ⊕ Proposed trees

Rev 1:
1. Anchors and chains shown.



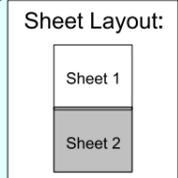
INDICATIVE
Save for layout of above ground structures which is illustrative

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Proposed
Landscape plan sheet 1 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180012 - Rev 1
September 2013



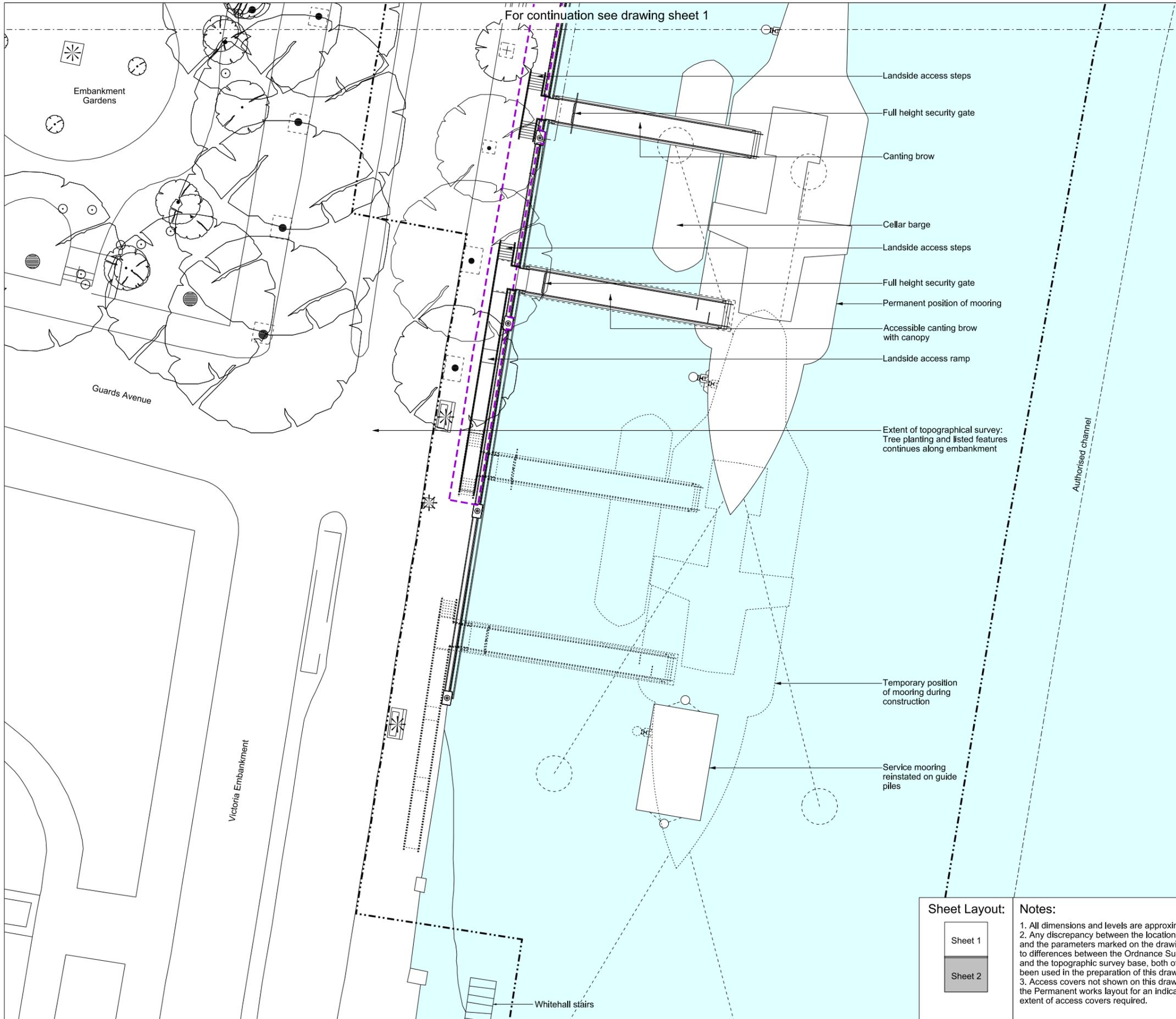
- Pavement resurfacing to match existing post construction
- Existing parapet and sturgeon lamp posts to be reinstated
- Regent Street A CSO
- Storage kiosk 4m high
- Open balustrade
- Raised planter over connection culvert
- Ramped access to upper levels
- Multi-stemmed trees in planter
- Ventilation column 6m high
- Electrical and control kiosk 4m high
- Pergola above planted with Jasmine - with removable section for maintenance access
- 2 No. signature ventilation columns 4m minimum to 8m maximum height
- Floodable public realm lower terrace floods approximately 3 times per year
- Extent of wall at river bed
- Stone bench
- Electrical and control kiosk 4m high
- Open balustrade
- Seating terraces orientated to principal views
- Semi-mature London Plane trees
- Raised planter over overflow chamber
- Amenity kiosk 4m high, suggested commercial kiosk shown
- Multi-stemmed trees in planter
- Suggested seating area for commercial kiosk
- Outfall apron
- Recess to emphasise separation from Bazalgette embankment
- Sphinx bench reinstated / relocated
- Regent Street B CSO



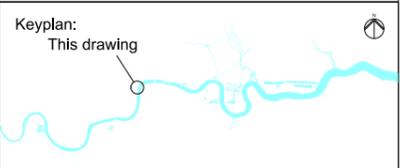
Notes:

1. All dimensions and levels are approximate.
2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
3. The above ground structures in the "save for the layout of above ground structures which is illustrative" statement are those listed in Table 1 on the Site works parameter plan.
4. Access covers not shown on this drawing. Refer to the Permanent works layout for an indication of the extent of access covers required.

For continuation see drawing sheet 2



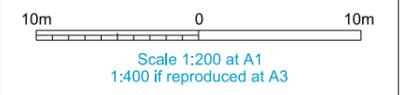
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - - - Zone within which permanent above ground structures would be located
 - - - Authorised channel
 - ✱ Listed buildings/structures
 - ⊙ Existing trees within surveyed area (trunk sizes vary)
 - ⊕ Proposed trees

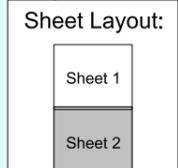
- Rev 1:**
1. Temporary and permanent vessel mooring access ramp revised. Anchors and chains shown. Service mooring reinstated on piles. LLAU extended.



FOR APPROVAL

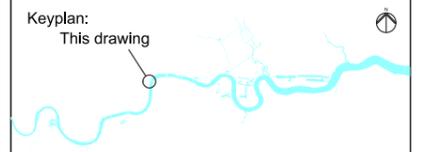
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Proposed
Landscape plan sheet 2 of 2
Book of plans - section 18
DCO-PP-16X-VCTEF-180013 - Rev 1
September 2013



- Notes:**
1. All dimensions and levels are approximate.
 2. Any discrepancy between the location of structures and the parameters marked on the drawings are due to differences between the Ordnance Survey base and the topographic survey base, both of which have been used in the preparation of this drawing.
 3. Access covers not shown on this drawing. Refer to the Permanent works layout for an indication of the extent of access covers required.

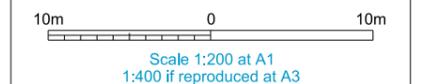
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:
 1. All dimensions and levels are approximate.
 2. The purpose of this section is to show the scale of the below ground infrastructure to be provided.

Rev 1:
 1. Key plan amended.

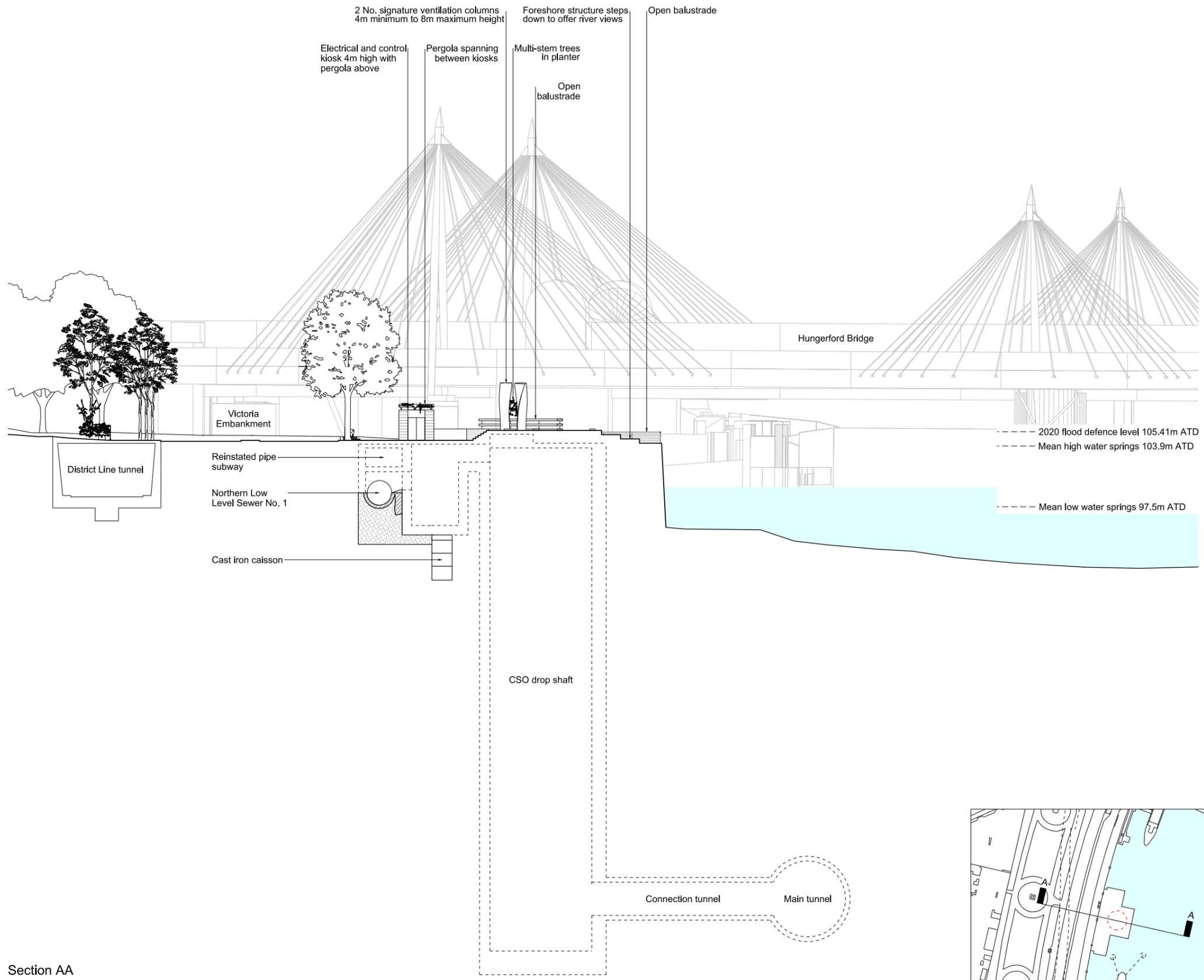


ILLUSTRATIVE

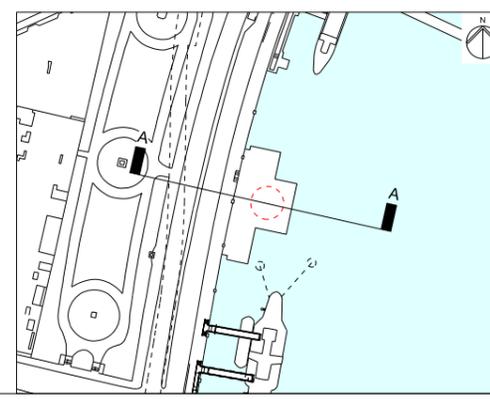
Location
 Victoria Embankment Foreshore
 City of Westminster

Document Information
 Application for Development Consent
 Section AA

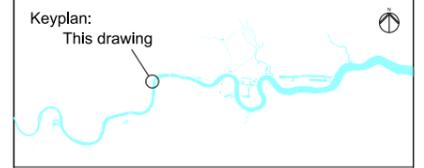
Book of plans - section 18
 DCO-PP-16X-VCTEF-180014 - Rev 1
 September 2013



Section AA

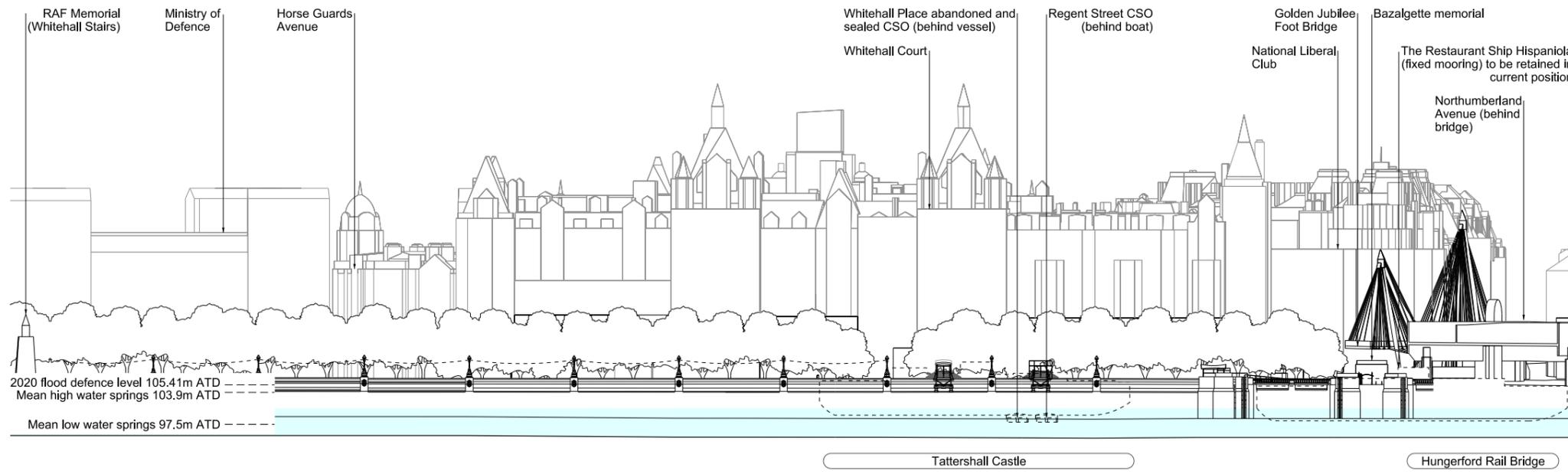


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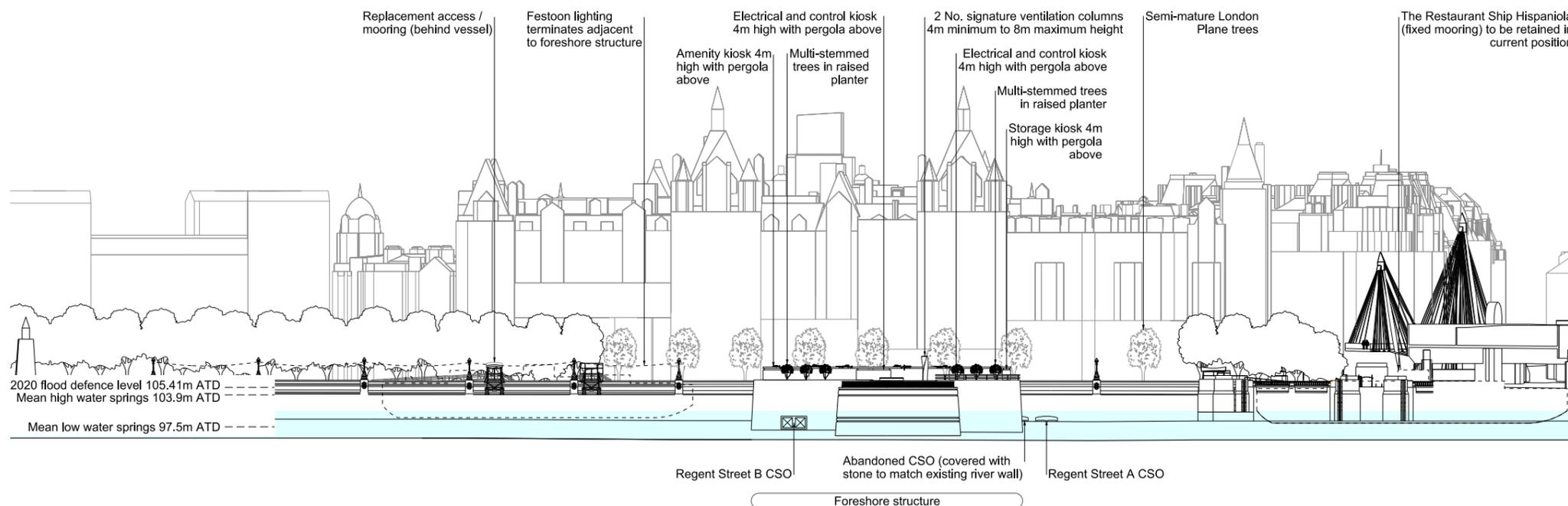


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

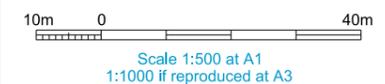
- Notes:**
- All dimensions and levels are approximate.
- Rev 1:**
- Permanent vessel mooring access ramp revised. Key plan amended.



As existing river elevation



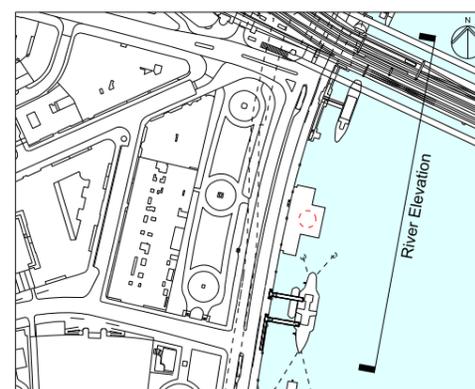
Proposed river elevation



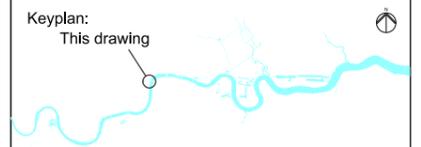
ILLUSTRATIVE

Location
Victoria Embankment Foreshore
 City of Westminster

Document Information
Application for Development Consent
 As existing and proposed
 Long river elevation
 Book of plans - section 18
 DCO-PP-16X-VCTEF-180015 - Rev 1
 September 2013



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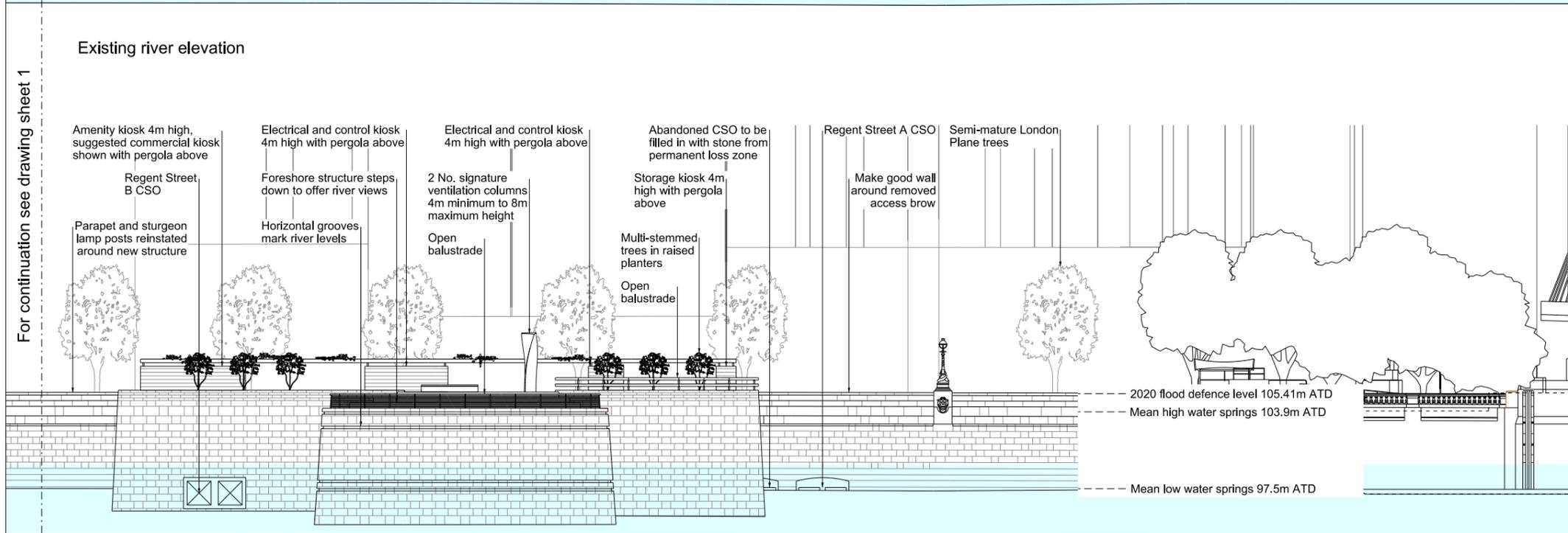
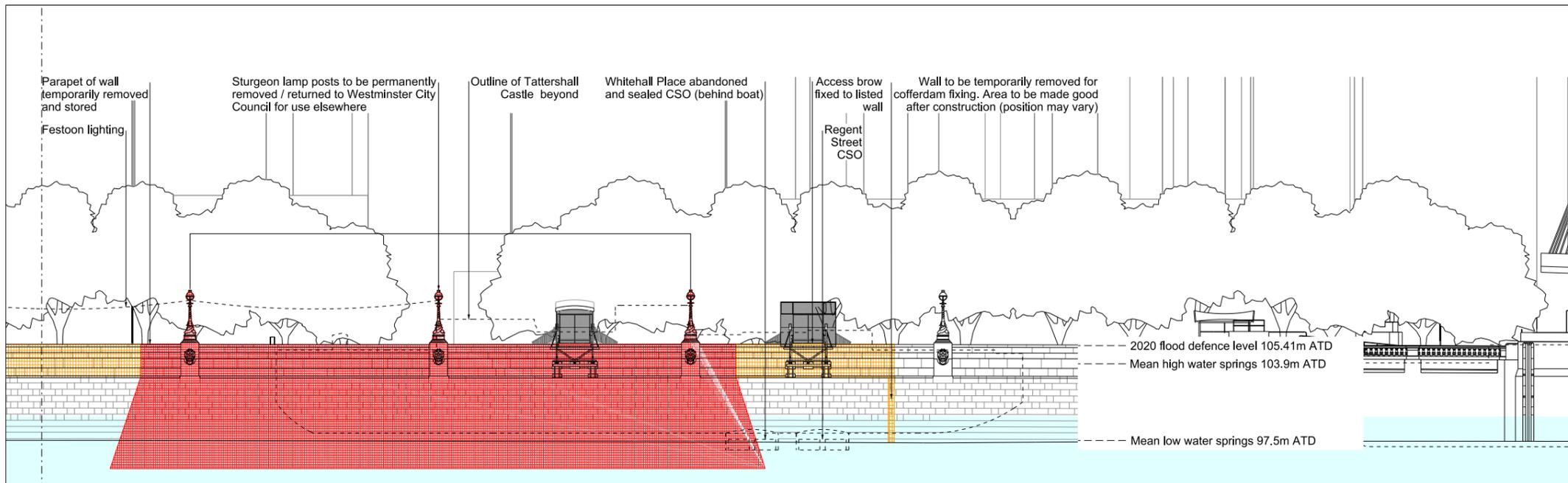


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Maximum temporary extent of loss of listed buildings / structures
 - Maximum permanent extent of loss of listed buildings / structures

- Notes:**
- All dimensions and levels are approximate.
 - Drawing to be read in conjunction with conservation statement.

- Rev 1:**
- Key plan amended. Continuation sheet added.



Foreshore structure

Sheet Layout:

Sheet 1 | Sheet 2

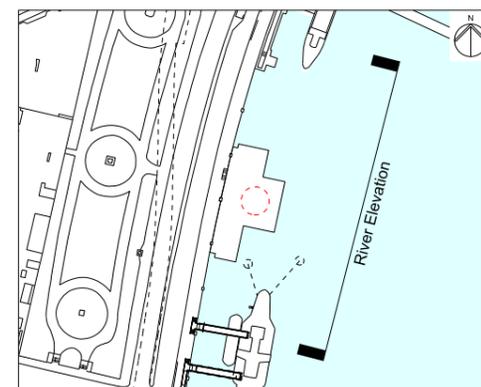
10m 0 10m

Scale 1:200 at A1
1:400 if reproduced at A3

ILLUSTRATIVE
Save for maximum extent of loss of listed structures which is for approval

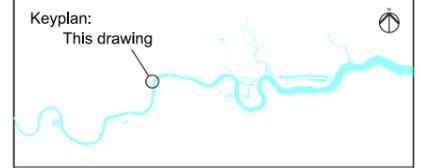
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed river elevation
Impact on listed structure (sheet 2 of 2)
Book of plans - section 18
DCO-PP-16X-VCTEF-180016 - Rev 1
September 2013



For continuation see drawing sheet 1

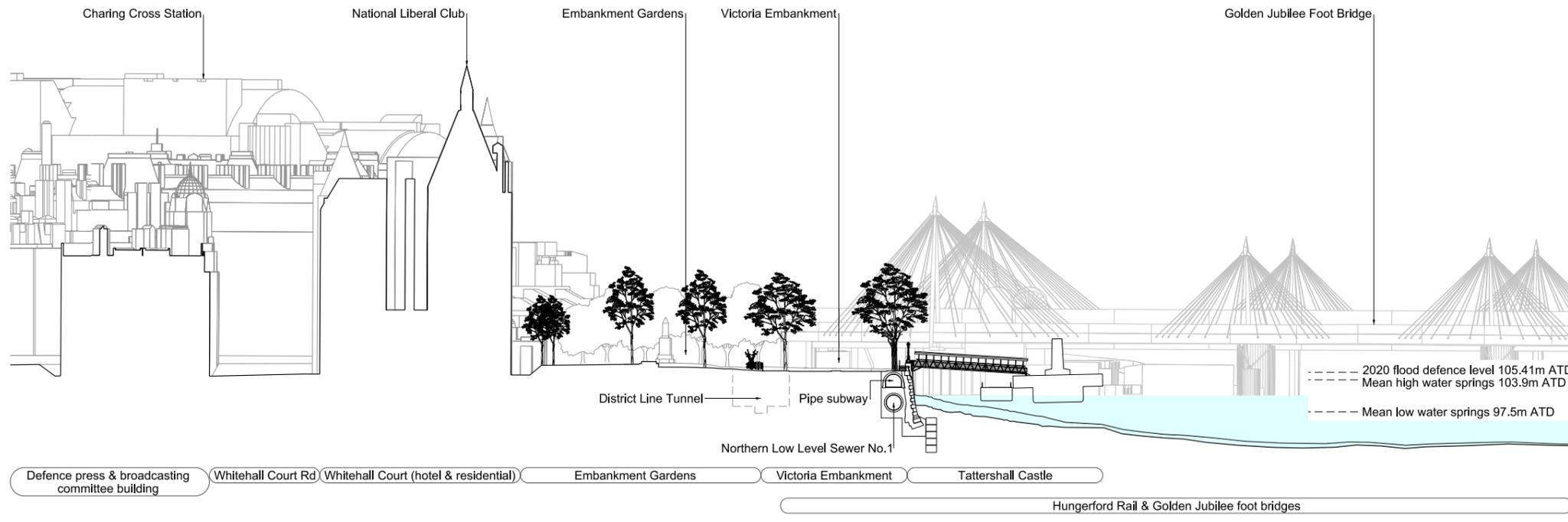
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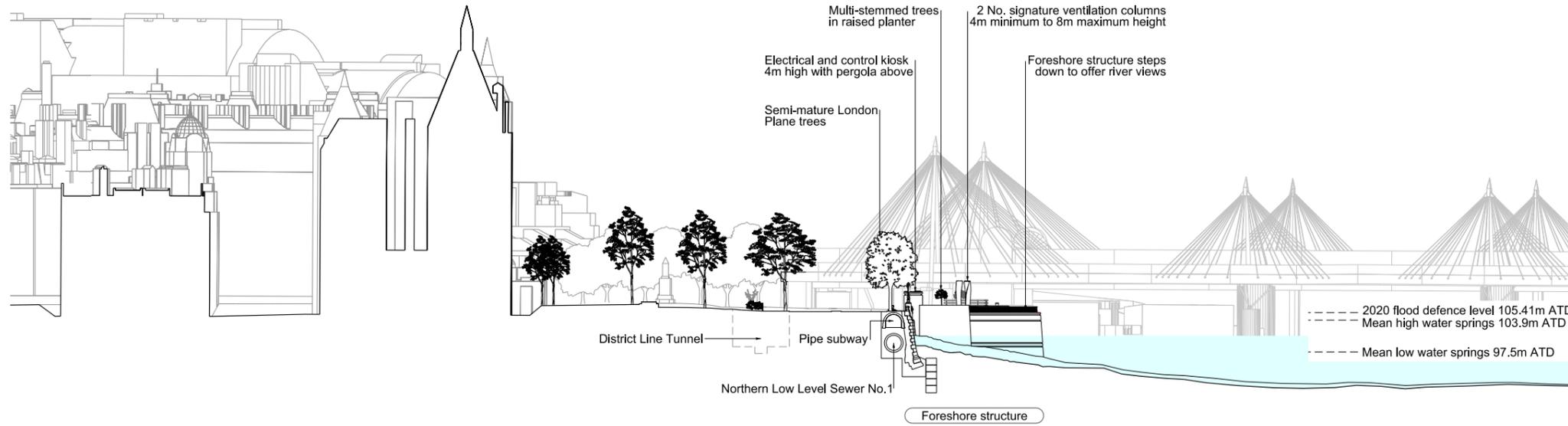
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:
1. All dimensions and levels are approximate.

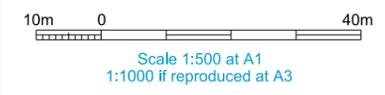
Rev 1:
1. Key plan amended.



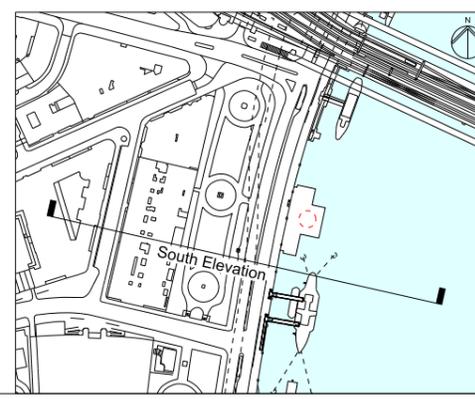
As existing South elevation



Proposed South elevation



ILLUSTRATIVE

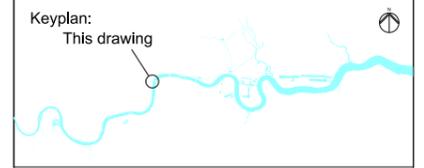


Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed
South elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180017 - Rev 1
September 2013



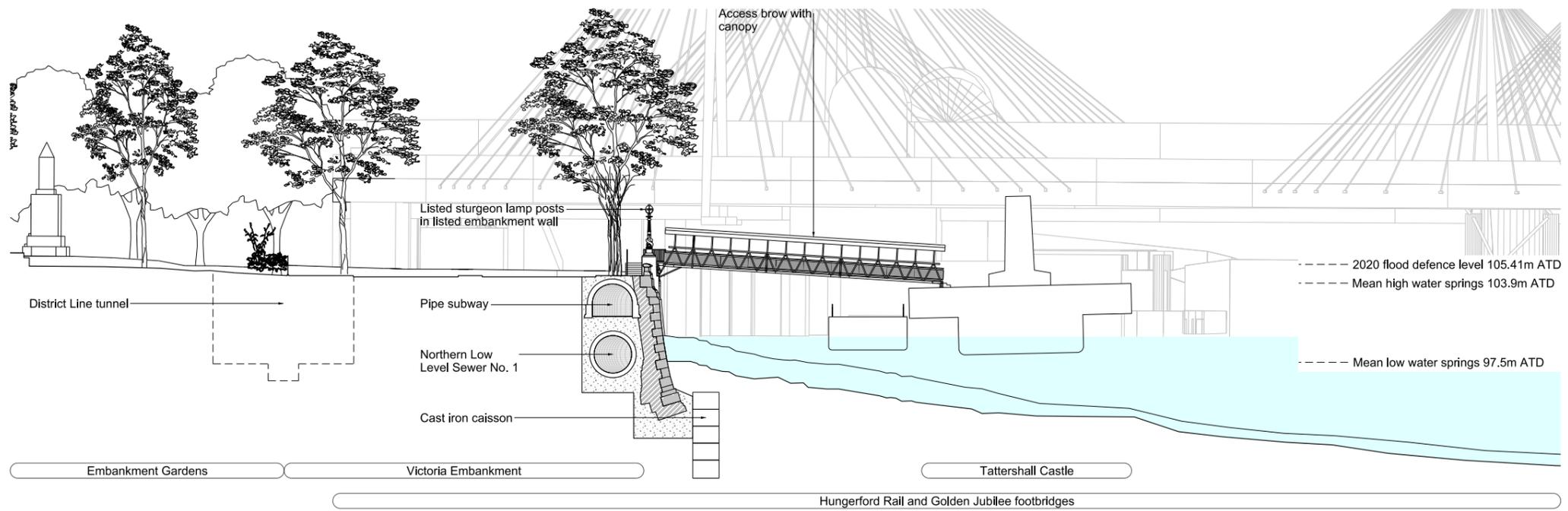
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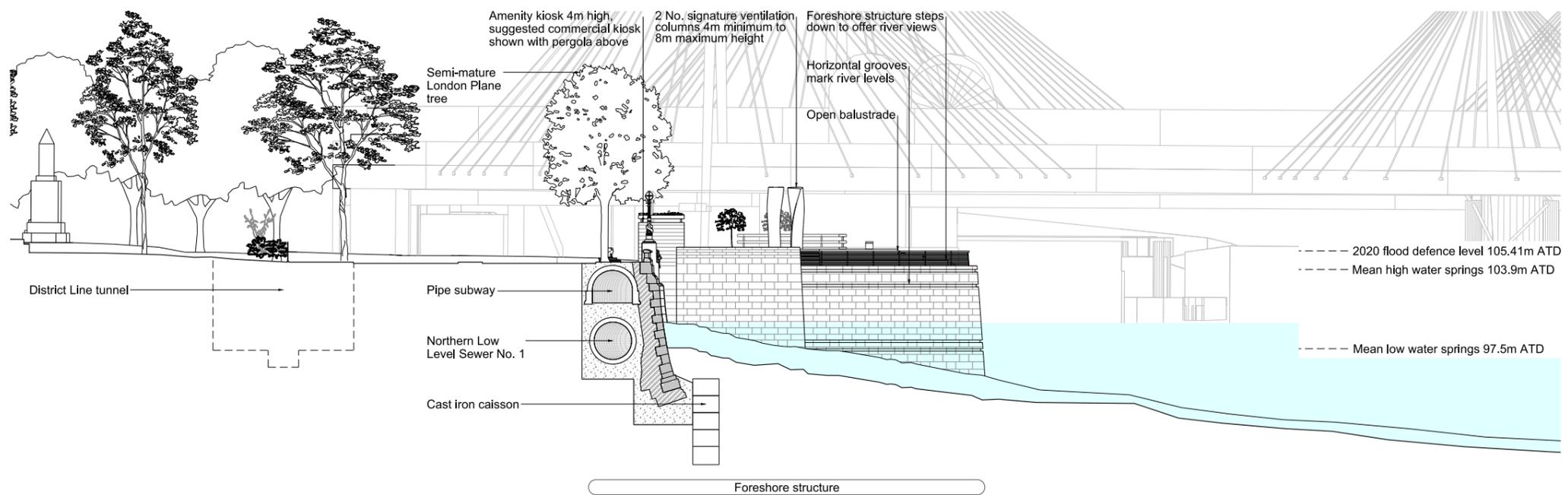
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:
1. All dimensions and levels are approximate.

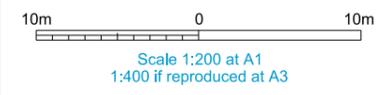
Rev 1:
1. Key plan amended.



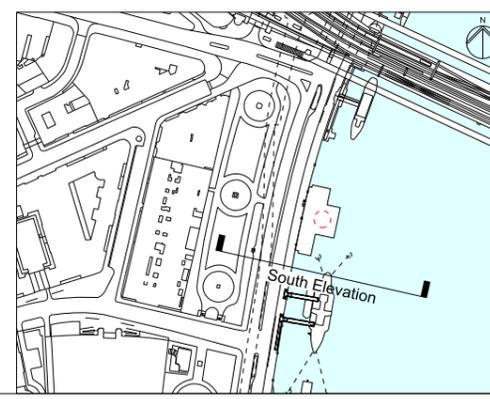
As existing South elevation



Proposed South elevation



ILLUSTRATIVE



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed
Detailed south elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180018 - Rev 1
September 2013

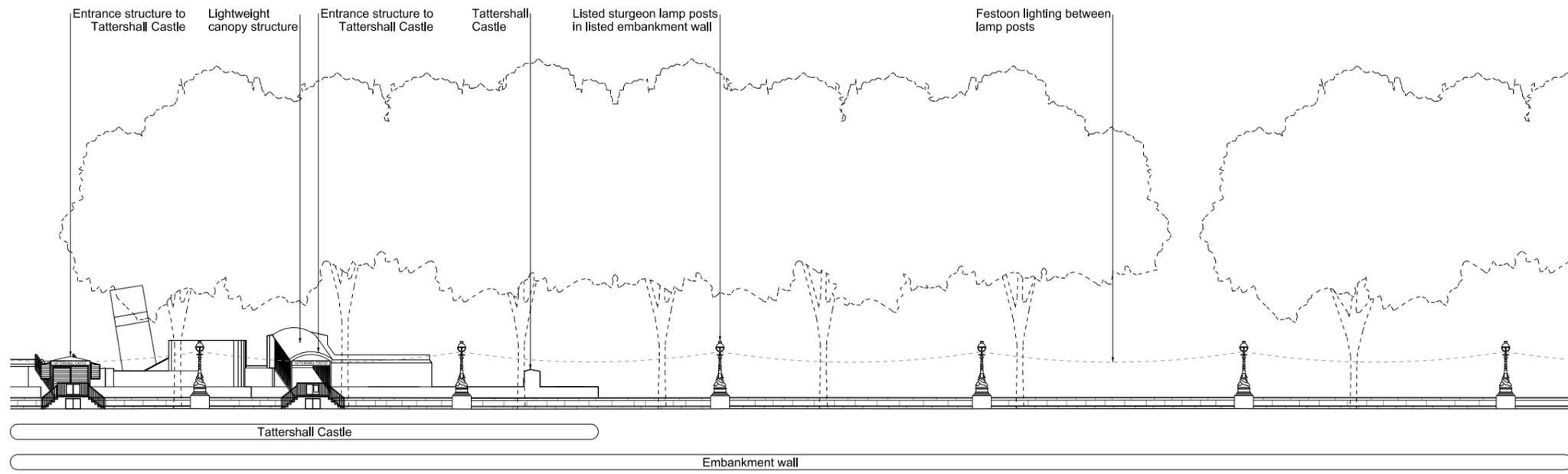


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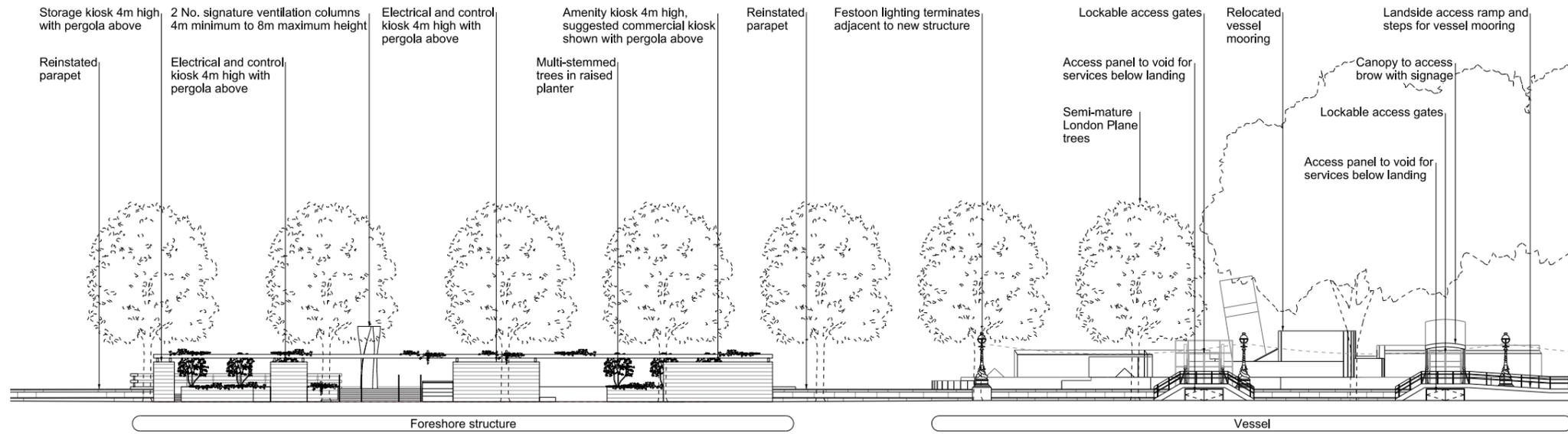


Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

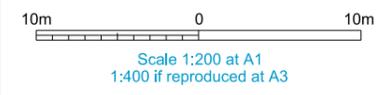
- Notes:**
- All dimensions and levels are approximate.
- Rev 1:**
- Permanent vessel mooring access ramp revised. Key plan amended.



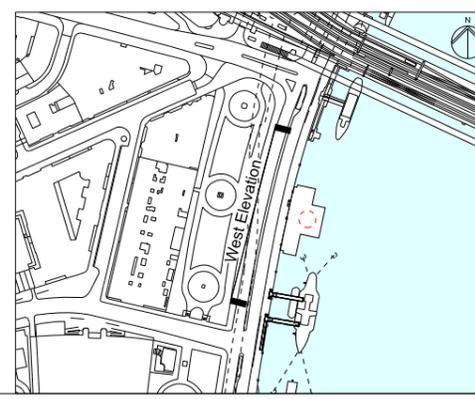
As existing West elevation



Proposed West elevation



ILLUSTRATIVE

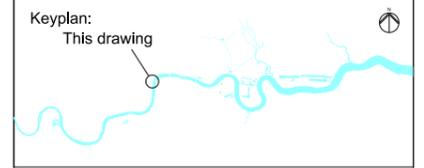


Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed
West elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180019 - Rev 1
September 2013



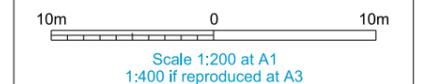
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:
1. All dimensions and levels are approximate.

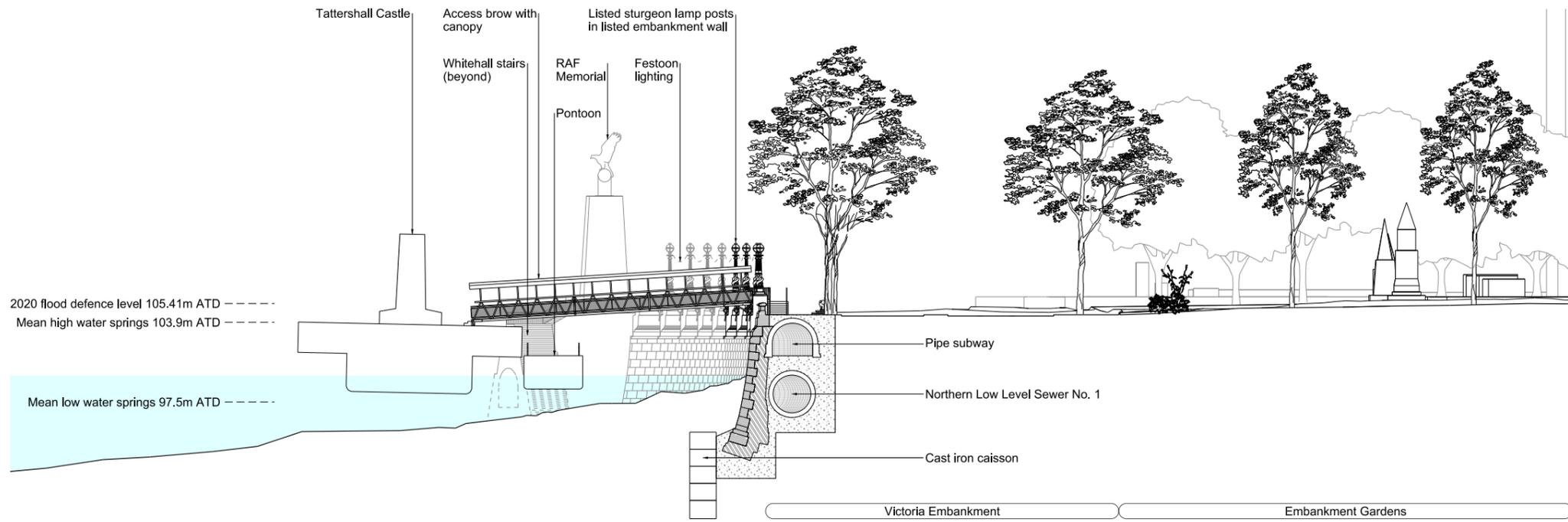
Rev 1:
1. Key plan amended.



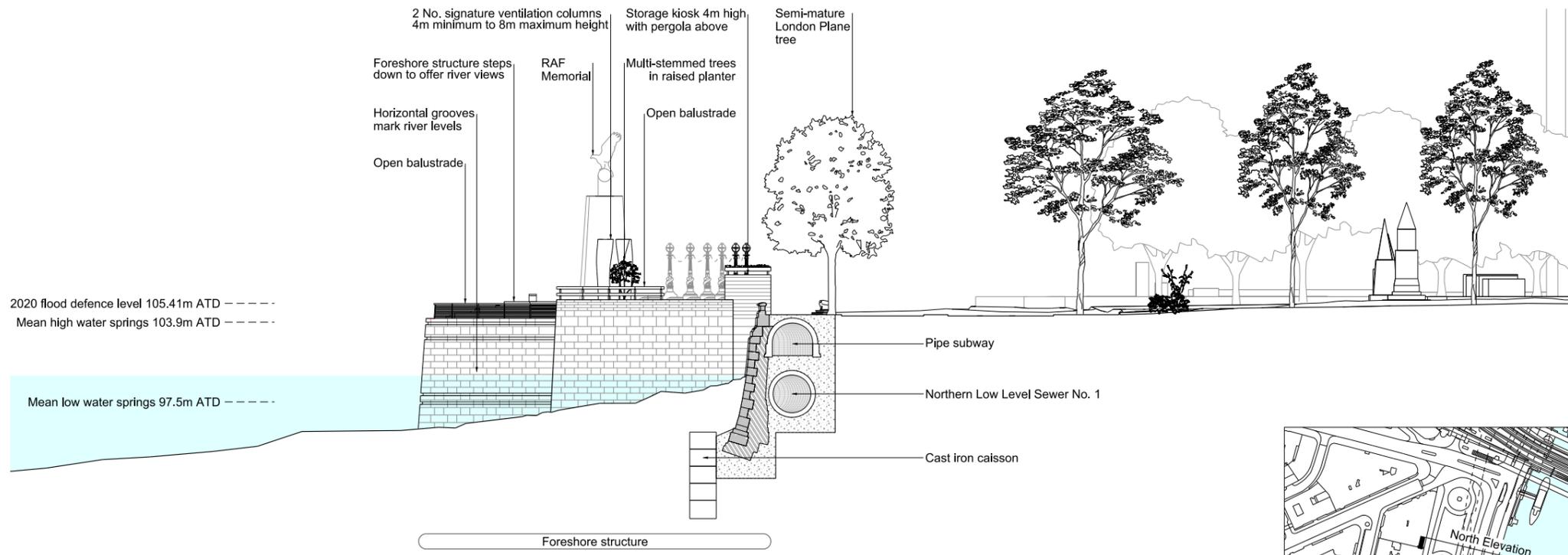
ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

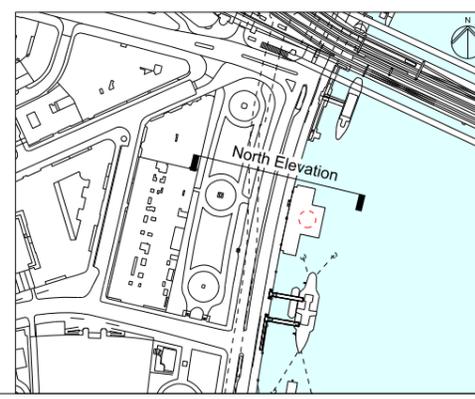
Document Information
Application for Development Consent
As existing
And proposed north elevation
Book of plans - section 18
DCO-PP-16X-VCTEF-180020 - Rev 1
September 2013



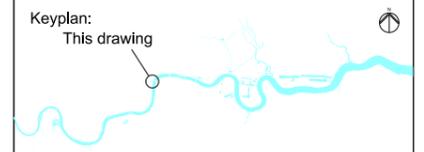
As existing North elevation



Proposed North elevation



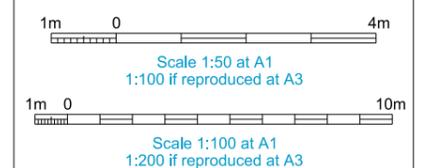
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

Notes:
1. All dimensions and levels are approximate.

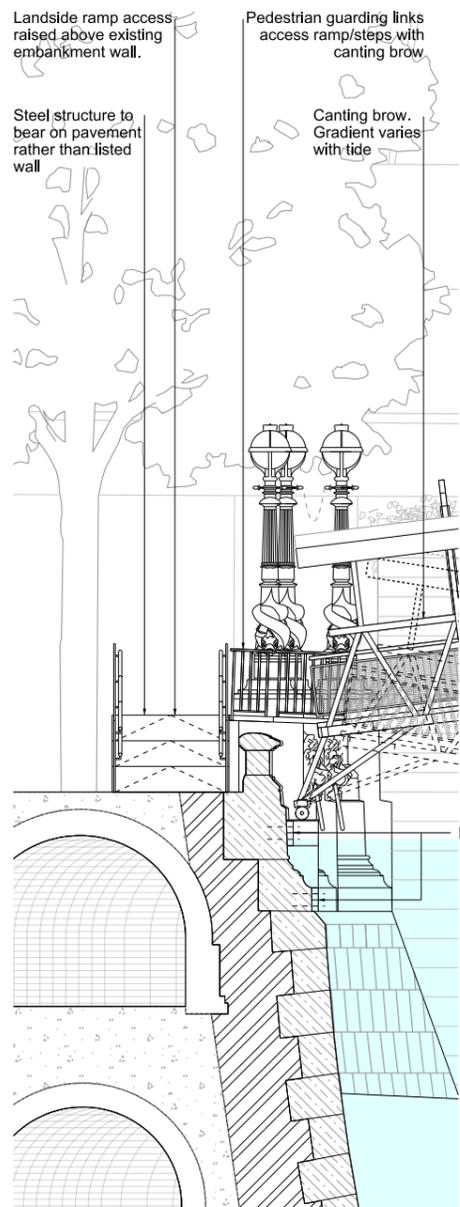
Rev 1:
1. Permanent vessel mooring access ramp revised. Key plan amended. Drawing status amended.



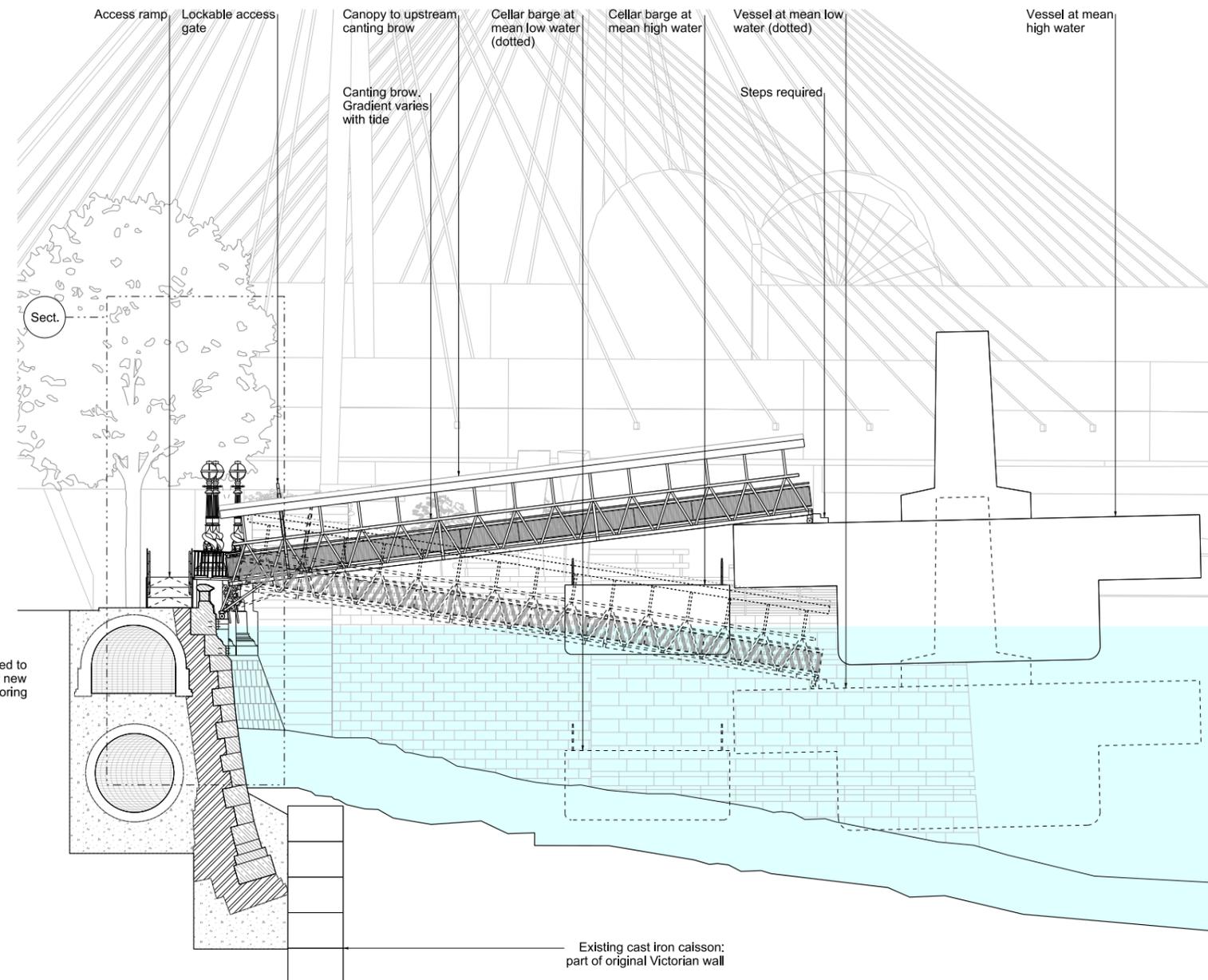
ILLUSTRATIVE
Save for the detail of fixing to the listed wall which is for approval

Location
Victoria Embankment Foreshore
City of Westminster

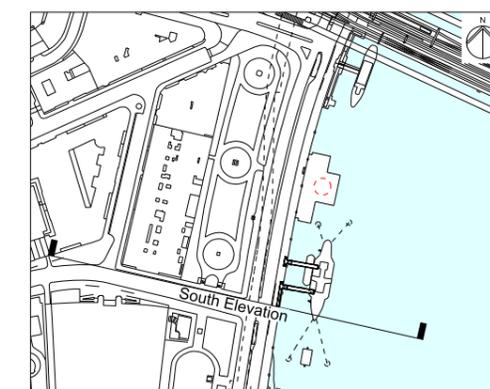
Document Information
Application for Development Consent
Proposed
Mooring access details
Book of plans - section 18
DCO-PP-16X-VCTEF-180027 - Rev 1
September 2013

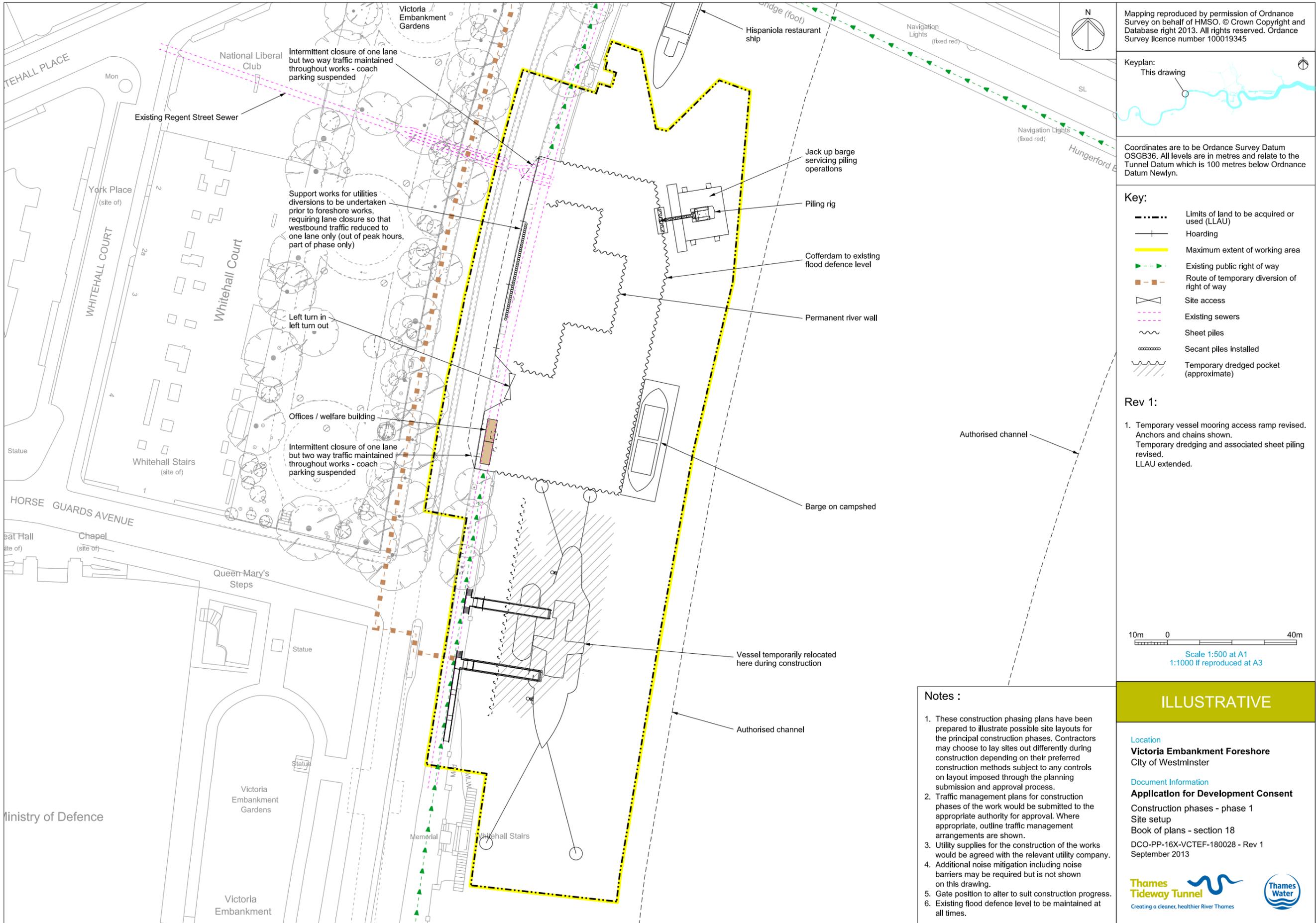


Detail section
(in both temporary and permanent cases)
Scale 1:50
See proposed landscape plan sheet 2 of 2 for location details

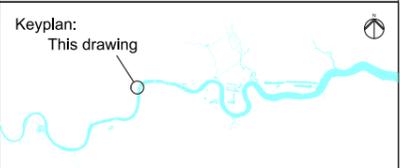


Proposed South elevation at high tide
Scale 1:100





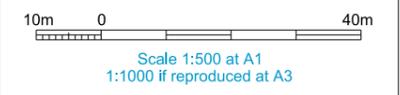
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - Existing public right of way
 - Route of temporary diversion of right of way
 - Site access
 - Existing sewers
 - Sheet piles
 - Secant piles installed
 - Temporary dredged pocket (approximate)

- Rev 1:**
1. Temporary vessel mooring access ramp revised. Anchors and chains shown. Temporary dredging and associated sheet piling revised. LLAU extended.



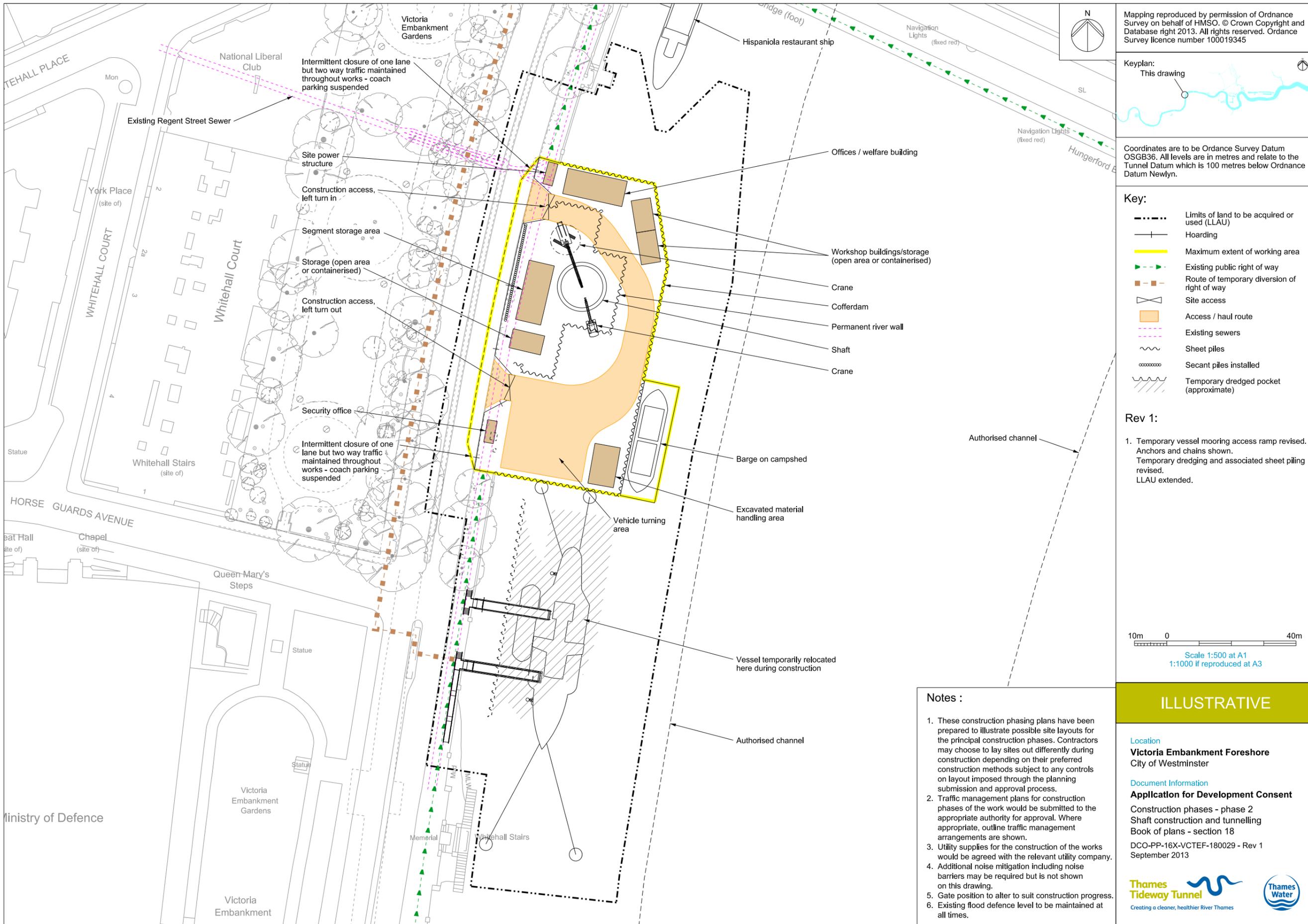
ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

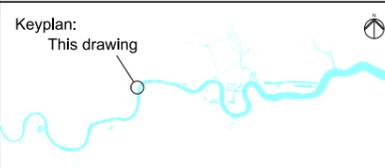
Document Information
Application for Development Consent
Construction phases - phase 1
Site setup
Book of plans - section 18
DCO-PP-16X-VCTEF-180028 - Rev 1
September 2013



- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
 4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
 5. Gate position to alter to suit construction progress.
 6. Existing flood defence level to be maintained at all times.



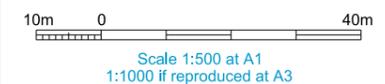
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - Existing public right of way
 - Route of temporary diversion of right of way
 - Site access
 - Access / haul route
 - Existing sewers
 - Sheet piles
 - Secant piles installed
 - Temporary dredged pocket (approximate)

- Rev 1:**
1. Temporary vessel mooring access ramp revised. Anchors and chains shown. Temporary dredging and associated sheet piling revised. LLAU extended.



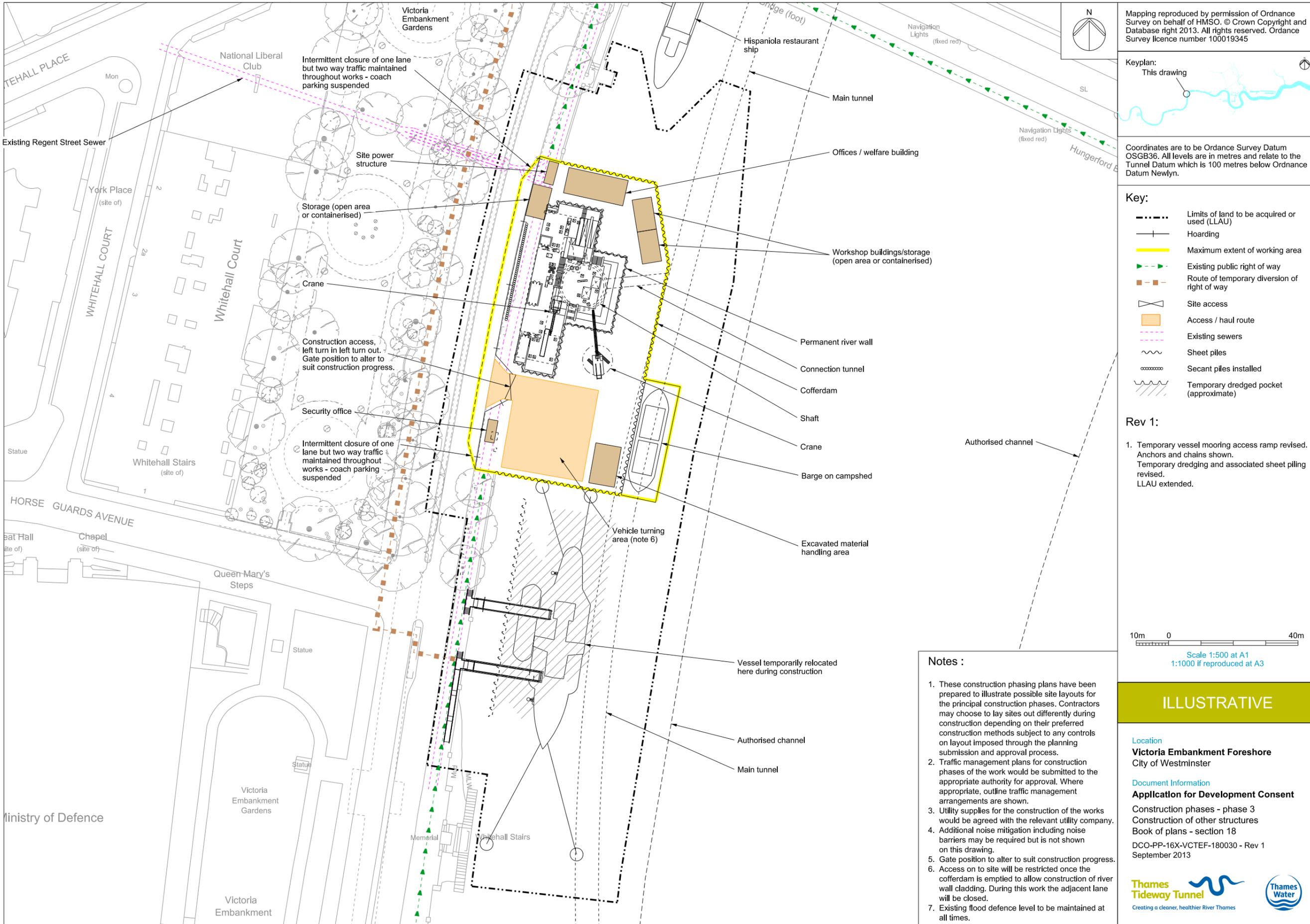
- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
 4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
 5. Gate position to alter to suit construction progress.
 6. Existing flood defence level to be maintained at all times.

ILLUSTRATIVE

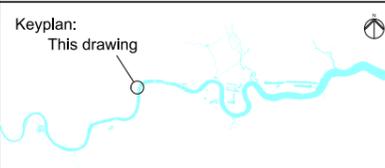
Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Construction phases - phase 2
Shaft construction and tunnelling
Book of plans - section 18
DCO-PP-16X-VCTEF-180029 - Rev 1
September 2013





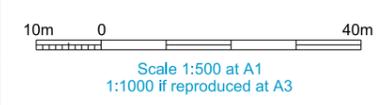
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Hoarding
 - Maximum extent of working area
 - Existing public right of way
 - Route of temporary diversion of right of way
 - Site access
 - Access / haul route
 - Existing sewers
 - Sheet piles
 - Secant piles installed
 - Temporary dredged pocket (approximate)

- Rev 1:**
1. Temporary vessel mooring access ramp revised. Anchors and chains shown. Temporary dredging and associated sheet piling revised. LLAU extended.

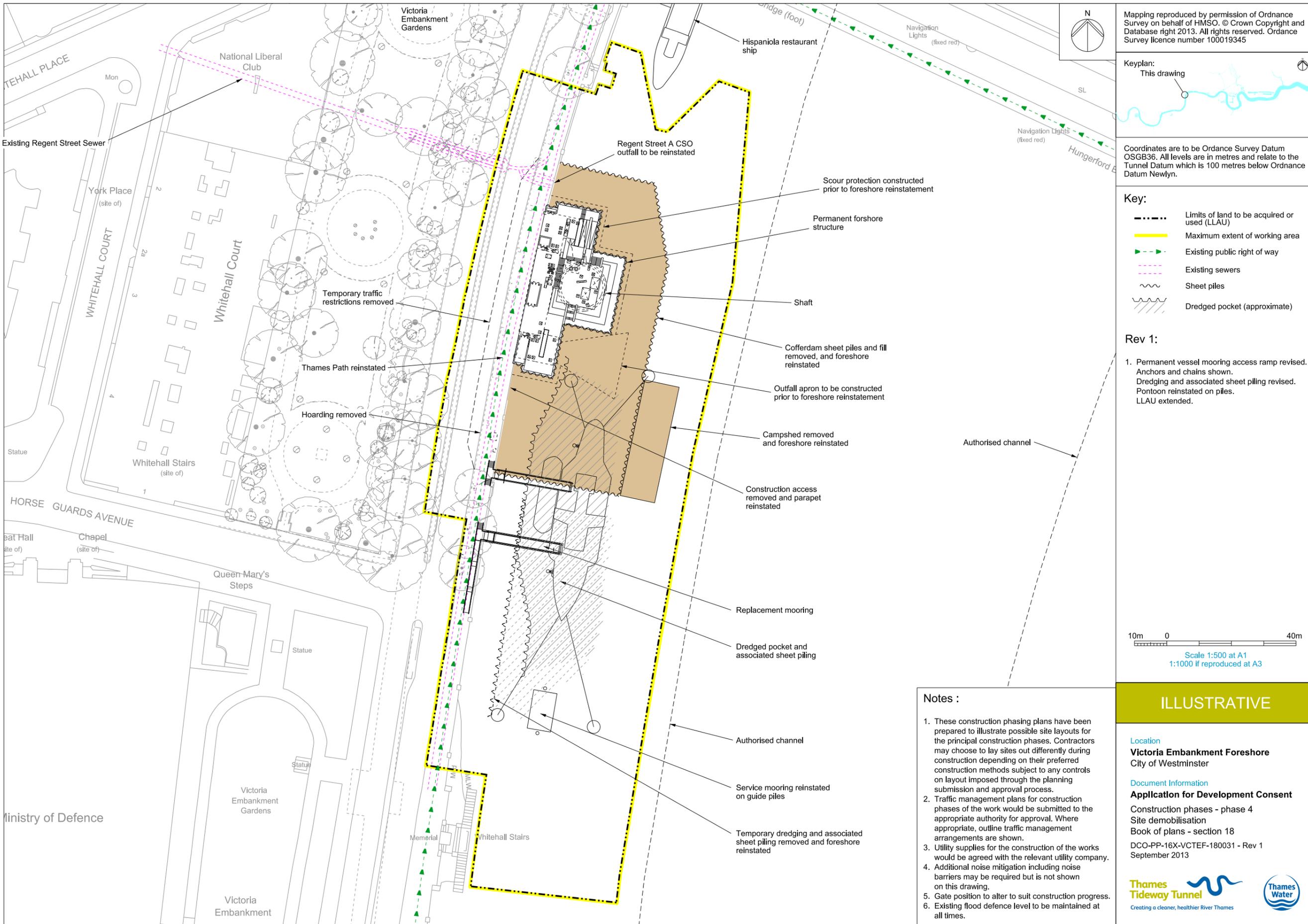


- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
 4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
 5. Gate position to alter to suit construction progress.
 6. Access on to site will be restricted once the cofferdam is emptied to allow construction of river wall cladding. During this work the adjacent lane will be closed.
 7. Existing flood defence level to be maintained at all times.

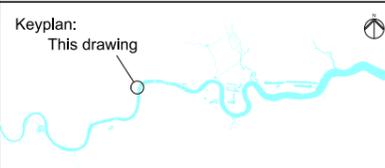
ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Construction phases - phase 3
Construction of other structures
Book of plans - section 18
DCO-PP-16X-VCTEF-180030 - Rev 1
September 2013



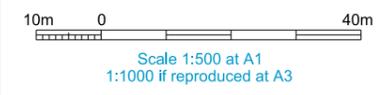
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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Limits of land to be acquired or used (LLAU)
 - Maximum extent of working area
 - Existing public right of way
 - Existing sewers
 - Sheet piles
 - Dredged pocket (approximate)

- Rev 1:**
1. Permanent vessel mooring access ramp revised. Anchors and chains shown. Dredging and associated sheet piling revised. Pontoon reinstated on piles. LLAU extended.



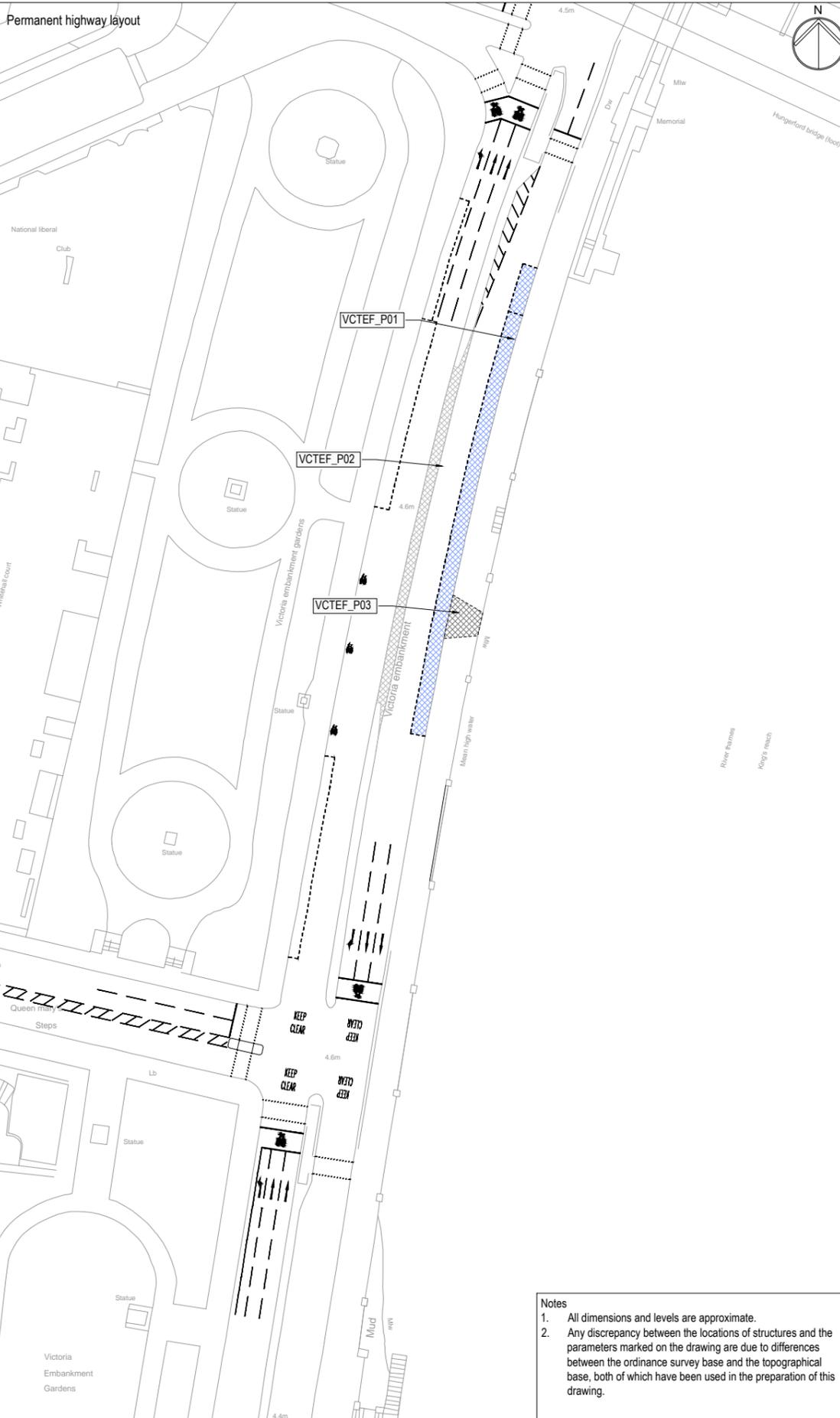
ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

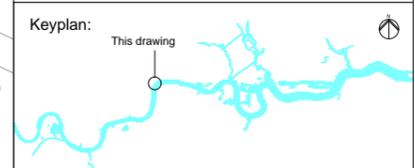
Document Information
Application for Development Consent
Construction phases - phase 4
Site demobilisation
Book of plans - section 18
DCO-PP-16X-VCTEF-180031 - Rev 1
September 2013



- Notes :**
1. These construction phasing plans have been prepared to illustrate possible site layouts for the principal construction phases. Contractors may choose to lay sites out differently during construction depending on their preferred construction methods subject to any controls on layout imposed through the planning submission and approval process.
 2. Traffic management plans for construction phases of the work would be submitted to the appropriate authority for approval. Where appropriate, outline traffic management arrangements are shown.
 3. Utility supplies for the construction of the works would be agreed with the relevant utility company.
 4. Additional noise mitigation including noise barriers may be required but is not shown on this drawing.
 5. Gate position to alter to suit construction progress.
 6. Existing flood defence level to be maintained at all times.



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Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key**
- Existing**
- On street parking
 - Bus stop / stand
 - Pedestrian crossing
 - Cycle lane / advance stop line / Barclays cycle hire
- Revised**
- Reinstated central reservation
 - Strengthen footway / vehicle crossover area
 - Reinstated on street parking
 - VCTEF_P01 See schedule of works

- Rev 1:**
1. Permanent works boundary removed on the permanent highway layout and the key.

On street parking

Solo motorcycle
solo motorcycles only at all times

Coach parking
buses & coaches only
mon - fri 8:30am - 6:30pm
sat 8:30am - 1:30pm
max stay 2 hours
no return within 1 hour

- Standards**
- Design manual for roads and bridges, DfT, 1992
 - Traffic signs regulations & general directions, TSO, 2002
 - Traffic signs manual, DfT, 2006
 - Manual for streets, DfT, 2007
 - Manual for streets 2, CIHT, 2010
 - Designing for deliveries, Fta, 1998
 - Cycle infrastructure design Ltn 2/08, DfT, 2008
 - Design of pedestrian crossings Ltn 2/95, DfT, 1995
 - Guidance for the use of tactile paving, DfT, 1998
 - Accessible bus stop design guidance, TfL, 2006

Stage
Permanent phase

Scale 1:500 at A1
1:1000 if reproduced at A3

ILLUSTRATIVE

Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
Permanent highway layout

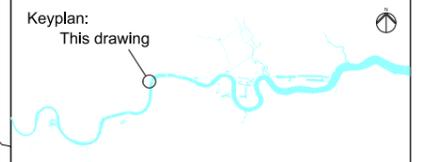
DCO-PP-16X-VCTEF-180044-Rev 1
September 2013



Notes

1. All dimensions and levels are approximate.
2. Any discrepancy between the locations of structures and the parameters marked on the drawing are due to differences between the ordnance survey base and the topographical base, both of which have been used in the preparation of this drawing.

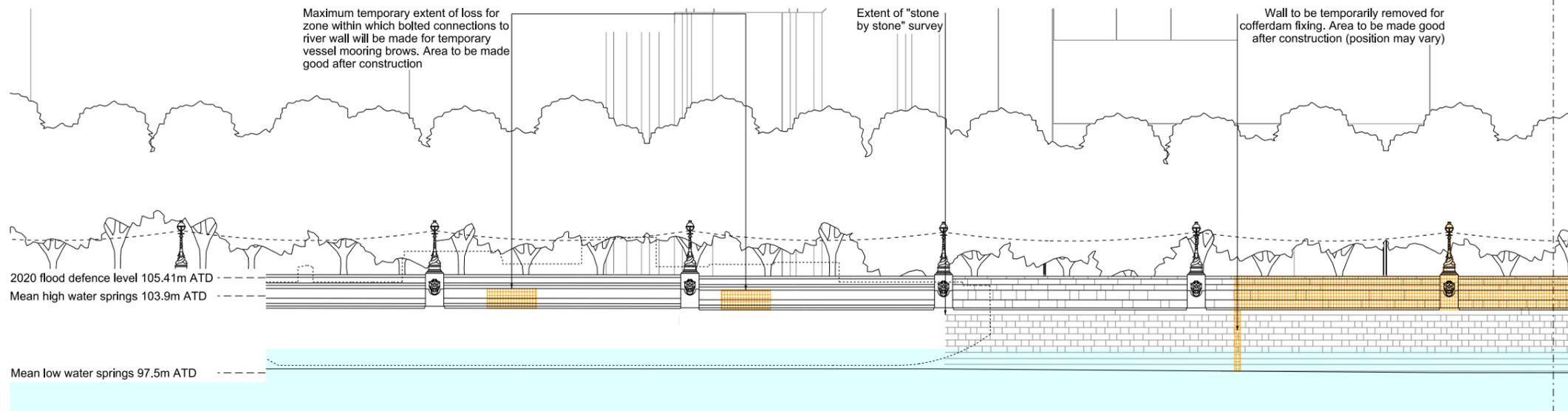
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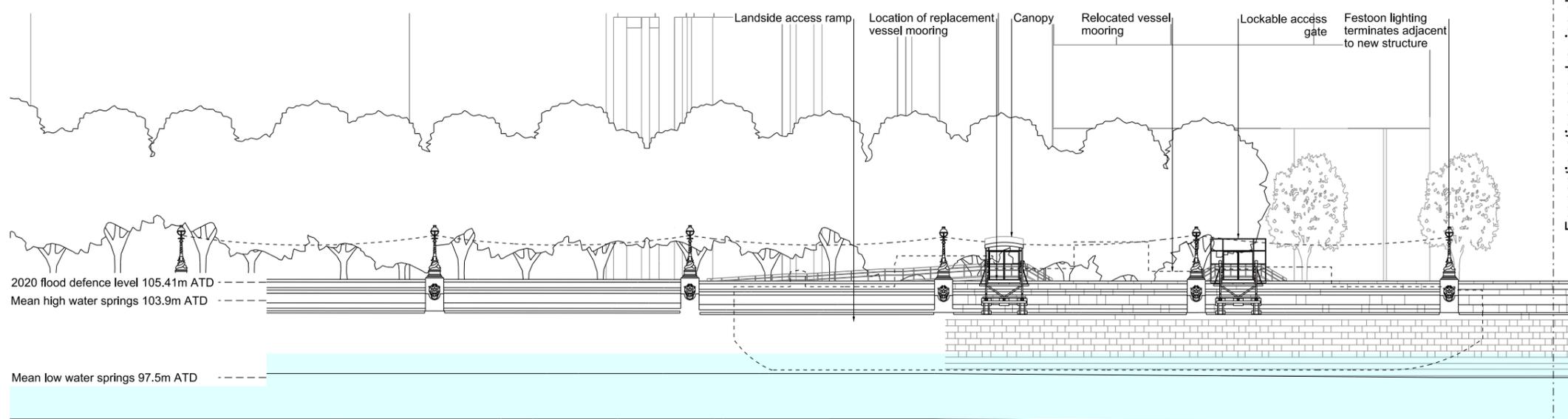
Coordinates are to be Ordnance Survey Datum OSGB36. All levels are in metres and relate to the Tunnel Datum which is 100 metres below Ordnance Datum Newlyn.

- Key:**
- Maximum temporary extent of loss of listed buildings / structures
 - Maximum permanent extent of loss of listed buildings / structures

- Notes:**
1. All dimensions and levels are approximate.
 2. Drawing to be read in conjunction with conservation statement.



Existing river elevation



Proposed river elevation

For continuation see drawing sheet 2

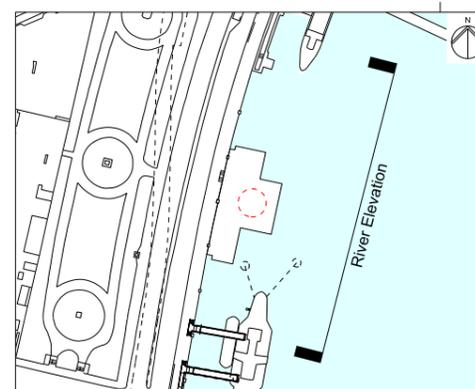
Sheet Layout:

Sheet 1

Sheet 2

Scale 1:200 at A1
1:400 if reproduced at A3

ILLUSTRATIVE
Save for maximum extent of loss of listed structures which is for approval.



Location
Victoria Embankment Foreshore
City of Westminster

Document Information
Application for Development Consent
As existing and proposed river elevation
Impact on listed structure (sheet 1 of 2)
Book of plans - section 18
DCO-PP-16X-VCTEF-180047
September 2013



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Thames Water Utilities Limited

Clearwater Court, Vastern Road, Reading RG1 8DB

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