

THE PROPOSED A122 (LOWER THAMES CROSSING) DEVELOPMENT CONSENT ORDER

**Responses to ExQ1 submitted on behalf of
the Port of London Authority**

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Comments on the Examining Authorities second written questions and requests for information (**ExQ2**) submitted by the Port of London Authority (**PLA**)

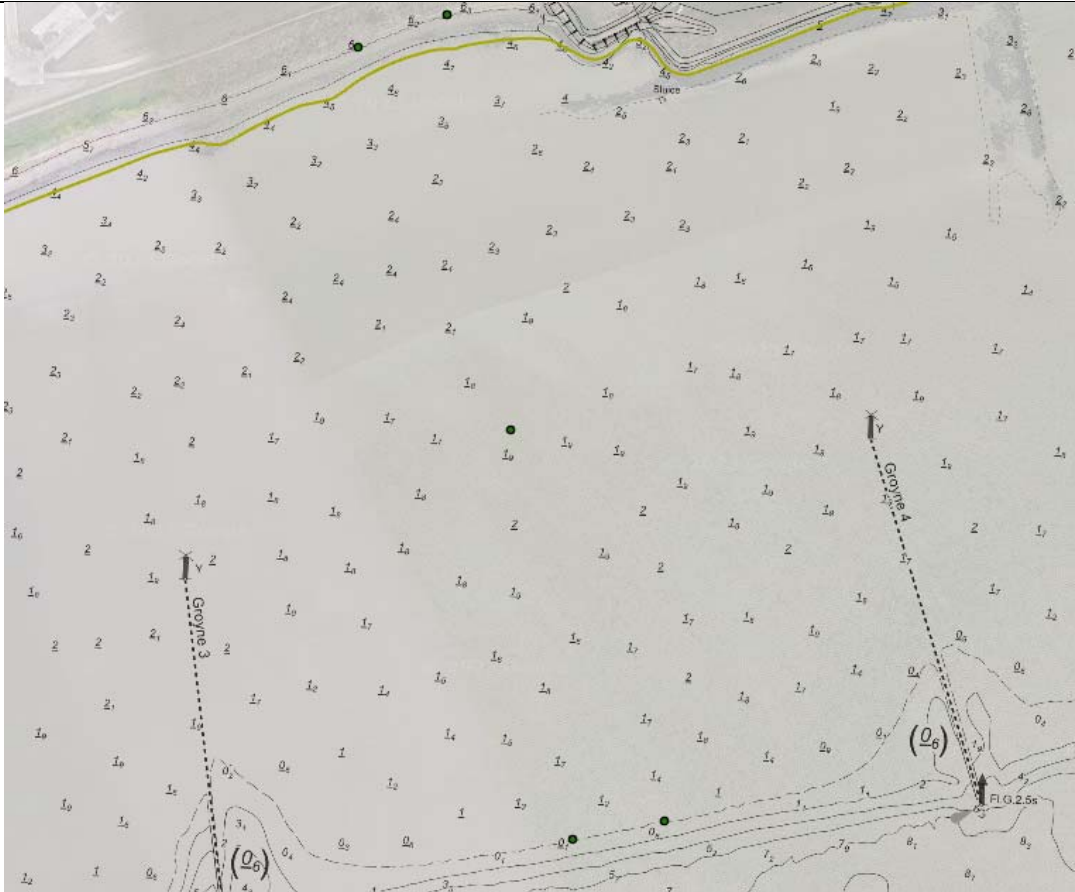
7. Tunnelling considerations

7.1 Tunnelling control measures

| Reference | Question | PLA comments |
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| Q7.1.1 | <p>Tunnelling techniques</p> <p>Do you consider that the additional controls/commitments in RDWE059 to only utilise closed face tunnelling techniques in the Code of Construction Practice [REP5-049] would be adequate? If not, please provide details and suggest updated wording for a form of tunnelling method security that you would consider to be adequate.</p> | <p>The PLA considers that the requirement to only utilise closed face tunnelling techniques is adequate in terms of design.</p> <p>As set out in the PLA's Deadline 4 response [REP4-345] the dDCO should retain flexibility in terms of the type of tunnel boring machine (TBM) to be used, up to the point of it being a closed face TBM. Limiting the choice of TBM further implies a level of knowledge of the scheme which does not yet exist.</p> <p>The security of the tunnelling method is dependent on the competent application of this design requirement during construction because there are residual risks associated with the use of closed face techniques. The PLA and the Applicant have been discussing this point in the context of paragraphs 99 and 100 of the PLA's protective provisions at Part 8 of Schedule 14 to the dDCO. Good progress has been made and whilst three points on the drafting remain to be resolved, the PLA is hopeful that with further discussions the drafting of paragraphs 99 and 100 will be agreed by Deadline 7.</p> |
| Q7.1.2 | <p>Vibration</p> <p>Do you consider that the controls in the Deemed Marine Licence in the dDCO [REP5-024] and the associated controls in the Code of Construction Practice [REP5-049] in respect of vibration for the tunnelling and associated works are</p> | <p>The PLA has previously raised concerns about inconsistencies between the application documents in relation to noise (see paragraphs 22.14-22.16 of the PLA's Written Representation [REP1-269]). These concerns remain. The points raised by the PLA previously in relation to noise are equally applicable to vibration. The controls in the Deemed Marine Licence (DML) [REP5-024] differ from the controls in the Code of Construction Practice (CoCP) [REP5-049] in relation to when piling to construct the temporary outfall can occur.</p> |

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| | <p>adequate? If not, please provide details and suggested updated wording that you would consider to be adequate.</p> | <p>The DML states at paragraph 15(2)(a): <i>“works to construct the drainage pipeline and outfall referred to at paragraph 5(1)(a), including any piling, must <u>not</u> be undertaken when <u>the work area is either fully submerged, or partially covered by water</u>”</i> (emphasis added).</p> <p>There are three issues with this. Firstly, the DML is inconsistent with the register of environmental actions and commitments (REAC): the DML states that piling must not occur when the work area is partially covered by water, but the REAC allows for piling works to be completed at low water / when the area <u>is</u> partially covered by water. Secondly, the meaning of partially covered is not clear: does it refer to being covered for part of the day, for example, or that part of the area is covered? Lastly, the work area is not defined; it is not possible to tell whether an area is “partially covered” if one does not know what that area is.</p> <p>Unlike the DML, the REAC does envisage piling works being carried out at low water or when the working area is partially covered. See for example:</p> <ul style="list-style-type: none"> - REAC MB001 <i>“Works to construct the temporary drainage pipeline and outfall from the northern tunnel entrance compound, including any piling, must not be undertaken when the work area is either fully submerged or partially covered by water where this would result in the transmission through the water column of noise and vibration...”</i> <p>As set out in chapter 9 of the Environmental Statement (ES) (APP-147) the construction of the temporary outfall could result in a 300-400m sheet pile trench being constructed across the intertidal zone. The PLA has plotted on the chart extract below the co-ordinates provided for the discharge pipeline working area as set out in the table at 5(2)(a) of the DML (these are shown as dots on the chart). This shows that the working area and therefore piling for the temporary pipeline corresponds roughly with the drying line (0m above chart datum) as shown on the PLA’s charts.</p> |
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The Proposed Lower Thames Crossing
Port of London Authority
Deadline 6 – Responses to ExQ2



Extract from PLA Charts

PLA charts show levels relative to Chart Datum which is approximately Lowest Astronomical Tide, being the lowest tide predicted over a 19 year cycle. It is therefore necessary to convert the levels from Chart Datum to Ordnance Datum to understand whether the area would be covered by water at low tide. The information provided on the PLA charts to undertake this conversion is set out below:

| Tide Details, referred to levels at Denton Wharf | Ordnance Datum | Chart Datum |
|--|----------------|-------------|
| Highest Recorded (1953) | 4.86 | 7.98 |
| Highest Astronomical Tide | 3.85 | 6.97 |
| Mean High Water Springs | 3.37 | 6.49 |
| Mean High Water | 2.80 | 5.92 |
| Mean High Water Neaps | 2.23 | 5.35 |
| Ordnance Datum (Newlyn) | ----- | 3.12 |
| Mean Low Water Neaps | -1.50 | 1.53 |
| Mean Low Water Springs | -2.49 | 0.63 |
| Chart Datum | -3.12 | ----- |
| Lowest Recorded (1987) | -3.85 | -0.73 |

At low water springs (occurring every fortnight) the most riverward point of the working area, i.e. the most southerly point to the bottom of the above extract of the PLA charts, would be covered by 0.63m on average of water. The PLA accepts that this is for the most riverward point of the discharge pipeline working area, but if the piling is proposed up to this most riverward point, it would not be possible to comply with the requirement in the DML of no piling when the area is partially covered by water as there is no point in the tidal cycle when the area would not be covered by water.

Other areas may be dry (i.e. not covered by water) at 'low water' but there will be a limited tidal window within which works can take place and by high water (approximately 6 hours after low water) the entire working area riverward of Mean High Water would be covered by water.

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| | | <p>It is important that the apparent inconsistencies between the requirements in the DML and REAC are resolved to ensure that if working needs to occur when the work area is partially covered by water that this would not be a breach of the DML.</p> <p>The PLA also maintains that the controls described in the DML and REAC are insufficient given that the effects on underwater noise and vibration from tunnelling activities on the qualifying features of the Thames Estuary and Marshes SPA and Ramsar have not been fully assessed in the Habitats Regulation Assessment (HRA) [APP-487]. This relates to issues previously raised by the PLA relating to the effects of vibration and noise of underwater feeding waterfowl (see paragraph 22.8 of the PLA’s Written Representations [REP1-269]).</p> <p>It should also be clarified what ‘partially covered’ by water means: is it a depth of water, a certain amount of time after low water, part of the working area can be wet and part dry or something else?</p> <p>Finally, the work area should be a defined are. We expect that the work area will be smaller than that enclosed by the coordinates in the table at 5(2)(a) of the DML, given that the DCO seeks to leave a level of flexibility. One solution could be for the Applicant to notify the Marine Management Organisation and the PLA of the working area before those works commence.</p> |
| Q7.1.3 | <p>Tunnel Depth Report</p> <p>Please provide an update on any further discussions in respect of the Tunnel Depth Report [REP3-146]. Please set out any outstanding areas of disagreement and what, if any additional or updated controls you would consider to be necessary.</p> | <p>The Applicant has shared an updated version of the Tunnel Depth Report (TDR) [REP3-146] with the PLA, which the PLA understands will be submitted to the examination at Deadline 6</p> <p>The updates to the TDR seek to address the PLA concerns regarding scour thickness and additionally, give the consideration requested by the PLA, to scour from propeller action. An updated sensitivity analysis has also been undertaken and the findings presented in the report.</p> <p>Subject to the report being formally submitted to the examination, the PLA is content with the technical work that has been undertaken and presented with the updated TDR. This technical</p> |

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| | | <p>work has provided the PLA with comfort that what is being shown on the plans is capable of being constructed whilst maintaining the required dredge level.</p> <p>As explained at ISH5 (tunnelling) the issue is now one of the residual risks and managing/controls in relation to construction risk, monitoring and reporting. The PLA considers the appropriate mechanism to deal with that is through paragraphs 99 and 100 of the PLA's protective provisions. As set out in relation to Q7.1.1 good progress has been made with the Applicant regarding the drafting of paragraphs 99 and 100 and whilst three points still need to be resolved, the PLA is hopeful that with further discussions the drafting of paragraphs 99 and 100 will be agreed by Deadline 7.</p> |
| Q7.1.4 | <p>Ground protection tunnel</p> <p>Do you consider that the additional controls/commitments in GS024, RDWE017, 018a and 018b of the Code of Construction Practice [REP5-049] are sufficient? If not, please provide reasoning and suggested wording for additions/updates.</p> | <p>The ground protection tunnel is located on the south side of the river and is shown as Work no. 4B on Sheet 15 of the Works Plans (Composite) [REP4-038]. Given the distance of the ground protection tunnel from the River, the PLA has no comments to make on Q7.1.4.</p> |
| Q7.1.5 | <p>Tunnelling controls</p> <p>Do you consider that any additional or updated controls are necessary in respect of the tunnelling works? If so, please provide details and suggested wording.</p> | <p>The PLA and the Applicant are in productive discussions over changes to paragraphs 99 and 100 of the PLA's protective provisions to address detailed design requirements, documentary evidence requirements and communications and dispute mechanisms to address the control of tunnelling.</p> <p>As set out in relation to Q7.1.1 and Q7.1.3 good progress has been made with the Applicant regarding the drafting of paragraphs 99 and 100 and whilst three points still need to be resolved, the PLA is hopeful that with further discussions the drafting of paragraph 99 and 100 will be agreed by Deadline 7.</p> |

8. Waste and materials

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| <p>Q8.1.3</p> | <p>Transportation of materials and waste</p> <p>Please provide an update on any further discussions/agreement in respect of using river transportation for the delivery of materials and removal of waste? In responding, please provide information in respect of:</p> <ul style="list-style-type: none"> • How river transportation could be maximised where it is appropriate; and • Where other transportation would be more efficient given the linear nature of the project? As a result of the responses provided on these points, are there any updates to the Code of Construction Practice (or other control documents) that should be made? | <p>The PLA and the Applicant met on the 20 October 2023 to discuss this matter. The meeting included a discussion regarding the PLA’s oral submission at ISH8 regarding the outline Materials Handling Plan (oMHP) [REP5-051] and the applicant’s baseline and better than baseline commitments.</p> <p>The PLA would at this stage like to emphasise the constructive nature of the discussions held on the 20 October 2023 and highlight that both the PLA and the Applicant have taken away actions from the meeting to complete.</p> <p>The PLA is conscious of the time left before the end of the examination but until the actions are completed it is not possible to usefully suggest at DL6 any updates to the oMHP. The joint aim of the PLA and the Applicant is to continue discussions and for an updated oMHP to be submitted at Deadline 7.</p> |
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