

Thames Tideway Tunnel
Thames Water Utilities Limited



Application for Development Consent

Application Reference Number: WWO10001

Examining Authority's Second Written Round of Questions and Requests for Information Response from Thames Water

Development Consent Order Drafting and Related Matters

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**Thames
Tideway Tunnel**



Creating a cleaner, healthier River Thames

Responses to second written questions Q25 Development Consent Order Drafting and Related Matters

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Abbreviations

CEMP	Construction Environmental Management Plan
CoCP	Code of Construction Practice
CSO	combined sewer overflow
DCO	development consent order
EA	Environment Agency
ExA	Examining Authority
HMP	heritage management plan
MEICA	mechanical, electrical, instrumentation, control and automation
MMO	Marine Management Organisation

1 Question: 25.1

Since Article 34(1)(a)(i) relates only to the right of temporary possession and is not a Compulsory Acquisition power in its own right, can the Applicant consider whether Article 34(8)(a) and (b) ought to be deleted or modified so as not to have the effect of Compulsory Acquisition within the terms of Article 34?

1.1 Our response

1.1.1 On 23 December 2013, we made a written submission further to the recent compulsory acquisition hearing held on 28 November 2013, which is summarised below.

1.1.2 In response to concerns expressed regarding the operation of Article 34, notably by the City of London Corporation and the Port of London Authority, we have taken the opportunity in the 9 December 2013 edition of the *Draft Thames Water Utilities Limited (Thames Tideway Tunnel) Development Consent Order 2013 (Draft DCO)* (which was issued to stakeholders for comment) to clarify our position. The proposed draft of Article 34 now reads as follows:

“Temporary use of land for carrying out the authorised project

34.—

(1) The undertaker may, in connection with the carrying out of the authorised project—

(a) enter on and take temporary possession of—

(i) the land specified in columns (1) and (2) of Schedule 14 (land of which temporary possession may be taken) for the purpose specified in relation to that land in column (3) of that Schedule 14 relating to the part of the authorised project specified in column (4) of that Schedule 14;

(ii) any other Order land in respect of which no notice of entry has been served under section 11 of the 1965 Act (powers of entry) (other than in connection with the requisition of rights only) and no declaration has been made under section 4 of the Compulsory Purchase (Vesting Declarations) Act 1981 (execution of declaration);

(b) remove any buildings and vegetation from that land that reasonably need to be removed in connection with the carrying out of the authorised project;

(c) construct works (including the provision of means of access) and buildings on that land; and

(d) construct any works specified in relation to that land in column (3) of Schedule 14, or any other mitigation works.

(2) Not less than 14 days before entering on and taking temporary possession of land under this article the undertaker shall serve notice of the intended entry on the owners and occupiers of the land.

(3) The undertaker may not, without the agreement of the owners of the land, remain in possession of any land under this article—

(a) in the case of land specified in paragraph (1)(a)(i) after the end of the period of one year beginning with the date of completion of the part of the authorised project specified in relation to that land in column (4) of Schedule 14; or

(b) in the case of land referred to in paragraph (1)(a)(ii), after the end of the period of one year beginning with the date of completion of the work for which temporary possession of this land was taken unless the undertaker has, before the end of that period, served a notice of entry under section 11 of the 1965 Act or made a declaration under section 4 of the Compulsory Purchase (Vesting Declaration) Act 1981 or has otherwise acquired the land subject to temporary possession.

(4) Before giving up possession of land of which temporary possession has been taken under paragraph 1(a)(i), unless otherwise agreed by the owners of the land, the undertaker shall remove all works and restore the land to the reasonable satisfaction of the owners of the land; but the undertaker shall not be required to—

(a) replace a building removed under this article;

(b) remove any ground-strengthening works (being either works listed in Schedule 11 of this order or other works to provide safe and stable ground conditions) which have been placed in that land to facilitate construction of the authorised development; or

(c) remove or reposition any apparatus belonging to statutory undertakers.

(5) Before giving up possession of land of which temporary possession has been taken under paragraph (1)(a)(ii), unless otherwise agreed by the owners of the land, the undertaker shall either acquire the land in accordance with the provisions of paragraph (3)(b) or remove all works and restore the land to the reasonable satisfaction of the owners of the land; but the undertaker shall not be required to—

(a) replace a building removed under this article;

(b) remove any ground-strengthening works (being either works listed in Schedule 11 of this order or other works to provide safe and stable ground conditions) which have been placed in that land to facilitate construction of the authorised development; or

(c) remove or reposition any apparatus belonging to statutory undertakers.

(6) The undertaker shall pay compensation to the owners and occupiers of land of which temporary possession is taken under this article for any loss

or damage arising from the exercise in relation to the land of the provisions of any power conferred by this article.

(7) Any dispute as to a person's entitlement to compensation under paragraph (5), or as to the amount of the compensation, shall be determined under Part 1 of the 1961 Act.

(8) Nothing in this article shall affect any liability to pay compensation under section 10(2) of the 1965 Act (further provisions as to compensation for injurious affection) or under any other enactment in respect of loss or damage arising from the carrying out of the authorised project, other than loss or damage for which compensation is payable under paragraph (6).

(9) The undertaker may not compulsorily acquire under this Order the land referred to in paragraph (1)(a)(i) except that the undertaker shall not be precluded from—

- (a) acquiring new rights over any part of that land under article 28 (compulsory acquisition of rights);*
- (b) acquiring any part of the subsoil of (or rights in the subsoil of) of that land under article 29 (acquisition of subsoil only);*
- (c) carrying out protective works under article 20 (protective work to buildings and structures) and remedial works under article 21 (remedial work to buildings, or apparatus or equipment); or*
- (d) carrying out a survey of that land under article 22 (authority to survey and investigate the land).*

(10) Where the undertaker takes possession of land under this article, the undertaker shall not be required to acquire the land or any interest in it.

(11) Section 13 of the 1965 Act (refusal to give possession to acquiring authority) shall apply to the temporary use of land pursuant to this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 of the 2008 Act (application of compulsory acquisition provisions). For the avoidance of doubt this provision shall not affect any right of an owner or lessee of that land to make a claim pursuant to Section 150 of the 1990 Act (blight).

(12) [The undertaker may not exercise the powers under this article after the acceptance date.]”

1.1.3 This clarifies that the only exceptions to the requirement to restore the land, once temporary use comes to an end, are where:

- a. a building has been removed
- b. ground strengthening works have been carried out
- c. there are apparatus belonging to statutory undertakers.

1.1.4 These exceptions apply whether the land which is subject to that temporary use is either land over which only temporary use powers may be taken (further to Article 34(1)(a)(i)), or which is subject to powers of permanent acquisition. New Article 34(5) then clarifies that if any permanent works are to be left in land which is otherwise subject to permanent acquisition, then the undertaker must acquire it.

- 1.1.5 These provisions are subject to any agreement with a landowner which may alter these provisions in respect of that landowner's land and we remain committed to seeking agreement in all cases.
- 1.1.6 In the case of temporary works in the river, protective provisions for the Port of London Authority (*Draft DCO*, Schedule 16, Part 2) secures that works packages for approval will identify not only which temporary works will be removed but how they will be removed. In the future, the Port of London Authority has ongoing powers (see Schedule 16, Part 2, para. 14) to require the removal of any works which obstruct navigation and this could apply to abandoned works.

Article 34(9)

- 1.1.7 Question 25.1 refers to 34(8) which we presume is a reference taken from the comparative version and hence refers to Article 34(9).
- 1.1.8 Article 34(9) relates only to the plots listed in Schedule 14 (ie, those referred to in Article 43(1)(a)(i)). Its effect would be such that we could not compulsorily acquire the freehold interest in those plots, but could utilise the other powers of compulsory acquisition; for example, to acquire subsoil (Article 34(9)(b)) or rights (Article 34(9)(a)) as listed in the *Book of Reference* (Doc ref: 4.3), and further we could use other powers under articles 20, 21 and 22 (Article 34(9) (c) and (d)).
- 1.1.9 Article 34(9) is ancillary to the main power of Article 34, such that where a plot is listed in Schedule 14 as being land over which temporary possession may be taken, then Article 34(9) provides that, for the avoidance of doubt, we could not compulsorily acquire the freehold interest in that plot under Article 27 but we could compulsorily acquire certain types of specific interest (as listed in the *Book of Reference*) and/or use the protective, remedial and survey powers.
- 1.1.10 Hence Article 34(9) provides clarification as to the scope of powers under Article 27.
- 1.1.11 At no point does Article 34 grant a power of compulsory acquisition; those powers are to be found elsewhere (in articles 27 and 28). The only powers to acquire new rights or subsoil plots are identified in the *Book of Reference*. Article 34 (9) (a) and (b) does not contemplate the granting of new or different powers other than those identified. Article 34 would grant a temporary possession power and it contains constraints on how that temporary possession power interacts with the powers of compulsory acquisition found elsewhere.
- 1.1.12 If Article 34(9) were deleted, then we could enter Schedule 14 land and, under 34(3)(a), we would have to relinquish possession of the land at a set time. It would not prevent us from utilising the powers of compulsory acquisition found in other articles but, in our view, the position on the overlap between powers identified would be less clear. The rationale behind listing plots of land in Schedule 14 is such that those plots can only be used temporarily and the freehold interest in that land will be handed back; however, in relation to some of those plots, there may be a need to compulsorily acquire, for example, subsoil or a right. This approach is to

avoid a disproportionate amount of freehold land-take, which we know now that we will not require permanently on a freehold basis.

- 1.1.13 If it assists the Examining Authority (ExA), it is noted that, in terms of other made DCOs that contain a power to use land temporarily for construction, equivalent wording to 34(9) can be found in the following DCOs: Network Rail Ipswich Chord and Network Rail Doncaster Chord; National Grid Kings Lynn; Galloper wind farm; M6 Link road; Hinkley C; and Rookery South.

2 Question: 25.2

Can the Applicant review whether the distinction between major and minor requirements is appropriate and proportionate?

2.1 Our response

- 2.1.1 This response is made further to and is an update of the response given in the written summary of the oral submissions made at the first DCO hearing, submitted to the ExA on 2 December 2013.
- 2.1.2 Thames Water has reviewed the distinction between major and minor requirements in the version of the *Draft DCO* submitted within the application in February and concluded that the balance was not appropriate and proportionate.
- 2.1.3 The distinction between major and minor requirements has been redefined in the version of the *Draft DCO* submitted for consultation to stakeholders on 9 December 2013 and which is included in the submission to the ExA on 13 January 2014.
- 2.1.4 The following table includes those that are now proposed as major requirements and the balance is now much greater in favour of major than minor.

Table 2.1 Major requirements

Site	Requirements
Acton Storm Tanks	ACTST2, ACTST3, ACTST6, ACTST7, ACTST8, ACTST9
Hammersmith Pumping Station	HAMPS4, HAMPS5
Barn Elms	BAREL3, BAREL6, BAREL7, BAREL8 BAREL10
Putney Embankment Foreshore	PUTEF2, PUTEF3, PUTEF4, PUTEF5, PUTEF6, PUTEF8, PUTEF10, PUTEF11, PUTEF13, PUTEF14, 15, PUTEF16, PUTEF17, PUTEF20
Carnwath Road Riverside	CARRR1, CARR3, CARRR6, CARR7, CARRR8, CARRR9, CARR10, CARR11
Dormay Street	DRMST2, DRMST3, DRMST4, DRMST7, DRMST8, DRMST9
King George's Park	KNGGP2, KNGGP3, KNGGP6, KNGGP7, KNGGP8, KNGGP9, KNGGP10, KNGGP13
Falconbrook Pumping Station	FALPS2, FALPS5, FALPS6, FALPS7, FALPS8
Cremorne Wharf Depot	CREWD2, CREWD3, CREWD4, CREWD5, CRWED6, CREWD7, CREWD10, CREWD11, CREWD12
Chelsea Embankment Foreshore	CHEEF3, CHEEF4, CHEEF5, CHEEF6, CHEEF7, CHEEF8, CHEEF9, CHEEF10, CHEEF11, CHEEF13, CHEEF14, CHEEF15, CHEEF16

Site	Requirements
Kirtling Street	KRTST2, KRTST3, KRTST7, KRTST8, KRTST9 KRTST10, KRTST11, KRTST12, KRTST14
Heathwall Pumping Station	HEAPS2, HEAPS3, HEAPS4, HEAPS5, HAEPS6, HEAPS9, HEAPS10, HEAPS11, HEAPS12, HEAPS16
Albert Embankment Foreshore	ALBEF2, ALBEF3, ALBEF4, ALBEF5, ALBEF6, ALBEF8, ALBEF9, ALBEF10, ALBEF11, ALBEF12, ALBEF14, ALBEF15, ALBEF16, ALBEF17
Victoria Embankment Foreshore	VCTEF2, VCTEF4, VCTEF5, VCTEF6, VCTEF7, VCTEF9, VCTEF10, VCTEF12, VCTEF13, VCTEF14, VCTEF16, VCTEF17, VCTEF18, VCTEF19, VCTEF20
Blackfriars Bridge Foreshore	BLABF2, BLABF4, BLABF5, BLABF6, BLABF10, BLABF11, BLABF13, BLABF14, BLABF15, BLABF16, BLABF17, BLABF19, BLABF20, BLABF21, BLABF22, BLABF24, BLABF25
Shad Thames Pumping Station	SHTPS2, SHTPS3, SHTPS5, SHTPS6, SHTPS7
Chambers Wharf	CHAWF2, CHAWF3, CHAWF4, CHAWF5, CHAWF6, CHAWF7, CHAWF10, CHAWF11, CHAWF12, CHAWF13
Earl Pumping Station	EARPS2, EARPS3, EARPS6, EARPS7, EARPS8
Deptford Church Street	DEPCS2, DEPCS3, DEPCS4, DEPCS5, DEPCS6, DEPCS7, DEPCS8, DEPCS9, DEPCS12
Greenwich Pumping Station	GREPS2, GREPS3, GREPS4, GREPS7, GREPS10, GREPS11, GREPS12
King Edward Memorial Park Foreshore	KEMPF2, KEMPF3, KEMPF4, KEMPF5, KEMPF6, KEMPF7, KEMPF8, KEMPF9, KEMPF10, KEMPF12, KEMPF13, KEMPF14, KEMPF16
Bekesbourne Street	BEKST3, BEKST5
Abbey Mills Pumping Station	ABMPS2, ABMPS3, ABMPS5, ABMPS6
Beckton Sewage Treatment Works	BESTW2, BESTW3, BESTW4

2.1.5 Minor detailed requirements are defined as requirements, other than major detailed requirements, which require any consent, agreement or approval of a discharging authority or permit the discharging authority to agree or approve matters otherwise than provided for in the requirement.

2.1.6 The implication of a requirement being classed as major or minor relates to the decision-making timescale, which is eight and five weeks respectively. We are preparing a consents management plan, which we intend to send to stakeholders for consultation in mid-January. This will include details of timescales and procedures for obtaining all necessary consents and approvals for the discharging of all obligations contained within the DCO, including timescale for pre-application consultations. It should be noted that the DCO does not provide for deemed consents but instead provides for deemed refusals, and hence if a decision is not made

within the timescales then Thames Water must decide if and when to appeal.

2.1.7 The distinction between major and minor is based on our professional judgement of the level of effort involved for the discharging authority, considering factors such as the consultations required, the scope and significance of the matters to be approved, and the sensitivity of the site (eg, heritage designations).

2.1.8 We have sought consistency between sites in applying this judgement and major requirements are generally everything except details related to archaeology, drainage, lighting details and landscaping details (small scale only, ie, excluding heritage locations, foreshore sites and sites within parks and open spaces).

2.1.9 We have also had regard to established precedent for this distinction in the form of the made order for the Hinkley Point C Power Station. The scale of the task facing each individual authority in terms of the number of major detailed requirements, and also in terms of the number of requirements overall for each site and groups of sites within authorities, is certainly not materially worse than it was in the Hinkley case. In most cases, it is significantly better and London authorities are typically larger, with more resources at their disposal. For this reason, we consider that the approach used for the Hinkley DCO is a suitable comparator and that the distinction between major and minor is now appropriate and proportionate.

3 Question: 25.3

Q 25.03 Can the Applicant review whether a bespoke appeals procedure is appropriate and proportionate?

3.1 Detailed response

- 3.1.1 This response is made further to and is an update of the response given in the written summary of the oral submissions made at the first DCO hearing, submitted to the ExA on 2 December 2013.
- 3.1.2 The Planning Act 2008 does not provide any mechanism or system for the discharge of requirements or appeals (and nor did the *DCO Model Provisions*). It was necessary therefore to make provision in the *Draft DCO* itself, hence we have included the provision in Schedule 17, paragraph 4, building on those schemes for discharge of conditions, etc, which were already in existence. The approach that was taken in the case of Hinkley Point C, which was also the approach taken for this project, is to take the basic framework relating to standard written appeals¹, but to provide an expedited version in terms of the timescales.
- 3.1.3 An important consideration is that the appeal process is seen as very much a last resort. Any appeal is going to involve delay and cost, and introduce uncertainty. There is every incentive to avoid appeal for the contractor and employer because it drives their costs up and introduces the risk of delay and additional uncertainty. This is consistent with one of the main criticisms of the planning process for major infrastructure process² which led to the introduction of the Planning Act, 2008, namely that “*the planning system is too bureaucratic, takes too long and is unpredictable*”.
- 3.1.4 The proposal is bespoke only in terms of the detail, in that it is based on the written appeals procedure under the normal Town and Country Planning Act (TCPA) planning process but seeks effectively to strike a slightly different balance in the particular context of the urgently needed Thames Tideway Tunnel. It takes as its essential model the existing appeals procedure, but the particular advantage of it being bespoke is that it has been put together in a way that balances the twin interests of fairness and expedition that are essential to this development in the context of its designation as a nationally significant infrastructure project (NSIP).
- 3.1.5 The appeals process is confined to writing to encourage an expeditious process. If an appeal moves from writing into hearings or inquiries, then it introduces potentially significant additional delay. This is in the context of the overall objective of the Planning Act system and the objective of the

¹ SI No. 452, 2009, The Town and Country Planning (Appeals) (Written Representations Procedure) (England) Regulations 2009

² Para. 1.18, *Planning for a Sustainable Future White Paper*, May 2007, The Secretary of State for Communities and Local Government, The Secretary of State for Environment, Food and Rural Affairs, The Secretary of State for Trade and Industry and The Secretary of State for Transport

NPS that delay is to be avoided if it can be reasonably balanced with the public interest.

3.1.6 The NPS states at para. (a)1.3.8, page 68, that: *“The unique scale and complexity of the development will lead to an equally large and complex planning process”*, and, *“The Government has a clear interest in ensuring that the planning process goes as smoothly as possible to ensure there are not significant delays in addressing the problems caused by these sewage overflows, while ensuring the process is transparent and that all interested points of view are heard and considered properly.”* This policy incentive is an important point of principle which has informed the proposals.

3.1.7 A comparison of the respective timescale proposed in the *Draft DCO* and in the written representation procedure is set out in Table 3.1 below:

Table 3.1 Comparison of timescales proposed

DCO: Schedule 17	Written representations
Appellant Case – with Appeal (Sch 17, 4(2)(a))	Appellant Case – with Appeal Para. 14.1
Secretary of State appoints Inspector – “as soon as possible” (Sch 17, 4(2)(b))	Secretary of State appoints Inspector – “as soon as practicable” Para. 11
LPA and Consultee case – 10 business days (Sch 17, 4(2)(c))	LPA case – within 2 weeks of start Para. 13.1 OR within 6 weeks of start date Para 14 (3)
	Third party representations – within 6 weeks of start Para. 15.1
Appeal parties counter submissions – 10 business days from above (Sch 17 para 4(2)(d))	Appeal parties counter submissions – within 9 weeks of start Para. 14.6

3.1.8 These modifications to the timescales contained within the written representations procedure are relatively minor and are considered proportionate and appropriate, given the NPS policy position regarding the urgency of the project and the considerable importance of rapid delivery in the public interest.

3.1.9 The matters in relation to which an appeal can be made under Schedule 17 paragraph 4 are greater than just requirements, and include appeals in respect of deemed marine licences, protective provisions, notices under the Control of Pollution Act and requests for further information relating to the Requirements in Schedule 3. These provisions are considered proportionate and appropriate, for the reasons already addressed in oral submissions at the DCO hearings, including the designation of the project as an NSIP and the NPS policy position regarding the urgency of the project.

- 3.1.10 It is noted that one of the six key principles behind the proposals to improve the way key infrastructure projects are dealt with³, is namely: “*Streamline the procedures for infrastructure projects of national significance by rationalising the different development consent regimes and improving the inquiry procedures for all of them. This will harmonise requirements on developers and, as far as possible, create a single application process for all of the development authorisations needed for nationally significant infrastructure projects..... and imposing statutory time limits on the entire process.*” In the event that the bespoke appeals process was not included in this case, the DCO would need, at the very least, to make provision in relation to appeals, and it is submitted that the alternative of appeals in hearings or inquiries would introduce the risk of potentially significant additional delay and would not be appropriate, given the context of the overall objective of the system and the objective of the NPS in this case, such that delay is to be avoided if that can be reasonably balanced with the public interest.
- 3.1.11 There are opportunities for public involvement at both pre-application consultation stage and when authorities receive the application itself. Bearing in mind that the decision in principle would have been taken by the Secretary of State at the DCO decision stage, the procedures relating to discharge of requirements and the appeal process are effectively approval of details. The opportunities for public involvement proposed are therefore considered appropriate and proportionate.
- 3.1.12 Equally, the scope of the power of the decision-maker on appeal is modelled on the scope of the power of the decision-maker on appeal under the existing procedures under the Town and Country Planning Act. The test that is to be applied in any appeal, in terms of the balance of evidence and judgment, would depend upon the individual requirement. As in the Town and Country Planning Act appeals procedure, there is no burden of proof per se, and the Inspector or Secretary of State on appeal would consider the appeal in the same way as if the application had been made to him in the first instance.
- 3.1.13 Save where a requirement specifies a matter to be taken into account in reaching a decision, the appointed person would have to determine acceptability simply having regard to all material considerations. The appeals would be made pursuant to a statutory instrument under the Planning Act 2008. Unlike the Town and Country Planning Act system, the development plan would not be the starting point and the NPS would have a particular role as a material consideration (although Section 104 of the Planning Act 2008 would not apply as this would not be a decision whether or not to grant a DCO). Any relevant part of the *Environmental Statement*, and any part of the panel’s report and the Secretary of State’s decision which dealt with the subject matter of the requirement would also be material matters. Beyond that, the decision as to which considerations

³ Para. 2.13(d), *Planning for a Sustainable Future White Paper*, May 2007, The Secretary of State for Communities and Local Government, The Secretary of State for Environment, Food and Rural Affairs, The Secretary of State for Trade and Industry and The Secretary of State for Transport

are material in each case, and the weight to be attached to them, is left to the discretion of the decision-maker.

- 3.1.14 The authority, when the application is made to it, would have to form the judgment of whether it had enough information in order for it to make a reasonably informed decision on the application. That information would then be made available through the appeals process to the determining body. If the determining body took the view that it needed more information on any matter that was germane to its decision, then it would have the opportunity to make a request. In the event of non-determination, the decision-maker, on appeal, would have the opportunity to request further information if that which had been submitted with the application was felt to be insufficient in some way.
- 3.1.15 In conclusion, for all these reasons, we consider that the proposed approach to appeals, based on the written representations procedure, is both appropriate and proportionate.

4 Question: 25.4

Can the Applicant provide a definition of “physically impossible” and explain how it would be included in the CoCP and applied in practice?

4.1 Our response

- 4.1.1 Analysis of the ground conditions at Chambers Wharf, and consultation with industry specialists, has determined that low vibration ‘press piling’ techniques can be used for sheet pile installation.
- 4.1.2 The term ‘physically impossible’ can be applied to piles which, as part of the press piling operation, will need to be driven by other means, or cannot be driven to the required depth, as a result of an obstruction.
- 4.1.3 For press piling, the technique requires the first two or three piles to be driven to depth independently by traditional methods, either by vibration or percussion, to form anchor piles as a reaction base on which the press piling rig sits. Our response to question 29.18 (para. 1.1.2) describes this process in more detail.
- 4.1.4 In the case of Chambers Wharf, the anchor piles will be installed at a location away from the closest residential receptors, including Luna House and 8-14 Fountain Green Square.
- 4.1.5 Obstructions which would make it impossible to drive piles using low vibration techniques could be either man-made, such as metallic objects or historic timber marine structures; or naturally occurring material, such as claystone bands (found in London Clay) and calcrete layers (found at greater depths).
- 4.1.6 As also described in our response to questions 29.17 and 29.18, the risk of such an occurrence is significantly reduced or mitigated by either:
- physically excavating the obstruction should the depth allow and/or
 - pre-auguring before using low noise or low vibration techniques to install the piles.
- 4.1.7 High-pressure water jetting, in conjunction with low noise low vibration piling, is a technique now commonly used for loosening and clearing obstructions ahead of the pile.
- 4.1.8 While random layers of claystone can be found at any depth in London Clay, more significant bands are generally found beyond the depth that piles would be driven at any of the foreshore sites.
- 4.1.9 Calcrete layers are more common in the Lambeth Group materials, at depths beyond any requirements for sheet piling.
- 4.1.10 Analysis of the ground conditions at Chambers Wharf, at the depth through which piles would be driven, has not identified man-made obstructions or naturally occurring materials which would prevent the use of low noise or low vibration techniques.

- 4.1.11 The risk, however low, of occurrences where it will be impossible to drive piles by low vibration techniques remains, particularly for anchor pile installation, where traditional vibration and/or percussion may need to be applied.
- 4.1.12 This commitment to use low vibration piling methods, unless determined to be impossible, will be secured through an amendment to the [Code of Construction Practice \(CoCP\) Part B for Chambers Wharf](#) (Doc ref: 9.22.17), and will include the requirement to install anchor piles at locations away from the nearest receptors.

5 Question: 25.5

Q25.5 Should the same definition be applied at other sites where there is a risk of significant vibration and noise impacts from piling and, if not, why not?

5.1 Our response

- 5.1.1 With reference to our response to second written question 25.4, the answer to question 25.5 is yes – ie, low vibration piling methods would be used at all sites unless ‘physically impossible’.
- 5.1.2 Moreover, low vibration press piling techniques are applicable at all sites.
- 5.1.3 Analysis of the ground conditions at all other sites, and consultation with industry specialists, has determined that low vibration ‘press piling’ techniques can be used for sheet pile installation.
- 5.1.4 However, as described in our response to question 25.4, there is a requirement for anchor piles to be installed first as part of the low vibration press piling technique, for which traditional vibration or percussion methods may be required.
- 5.1.5 Similarly, at all other sites, analysis at the depth to which piles will be driven has not identified any manmade obstructions or naturally occurring materials that would prevent the use of low noise/low vibration techniques.
- 5.1.6 Again, reference should be made to our response to question 25.4 with regard to the likelihood and mitigation of such obstructions.
- 5.1.7 The commitment to use low vibration piling methods, unless determined to be impossible, will be secured through amendment to the *CoCP* Part B for all other sites, and will include the requirement to install anchor piles at locations away from the nearest receptors.

6 Question: 25.6

How would the obligation to install noise mitigation measures before construction starts be secured in the DCO and how would this be ensured in relation to off-site assets/receptors?

6.1 Our response

6.1.1 We propose to include a project-wide DCO Requirement PW16 which will state:

“No authorised development shall be commenced unless and until the Undertaker has entered into the Thames Tideway Tunnel Offsite Mitigation and Compensation Policies Undertaking”.

6.1.2 We are preparing the unilateral undertaking to be given to all of the local authorities pursuant to Section 106 of the Town and Country Planning Act 1990, which will oblige Thames Water to comply with the *Non statutory off-site mitigation and compensation policy* (included in the submission on 13 January 2014). We propose that it should include (subject to discussion with the local authorities and subsequent amendment) the following obligation:

“Not to cause or permit the commencement of any individual work or works forming part of the Development in respect of which mitigation or compensation measures are required to be implemented further to the NSMCP unless and until those measures have been completed PROVIDED THAT where the Undertaking has complied with the NSOMCP Process Timescales this restriction shall not apply where:

- a. any person entitled to the measures fails to comply with the NSOMCP Process Timescales;*
- b. any owner or occupier of the property which qualifies for mitigation or compensation measures objects to such measures being completed;*
- c. access to property for the purpose of completing the mitigation or compensation measures is refused or unreasonably delayed beyond the deadlines set in the NSOMCP Process Timescales by the owner or occupier of the property to which access is required;*
- d. the owner or occupier of the property which qualifies for mitigation or compensation measures confirms in writing to the Undertaking that they do not wish those measures to be provided;*
- e. any Necessary Consents required for the completion of works are not forthcoming, which for the purposes of this Undertaking shall mean received the relevant organisation or authority within the timescales set for such consents and for which the Undertaking shall have no obligation to appeal; or*
- f. any owner or occupier of the property refuses to be rehoused in circumstances where that is the mitigation or compensation that they*

would be due under the terms of the Non-Statutory Offsite Mitigation and Compensation Policy

and for the avoidance of doubt the Developer shall not be prevented under this paragraph from commencing or carrying out any works forming part of the Development where no such mitigation or compensation measures are required under the Non-Statutory Offsite Mitigation and Compensation Policy”.

- 6.1.3 The approach relating to the unilateral undertaking and a draft form of the deed is included as part of the 13 January 2014 submissions.

7 Question: 25.7

Explain how the formation of the CLWG and the mitigation strategies developed by the group would be secured in the DCO. Is it the Applicant's intention to put in place similar arrangements at other sites and, if not, why not?

7.1 Our response

- 7.1.1 As stated in [Thames Water's Response to Written Representation from CoCP Joint Borough Representation](#) (Doc ref: APP31.14, p.181), the details of the community liaison working groups are yet to be refined. We have carefully considered the communications roles performed by the team at Crossrail and it is our intention to establish these working groups as required for sites across the main tunnel route. The remit and membership of these roles will be discussed and agreed with the relevant local authority.
- 7.1.2 The [CoCP Part A](#) (Doc ref: 9.20.01, September 2013), Section 3, contains details of community liaison and includes an outline of how the groups will be implemented. Compliance with the CoCP Part A is enforceable by virtue of DCO Requirement PW6 contained within Schedule 3.
- 7.1.3 The formation of the community liaison working group for the Chambers Wharf area will be the subject of future discussions with the London Borough of Southwark and the existing community groups. However, we intend to establish the beginnings of this group before the determination of the application.
- 7.1.4 In addition to any community liaison working groups that will be set up (as required), we have also contacted a number of community representatives to discuss our compensation and mitigation policies, in order to further understand how we can help those affected and to promote our policies to the local community. These meetings will take place in January and February 2014 and be for the sole purpose of advising and updating on mitigation and compensation. We expect that these meetings will help all parties determine the membership of a future community liaison working group.

8 Question: 25.8

Q25.8 What would be the implications for the construction programme at each site, and the overall construction programme, if Saturday working was not permitted at non-drive sites, except for any period of continuous working required for construction of the connection tunnels?

8.1 Summary response

- 8.1.1 The expected implications for the construction programme at each site and the overall construction programme if Saturday working is not permitted at non-drive sites, except for any period of continuous working required for construction of the connection tunnels, are shown in Table 8.1.
- 8.1.2 In summary, the forecast implications (excluding additional programme risk) include:
- an increase in site-specific durations of up to five months
 - an increase in total project duration of three months
 - an increase in intensity of planned lorry and vessel movements between Monday and Friday, with consequential environmental impacts due to not working on Saturday mornings.

8.2 Detailed response

- 8.2.1 The proposed construction programme allows for a 5.5-day working week, which includes five days of full production and half a day for production, other activities, and overrunning activities carried out on Saturday mornings. This working arrangement is covered in the CoCP parts A and B (Doc refs: 9.21 and 9.22). We consulted relevant local authorities on working hours and incorporated their feedback.
- 8.2.2 Typically, work on Saturday mornings would include works such as concrete pours, servicing site plant and equipment, changes to equipment, and plant and tunnel maintenance.
- 8.2.3 The hours proposed in the CoCP parts A and B are in line with local authority published standard working hours for construction work. Where impacts have been identified at specific sites, the CoCP Part B sets out various constraints, eg, no lorry movements at Barn Elms and no vessel movements at Putney Embankment Foreshore.
- 8.2.4 We carried out an assessment of the programme implications of changing from a 5.5-day to a five-day working week at non-drive sites. The change assumes 4.5 days' full production and a half day for activities on a Friday afternoon at non-drive sites that would have been carried out on a Saturday.
- 8.2.5 The assumption was that a five-day working week would include (but not be limited to) all surface works, foreshore works, earthworks, shaft

construction and MEICA (mechanical, electrical, instrumentation, control and automation) work. We also assumed a seven-day working week for all underground works, which would include (but not be limited to) construction of all main tunnels, all long connection tunnels and all short connection tunnels.

8.2.6 The effect of restricting the production week is shown in Table 8.1, which demonstrates the change in working site durations.

Site-specific implications

8.2.7 If no Saturday working was permitted, on the terms outlined in the question, the specific issues related to sites would be as follows:

- a. Acton Storm Tanks, Blackfriars Bridge Foreshore, King Edward Memorial Park Foreshore, Deptford Church Street and Earl Pumping Station, which are online combined sewer overflow (CSO) sites. (Note that the Hammersmith Pumping Station CSO drop shaft would be offline, but it would have an online access maintenance chamber):
 - i Additional time would be required to complete any foreshore works, surface works, shaft sinking and preparation to receive the tunnel boring machine for the main tunnel. This would need to be completed in advance to prevent delays to critical tunnelling activities.
 - ii Additional time would be required to complete construction of any permanent walls, removal of any temporary foreshore works, surface works, shaft secondary lining, internal structures and roof slabs, local dry testing local MEICA/SCADA (supervisory control and data acquisition) site finishing, reinstatement and demobilisation.
 - iii The effect would be to increase the construction durations at these sites, as indicated in Table 8.1. Work at these sites would need to commence earlier than currently planned, but would have no effect on the overall construction programme.
- b. Barn Elms, Putney Embankment Foreshore, Falconbrook Pumping Station, Cremorne Wharf Depot, Chelsea Embankment Foreshore, Heathwall Pumping Station, Albert Embankment Foreshore and Victoria Embankment Foreshore, which are offline CSO sites:
 - i Additional time would be required to complete any foreshore works, surface works, shaft sinking and connection tunnels. The current programme indicates that the connection to the main tunnel would be carried out one month after the tunnel boring machine for the main tunnel passes the connection. This provides an opportunity for early access and completion of junction works sequentially. Work at these sites would need to commence earlier than currently planned, but would have no effect on the overall construction programme.
 - ii As a.ii above.

- iii The effect would be to increase the construction durations at these sites, as indicated in Table 8.1.
- c. Abbey Mills Pumping Station:
 - i As a.i above, but without any foreshore works.
 - ii Additional time would be required to complete the removal of the temporary bulkhead (connection works), local dry testing, local MIECA/SCADA site finishing, reinstatement and demobilisation.
 - iii The connection works at Abbey Mills Pumping Station are on the construction programme critical path. The effect would be to increase the construction duration at this site, as indicated in Table 8.1, and to increase the overall construction programme.
- d. Hammersmith Pumping Station:
 - i As a.i above
- e. Beckton Sewage Treatment Works:
 - i Additional time would be required to complete surface works, siphon shaft sinking and preparation to drive the siphon tunnel.
 - ii Additional time is required to complete surface works, final connection works, local dry testing, local MIECA/SCADA site finishing, reinstatement and demobilisation.
 - iii Connection works would need to be carried out at the same time as at Abbey Mills Pumping Station and are therefore also on the construction programme critical path. The effect therefore would be an increase in the construction duration at this site, as indicated in Table 8.1, and an increase in the overall construction programme similar to Abbey Mills Pumping Station.
- f. Shad Thames Pumping Station and Bekesbourne Street:
 - i Additional time would be required for all of the works.
 - ii The effect would be to increase the construction durations at these sites, as indicated in Table 8.1.
- g. Carnwath Road Riverside, Kirtling Street, Chambers Wharf and Greenwich Pumping Station, which are drive sites:
 - i We assumed no change to the 5.5-day working week for tunnelling activities.
 - ii The effect therefore would be no change to site construction durations or project construction programme.

Overall construction programme implications

- 8.2.8 The overall implications for the construction programme would be due to any effect on the critical path, which would extend the project construction duration. This excludes the final commissioning stage, which would last ten months.

- 8.2.9 Critical activities would include:
- a. Abbey Mills Pumping Station: Removal of the temporary bulkhead
 - b. Beckton Sewage Treatment Works: Connections at the initial commissioning stage.
- 8.2.10 The overall increase in the project duration is expected to be three months. This increase does not include the increased risk associated with many more extended/delayed activities that would be closer together and, therefore, have a greater potential to impact on the critical path and extend the total project duration.

Expected construction programme implications

- 8.2.11 The table overleaf shows the increases in durations of site works due to the removal of Saturday morning working and identifies the sites where the increase in duration is greater than previously consulted on and assessed in the *Environmental Statement* (Doc ref: 6.2).

Table 8.1 Expected implications for construction programme

Site	Planned construction programme duration in months	Revised construction programme duration in months	Increase in months	Comment
Acton Storm Tanks	39.9	42.8	2.9	Earlier start and late finish 0.8 months over consulted period
Hammersmith Pumping Station	35.8	37.5	1.7	Earlier start and late finish 1.5 months over consulted period
Barn Elms	29.8	31.8	2	Earlier start and late finish 1.8 months over consulted period
Putney Embankment Foreshore	40.2	43.3	3.1	Earlier start and late finish 1.3 months over consulted period
Carnwath Road Riverside	71.4	71.4	0	Drive site 0.2 months over consulted period
Dormay Street	35.9	35.9	0	Drive site
King George's Park	26	27.4	1.3	Earlier start and late finish
Falconbrook Pumping Station	35.4	37.7	2.3	Earlier start and late finish 1.7 months over consulted period
Cremorne Wharf Depot	35.7	37.7	2.1	Earlier start and late finish 1.7 months over consulted period
Chelsea Embankment Foreshore	40.5	44.1	3.6	Earlier start and late finish
Kirtling Street	71.9	71.9	0	Drive site
Heathwall Pumping Station	36.4	39.3	2.9	Earlier start and late finish

Question: 25.8

Site	Planned construction programme duration in months	Revised construction programme duration in months	Increase in months	Comment
Albert Embankment Foreshore	39.1	42.5	3.5	Earlier start and late finish 0.5 months over consulted period
Victoria Embankment Foreshore	52.6	57.6	4.9	Earlier start and late finish 3.6 months over consulted period
Blackfriars Bridge Foreshore	59.2	64	4.8	Earlier start and late finish 4 months over consulted period
Chambers Wharf	71.8	71.8	0	Drive site
King Edward Memorial Park Foreshore	41.6	45.3	3.7	Earlier start and late finish 3.3 months over consulted period
Abbey Mills Pumping Station	30	33	3	Earlier start and late finish Effects the overall construction programme by 3 months
Greenwich Pumping Station	65.6	65.6	0	Drive site
Deptford Church Street	35	37.9	2.9	Earlier start and late finish
Earl Pumping Station	47.4	49.5	2.1	Earlier start and late finish 1.5 months over consulted period
Bekesbourne Street	7	7.6	0.6	Earlier start and late finish 0.6 months over consulted period
Shad Thames Pumping Station	18.0	19.8	1.8	Earlier start and late finish 1.8 months over consulted period
Beckton Sewage Treatment Works	37.7	41.2	3.4	Earlier start and late finish

9 Question: 25.9

Can the Applicant review what the appropriate body for approving the construction environment management plan; site-specific river transport management plans; site specific ecology and landscape management plans; method statements for foreshore re-instatement and site-specific heritage management plans ought to be, having regard to the level of interest these matters may have to the public and/or their environmental implications?

9.1 Our response

9.1.1 We have reviewed the *CocP* and what we believe to be the appropriate body (the employer) for approving the Construction Environmental Management Plan (CEMP) and its component parts.

9.1.2 The [CoCP Part A](#) (Doc ref: 9.21.01, Section 2.3, pp. 3 to 5) has been updated to reflect the changes made in light of this review, and is included in the 13 January 2014 submission. This text is as follows:

“The Construction Environmental Management Plan (CEMP) will be prepared by the contractors to set out details of the practical execution of the construction works and the implementation of the environmental management measures. Contractors will be required to provide the CEMP to the employer for review and approval to ensure that controls set out in the CoCP (Parts A and B), all relevant Requirements, Obligations and Marine Licence Conditions, will be adequately addressed during the works.

“The CEMPs will be produced in advance of construction works commencing at a site, and a draft CEMP shall be provided to the relevant local planning authority, the EA and HBMCE for consultation, that shall be for not less than two weeks. Observations made by statutory bodies will be taken into account to ensure compliance with the controls put in place to manage and limit construction-related impacts. The final CEMPs shall then be made available to the relevant LPA before commencement of construction works.

“The CEMP will provide a consolidated document that details the general site layout and operations, working hours, site lighting, security, emergency planning and response, fire prevention and control, utility works and worker access and welfare. The CEMP draws on information contained within other management plans that are subject to approvals from the relevant approving authority. When a change is made to an individual plan (eg. Air Quality Management Plan), this would require the approval from the relevant approving authority detailed for this plan.”

9.1.3 Section 2.3.3 of the *CoCP* has been updated to clarify where any individual management plans relate to requirements. We believe that this is the appropriate manner for these documents to be approved, as has been demonstrated on other large projects within London (eg, Crossrail, Olympics). This approach ensures that the relevant approving authority has control over the approval of items that are relevant to them.

- 9.1.4 The CoCP Part A draft (13 January 2014, APP72.1) has been updated with regards to the site-specific management of river transport. The detail surrounding this plan is a duplication of what is covered by the protective provisions, related legal agreement and the transport strategy, so replacement text has been incorporated, stating: *“For each relevant worksite proposals for the management of river transport will be produced. These proposals will be put forward further to the protective provisions in the DCO and the related legal agreement with the PLA and other river regulators (ie, EA, MMO), and further to the sustainable freight transport provisions of the transport strategy.”*
- 9.1.5 The CoCP Part A draft (13 January 2014, APP72.1) has been updated to state that the site-specific ecology and landscape management plan will be produced: *“in consultation with the relevant stakeholders, and for approval by the employer”*.
- 9.1.6 The CoCP Part A draft (13 January 2014, APP72.1) now has new paras. 4.7.1 to 4.7.4 added to reflect the text put forward by the Marine Management Organisation (MMO), relating to method statements for foreshore reinstatement. It now states: *“All works in the river or foreshore below mean high water mark will have to be approved by the MMO further to conditions on the deemed Marine Licence included in the development consent order and the protective provisions in the DCO in favour of the EA and the PLA”* and *“Prior to removal of any temporary works from the river or foreshore, the contractor will provide further information to the MMO, the PLA and the EA”*. One of the elements that this includes is the reinstatement methodology and material.
- 9.1.7 The site-specific heritage management plan (HMP) is approved by the employer by means of CEMP approval. The heritage matters requiring consent will be through DCO Requirements (for example, details of works to designated assets) and any protection or restoration measures of designated assets would be submitted through archaeological works and recording of built heritage assets (these details will include method statements outlining relevant working practices). The HMP is the method by which the contractor will set out how it will do the works, bringing together what it must get approved through the Requirements, so does not add anything in terms of protection to heritage assets. We have added that the HMP will be provided to the Historic Buildings and Monuments Commission for England, and the relevant local authority for information, to para. 12.2 of the CoCP Part A draft (13 January 2014, APP72.1) as there is nothing else left for an authority to approve.
- 9.1.8 We will continue to develop an engagement plan, where approving stakeholders will be involved with the development of how the plans are produced. This will include forums and working groups that will be established over the coming months, in order to ensure that all timetables and methodology for consultation and approval of plans can be agreed ahead of construction.

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