



Teddington Direct River Abstraction Project Section 35 Statement

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Rev P02

1. Introduction

- 1.1 This document represents a 'qualifying request'¹ for a direction under Section 35 of the Planning Act 2008 (the PA2008) for the 'principal' elements of the proposed Thames Water Utilities Ltd (TW) Teddington Direct River Abstraction (TDRA) drought resilience project (the Project) to be treated as development for which development consent is required.
- 1.2 This qualifying request has been arranged over 7 sections, including this introduction, as follows:
1. Introduction – this section
 2. National, regional and Thames Water context and the case for national significance and the need for a Section 35 Direction
 3. Project description and location
 4. Regulator and stakeholder engagement
 5. Qualifying request requirements
 6. Case for national significance
 7. Conclusion
- 1.3 A glossary of terms used through this request is included at Appendix A.
- 1.4 A draft of the Section 35 Direction sought for the Project has been included at Appendix B.
- 1.5 A brief description of and initial site plans for the proposed Project are included at Appendix C

¹ Section 35ZA of the PA2008

2. National, regional and Thames Water context and the need for a Section 35 Direction

National context

- 2.1 TW is the appointed water and sewerage undertaker (for the purposes of the Water Industry Act 1991) for over 10 million customers in the South of England across areas including the whole or parts of London, Surrey, Hampshire, Gloucestershire, Wiltshire, Berkshire, Buckinghamshire, Bedfordshire, Hertfordshire, Essex, Kent, and East and West Sussex.
- 2.2 Within Thames Water's catchment the London Water Resource Zone itself is a large, conjunctive use zone, involving both surface water and groundwater abstraction. The zone is supplied by surface water resources, whereby water from the River Thames and River Lee is abstracted into large reservoirs in west London and north east London, respectively, before treatment at water treatment works and subsequent distribution. There is around 165,000 megalitres (MI) of storage in west London spread across 10 reservoirs. Supply in south east London is dominated by groundwater sources. There are around 30 sources across this area, which together supply up to around 300 megalitres per day (MI/d).
- 2.3 The region has a large population and receives comparatively little rainfall in comparison with other regions and so is considered water stressed. Whilst new sources of groundwater are in the process of being identified, these will not yield sufficient supply to ensure a secure and sustainable water supply for future generations.
- 2.4 Accordingly, TW, alongside many other water companies in England, has identified the need, through its existing and revised draft Water Resources Management Plan (WRMP) to invest in new sources of water over and above new groundwater sources. In tandem, the Environment Agency's "Meeting our future water needs: a national framework for water resources" (March 2020) (the National Framework) plans for England's future water needs and sets out actions required to ensure resilient water supplies. It is also reported that if no action is taken between 2025 and 2050, approximately 3.435 million extra litres of water per day will be required in England to address future pressures^{2,3}. Within this context, the scale of the future water resources required for TW's catchment demands that it takes a strategic approach to planning for the future water supply to its customers.
- 2.5 This context has been recognised by Ofwat, which has provided funding for water companies to investigate, then develop, Strategic Resource Options (SROs)⁴ to help meet the water needs set out in the National Framework, will benefit customers and wider society, and help to protect and enhance the environment.

Securing a resilient water supply for London

- 2.6 Working closely with other water companies, TW has taken the lead on investigating several SROs that could provide a large volume of water to help meet that demand, including during drought conditions. These SROs include a number of water recycling schemes as well as water transfer schemes and a new reservoir.
- 2.7 The range of SROs under investigation by TW were identified in the Price Review 2019 Final Determination, following submission of its WRMP in 2019, with funding allocated to TW to carry out

² Environment Agency (2022) Water Resource Planning Guideline v10.

³ Thames Water (2022) Strategic regional water resource solutions

⁴ PR19 final determinations: Thames Water final determination

further investigation and progression of schemes. Out of a total of 18 SROs under investigation across the UK, TW has worked collaboratively on exploring five of those schemes, all of which have also been considered in the Water Resources South East (WRSE) Regional Plan.

- 2.8 WRSE is an alliance of the six water companies which cover the South East of England – Affinity Water, Portsmouth Water, SES Water, South East Water, Southern Water and Thames Water. It is one of the five regional groups across England, each of which is preparing a strategic water resources plan for its region. The regional plans are currently non-statutory but provide key strategic inputs to individual company WRMPs and have been prepared in parallel with the WRMP process.
- 2.9 WRSE has used cost and other scheme information as inputs to the regional plan investment modelling. The Project is one of the core SROs selected by WRSE in its Regional Plan, and the selection of the Project in both the Regional Plan and TW's revised draft WRMP is consistent. The most recent publication by WRSE is the Revised Draft Regional Plan (August 2023) which identifies the Project as being required for first utilisation by 2033 (hereafter referred to as 'the early 2030s') as a 75Ml/d scheme.
- 2.10 The development of all of these nationally important schemes is being overseen by the Regulators' Alliance for Progressing Infrastructure Development (RAPID), an alliance of regulators formed to help accelerate the development of new water infrastructure. TW submitted Gate 2 assessments to RAPID for the five SROs it is involved with in November 2022⁵.
- 2.11 This includes the London Water Recycling (LWR) SRO within which three water recycling schemes have been looked at in detail. A water recycling scheme takes final effluent (treated wastewater) from a sewage treatment works (STW) and treats it again to a higher standard before discharging it back into a watercourse. In the case of the LWR SRO schemes this would then enable water to then be extracted from the river in the vicinity of recycled water discharged into it. Such schemes can play a particularly important role in addressing areas of water supply known to be at risk during times of drought and water shortage, where they can be used to achieve resilience through their operation during the lead up to or within periods of drought.
- 2.12 In tandem with the SRO gated process, TW has continued to prepare its Water Resources Management Plan 24 (2025 – 2075) (WRMP24) and published its revised draft WRMP24 in August 2023. WRMP24 identifies that most of TW's supply zone is 'seriously water stressed' and that the demand for water can be higher than the amount available. Coupled to this, it is forecast that the population of the London and Thames Valley areas, already one of the most densely populated parts of the country, will grow significantly.
- 2.13 TW has utilised the latest forecasts from local authorities to develop future growth forecasts in its area in accordance with guidance from Regulators which states that the WRMP should reflect local growth ambitions and plan to meet the additional needs of new businesses and households. With TW currently supplying over 10 million people across its supply area, these forecasts show that it will need to provide water for over 12 million people by 2050, approximately 20% more than now.
- 2.14 The revised draft WRMP24 therefore reflects local growth ambitions and utilises local authority growth scenarios as the reported pathway to ensure it is planning to meet the additional needs of new businesses and households in line with the local authority forecasts⁶. This approach is also consistent with the National Framework, which explains that using the WRMP process "*water companies plan to meet demand based on growth projections set out in local authority plans. This*

⁵ <https://www.thameswater.co.uk/about-us/regulation/strategic-water-resource-solutions/water-recycling-reuse-schemes-in-london>

⁶ Thames Water revised draft Water Resources Management Plan 24 Section 1

is to make sure there is sufficient water available to accommodate local housing and population growth".

- 2.15 Alongside this a deadline for use of rivers for abstraction purposes has been set, driven by UK obligations under the Water Framework Directive (WFD)⁷ ecological objectives timetable, which requires all water bodies to achieve 'good ecological and chemical status' by 2027. Whilst the UK has withdrawn from the EU, the Directive continues to have effect in the UK through the Water Environment (Water Framework Directive) England and Wales Regulations 2017⁸ (the Regulations).
- 2.16 Regulation 3(1) of the Regulations requires the Secretary of State (SoS) and the Environment Agency to exercise their relevant functions so as to secure compliance with the requirements of the WFD. Regulation 3(4) provides that the SoS and the Environment Agency must exercise their relevant functions in relation to each river basin district so as best to secure that the requirements of the WFD for the achievement of the environmental objectives, and in particular programmes of measures, are coordinated for the whole of that district.
- 2.17 To ensure the target for reducing river abstractions can be achieved alongside a secure means of drought resilient water supply, TW and all other water companies are required by the Government to put in place measures to ensure that severe water restrictions such as standpipes in streets or water rationing need only be put in place on average once in every 500 years. To do this, TW has identified that once demand reduction measures have been taken into account it will remain necessary to secure water in its area to reinforce its supplies to a 1 in 200-year drought scenario⁹ by the early 2030s and to a 1 in 500-year drought scenario by 2040 in accordance with the National Framework.
- 2.18 The scale of supply-demand deficit in the TW supply area and the wider WRSE region means that, despite the extensive and ambitious demand management programme, new sources of water supply will be required. Investment in these will be required to provide additional sources of water at key points in TW's programme, with the timing of the need for the Project aligned with the major step-changes in TW's supply-demand balance in the early 2030s, when it is intended to increase the level of drought resilience offered to TW customers such that emergency restrictions would not be required more often than once every two hundred years. The need for the Project should also need to be considered with other general trends in Thames Water's supply-demand balance, which include a gradual deterioration of the supply-demand balance over time due to forecast population growth and climate change impacts, and a step-change (deterioration) in 2050 associated with supply reductions to enable TW's environmental destination.
- 2.19 Section 10 of the revised draft WRMP identifies a Candidate Overall Best Value Plan which includes consideration of the means by which the issues identified above will be addressed. This plan was identified using the WRSE investment model, which is a regional-level decision support tool. This appraisal considered the overall costs of different plans and programmes, as well as carbon emissions and wider Best Value metrics.
- 2.20 When looking at the LWR SRO options the revised draft WRMP identified that the Project provides the Best Value option for TW to move to being 1 in 200-year resilient by the early 2030s. The option is deliverable on the required (relatively short) timescale, is operationally simple, and is inexpensive and low-carbon compared to other available options.

⁷ https://environment.ec.europa.eu/topics/water/water-framework-directive_en

⁸ <https://www.legislation.gov.uk/ukxi/2017/407/contents>

⁹ Thames Water revised draft Water Resources Management Plan 24 Section1 / Section 11

- 2.21 As part of investigating alternatives, TW undertook investment model sensitivity runs to examine alternatives if the Project was excluded. This showed that a 1 in 200-year resilience for London was achieved via a large licence trade with Affinity Water (via the development of the Grand Union Canal SRO option), a large transfer from SES Water, and the development of seven groundwater schemes in south east London. This plan was found to be £250m more expensive, in net present terms, and considerably less resilient as it is reliant on three companies delivering ambitious demand management schemes.
- 2.22 Further scenarios were run whereby another water recycling scheme in east London, the Beckton Advanced Water Recycling Project, was 'forced in' to the model. The results show this scheme would result in £650-900m more expense and considerably greater increase in carbon emissions for no change in the resilience metrics. It was therefore concluded that replacing the Project with the Beckton scheme does not present best value.
- 2.23 Accordingly, of the water recycling schemes considered as part of the LWR SRO, the Teddington DRA scheme, which is the Project that is the subject of this qualifying request for a Direction, has been identified by both the WRSE Revised Draft Regional Plan¹⁰ and TW's revised draft WRMP24¹¹ as the water recycling scheme to be progressed immediately to achieve delivery of Water Available For Use (WAFU) by the early 2030s. By delivering the Project to achieve WAFU in these timeframes, TW will be able to bring direct deployable output benefits to its London operations and deliver a resilient supply of water to the London Water Resource Zone.
- 2.24 Further sensitivity testing carried out established that should the 2033 date be delayed to 2035, the Project would remain as the preferred solution for delivery in the revised draft WRMP although the ambition to achieving 1 in 200-year resilience would also be pushed back. Sensitivity testing undertaken by WRSE and set out in Section 17 of the Revised Draft Regional Plan has also confirmed that the Project is selected as part of the regional plan preferred strategy under all of the potential futures in the adaptive Regional Plan.

The Project

- 2.25 The Project is part of TW's wider package of solutions and policies identified in its revised draft WRMP24 to meet the forecast demand in a 1 in 200-year drought scenario.
- 2.26 The Project comprises the provision of Tertiary Treatment Facilities (TTF) to further treat part of the final effluent produced at TW's existing Mogden Sewage Treatment Works (STW), where the TTF would likely be located, and a pipeline to convey the highly treated effluent, or recycled water, to a new discharge outfall to be located on the fluvial River Thames immediately upstream of Teddington Weir, the upper limit of the Thames Tideway estuary. The precise locations of each of the components are not yet confirmed, as scheme development of the Project progresses.
- 2.27 The outfall would act as the balancing discharge to support a new raw water abstraction plant/structure to be situated in close proximity upstream of the outfall. The abstraction plant would provide a screened intake for flows to be directed into a separate new pipeline that in turn would connect the abstraction plant/structure to the existing Thames Lee Tunnel (TLT) raw water main.

¹⁰ <https://www.wrse.org.uk/our-response>

¹¹ <https://thames-wrmp.co.uk/our-draft-plan/>

- 2.28 The TLT is an existing below ground raw water asset operated by TW to convey raw water supply between its water abstraction and storage assets in west London to its water storage and treatment assets in the Lee Valley in north / north-east London. The TLT is itself critical infrastructure serving the Greater London area and is by definition nationally important in this context.
- 2.29 The connection of the Project abstraction plant to the TLT thereby completes the Project by enabling conveyance of abstracted raw water from the fluvial River Thames by the Project to TW's water storage reservoirs situated in the Lee Valley.
- 2.30 Whilst it is recognised that the Project itself facilitates further abstraction, from the River Thames in this instance, it is different from non-replenished abstractions by virtue of the balancing discharge flow that will be introduced into the river in close proximity to the point of abstraction.
- 2.31 As a water recycling and drought resilience scheme, the Project is only planned to be used during and in advance of drought conditions. Water will be abstracted from the River Thames and transferred to the Lee Valley reservoirs for storage prior to treatment and onward supply. At the same time, the highly treated recycled water from the proposed new Mogden STW TTF will be transferred to the new outfall to ensure that the river flow at Teddington close to the point of abstraction remains balanced.
- 2.32 The Project represents a significant investment into securing a resilient water supply for the household and business users in the London area in times of water shortage and drought. As one of the first water SROs to be progressed through the RAPID gated regulatory process towards planning consent, having also been identified in both the WRSE Revised Draft Regional Plan and TW's draft WRMP, the Project is intended and required to address an urgent need to secure improved water resilience for London and to develop new water resources to avoid future water use restrictions.
- 2.33 As referred to above, the Project is a key element in TW's WRMP strategy for meeting the Government's demand for water resilience and is identified as needing to be in place by the early 2030s to achieve that objective.
- 2.34 It is crucial therefore that the consenting processes associated with this significant development project are started as soon as possible to ensure that the Project is delivered at the earliest opportunity as, following the grant of consent and the clearance of any relevant conditional DCO Requirements and Obligations, construction and commissioning of the Project is expected to take approximately 5 years in combination.
- 2.35 In particular, the Project will:
- help ensure that water supply in London is able to meet the needs of climate change and the increasing occurrence of drier weather conditions;
 - ensure that a sufficiently drought-resilient water supply exists to support growth and new development in London, including housing supply to support the population growth forecasts in the London Borough Local Plans that have informed the supply demand balance in TW's WRMP19 and draft WRMP24;
 - enable London to adapt to the forthcoming changes to water supply associated with the reduction in abstracted groundwater supply;
 - help to safeguard against economic loss and societal disruption that would be caused through the under-supply of water resources in London in drought conditions, and
 - contribute to the UK's environmental objectives (see explanation in Section 6).

- 2.36 Should the Project not become operational by the early 2030s, there are limited alternatives available to provide sufficient supplies to household and business users in the area in drought conditions from that time. It will also not be possible for TW to rely upon either Drought Permits or Drought Orders in such circumstances as an alternative for London as the National Framework makes clear that delivering increased resilience should not rely on the increased use of drought measures to boost supplies by allowing additional abstraction during drought, where this is environmentally damaging.

The case for national significance and the need for a Section 35 Direction

- 2.37 TW identified in its RAPID Gate 2 submission of November 2022 that its preferred consenting strategy of seeking planning permission for the Project based on the knowledge of the Project at that time was under the Town and Country Planning Act 1990 (TCPA). It also recognised at the same time that there remained a need to keep under review the Project programme, the nature of land use and permanent development required, the range of land assembly requirements, and opportunities to efficiently manage securing multiple consents, licences and permits. Accordingly, and consistent with the RAPID Gate 1 report for the LWR SRO, the Gate 2 submission also recommended keeping under review the possibility of needing to seek a Section 35 Direction under the Planning Act 2008 (PA2008).
- 2.38 Since its Gate 2 report was submitted, TW has continued to develop its understanding of the development components required as part of the Project that will need to be progressed through the RAPID Gate 3 process and beyond. This includes more information on the number of third-party land interests that need to be secured. Due regard has also been had to the timelines associated with delivery and adoption of both the Revised Draft Regional Plan and TW's WRMP24, which both the Project for development and delivery by the early 2030s, and to the provisions of the National Policy Statement for Water Resources Infrastructure (the NPS-WRI) which provides national policy support for the need for a water resources project as set out in a final WRMP. This has provided an increased understanding of the development needs of the Project, its role in future water resilience and of the policy framework which supports it.
- 2.39 As the Project has progressed towards Gate 3 of the RAPID process the preferred delivery route for planning consent for the Project has continued to be kept under review such that, as set out further in section 6 of this qualifying request, it is now considered that the most appropriate route for planning consent for the Project is via the PA 2008 regime through a DCO further to making a request for a Section 35 Direction that the Project be treated as being a project for which development consent is required as a result of being nationally significant.
- 2.40 The development and funding of the Project through the RAPID gated process and the identification of the Project in both the regional plan and TW's draft WRMP as outlined above also underline the urgent need to deliver the Project as soon as possible and in the early 2030s, which can only be achieved by promptly securing a complex range of statutory powers, permissions, land assembly, consents and licences.
- 2.41 However, despite the urgent and compelling need for the Project and its significant nature, complexity and London-wide geographical range, the Project does not automatically qualify under the PA2008 as a NSIP as water recycling is not a specified infrastructure category under section 14 of the PA2008.

2.42 That being said, the NPS-WRI does recognise the potential significance of schemes such as the TDRA and expressly sets out that they are the sorts of projects that can be the subject of a Section 35 Direction. In setting out the role of nationally significant infrastructure projects in addressing future water supply needs the NPS-WRI explains that:

1.1.3. Where a development does not meet the current requirements for a nationally significant infrastructure project set out in the Planning Act, but the Secretary of State considers the project to be nationally significant, under section 35 of the Planning Act, the Secretary of State may direct that a water resources infrastructure development should be treated as a development for which development consent is required. This could apply to infrastructure types in the field of water that do not meet the definition of a nationally significant infrastructure project for water resources², provided the relevant requirements of section 35 are satisfied.

2.43 Footnote '2' to paragraph 1.1.3 cited above explains that reference to a nationally significant infrastructure project for water resources includes, for example, effluent re-use schemes as set out in section 2.6 of the NPS-WRI (see also extracts below).

2.44 Paragraph 1.1.4 of the NPS-WRI goes on to confirm that "*Where a water resources infrastructure development is treated as a development for which development consent is required through section 35 of the Planning Act, the National Policy Statement will apply, unless otherwise stated in the section 35 direction*".

2.45 In section 2.6 of the NPS-WRI it is explained that water transfer projects (which the Project will enable) "*are important for enhancing the resilience of water supplies by improving connectivity between areas of higher water availability to those where water availability is low. Research for the National Framework for water resources suggests that strategic transfers from water resource zones with surpluses in the North and West of England to zones that would otherwise be in deficit in the East and South East. Alongside significant local supply-side expansion in the East, South East and West, this could satisfy the national supply deficit under all the demand- side scenarios modelled. Transfers can move water from areas of surplus to areas that need it. In some cases, this can be through existing infrastructure such as rivers and canals but other channels and pipes and supporting infrastructure may also be required*" (paragraph 2.6.8).

2.46 Paragraph 2.6.15 of the NPS-WRI explains that other infrastructure types not specifically included in the PA2008 may be considered under that Act following a Section 35 Direction, including options to enhance water available for use such as effluent re-use schemes (water recycling). Paragraphs 2.6.16 and 2.6.17 of the NPS-WRI highlight further the important role that water recycling will play in securing the reliable supply of water as set out below:

2.6.16. Recycling water through effluent reuse has the advantage of being a constant, reliable supply of water and may reduce the amount of water abstracted from the environment. It can also supplement river flows.

2.6.17. Whilst not identified as a separate water resource activity in the Planning Act, large scale effluent reuse is likely to result in large transfers and be part of the water resources management plan. In such circumstances, the transfer may qualify as a nationally significant infrastructure project when assessed against the relevant threshold in the Planning Act. Treatment and other supporting infrastructure could be considered as associated development (see section 1.3.2). Alternatively, and if appropriate, such a scheme might be considered through a section 35 direction.

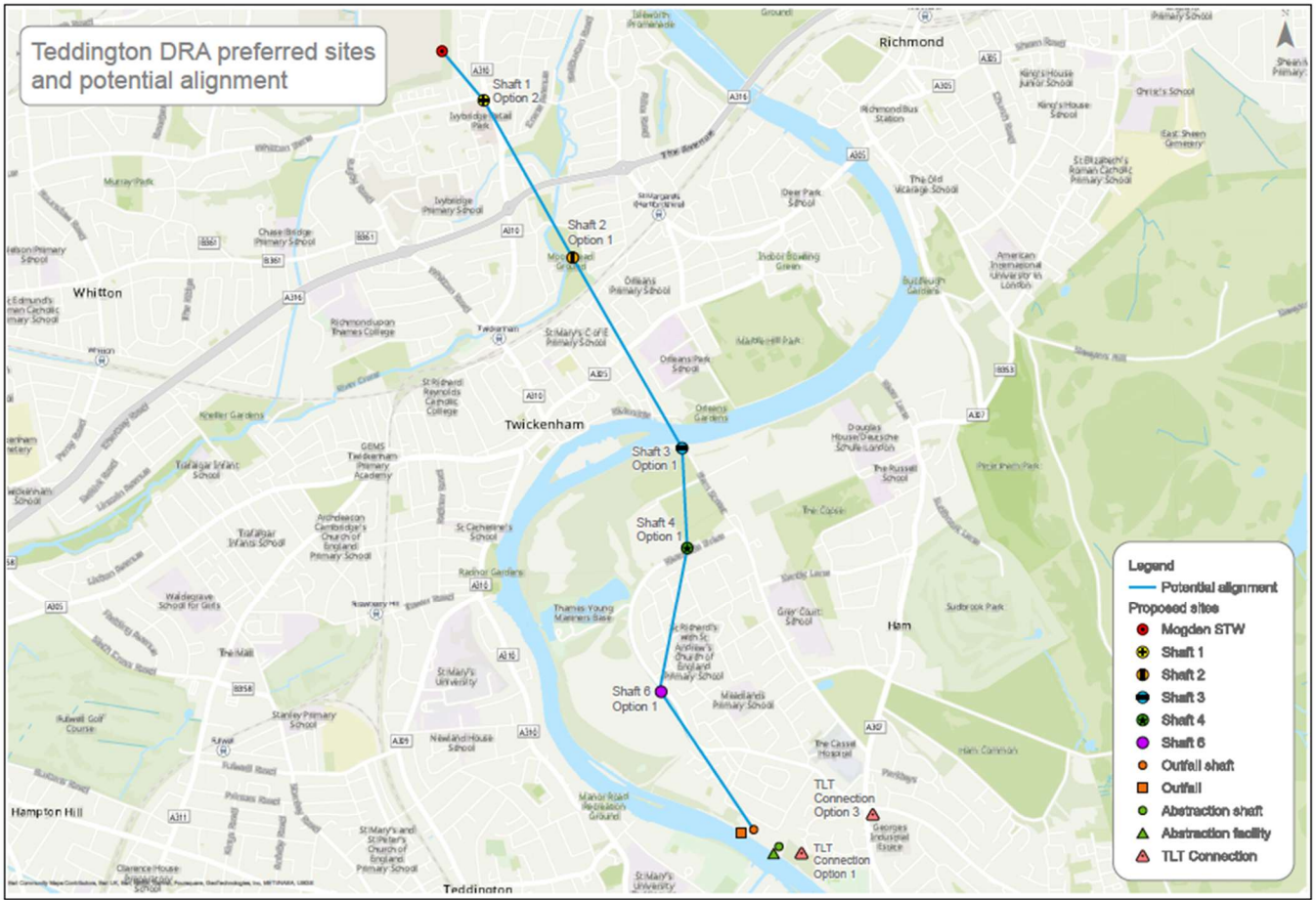
- 2.47 Under Section 28 of the PA2008 the transfer of water resources would be an automatic NSIP if the deployable output of the facility to be constructed as a result of the development will exceed 80MI/d and the other conditions in Section 28 are met. The threshold under Section 28 relates to the annual average deployable output of a project and not the maximum (peak) volume or output that the project will be sized to deliver. The Project does not meet the threshold set out in Section 28 as it would transfer a dry year annual average deployable output of approximately 67MI/d.
- 2.48 However, whilst the Project would not directly meet the specific thresholds set out in the PA2008 for water transfers at Section 28, it would nevertheless constitute a water resources project comprised of both large-scale effluent reuse and a large transfer alongside a corresponding large-scale abstraction for the purpose of providing a constant and reliable supply of water to the economically critical London area in times of drought.
- 2.49 To achieve the deployable output of 67MI/d from the Project sized to operate up to a maximum volume of 75MI/d, the scale and significance of the infrastructure required for the Project will be very similar in physical development terms to a scheme operating with a deployable output of 80ml/d (which would be an automatic NSIP).
- 2.50 Equally, whilst Section 28 of the PA2008 also requires that water transfer NSIPs enable the transfer of water between different water undertaker areas or river basins, the Project will achieve a similar effect and degree of significance to this, whilst not directly falling within the terms of this provision.
- 2.51 This is because, as explored further below, the geographical scale and population of London that will be served by the Project represents a scale of transfer and population served that is similar to other projects transferring between water undertaker areas or between river basins.
- 2.52 Consideration of the policy context described above and the increasing knowledge of the Project's design, construction, site assembly and operational requirements set alongside the urgent and established need derived from TW's statutory duty to supply customers, now identifies that it is essential a Section 35 Direction is given for the Project so that it can utilise the benefits of the DCO regime, as explored further in Section 6 of this Qualifying request.
- 2.53 As set out above, it is critical that the planning/consenting process for the Project is commenced as soon as possible, to allow the relevant WAFU date set out in the TW's revised draft WRMP and WRSE's Revised Draft Regional Plan to be achieved. TW's programme indicates that an application for development consent is required to be made to the Secretary of State early 2026 at the latest, to secure this WAFU date. Seeking and obtaining a Section 35 Direction now will enable TW to commence and fulfil the statutory pre-application obligations in a timely fashion to achieve this.

- 2.54 Indeed, without a Section 35 Direction in place, TW is unable to progress activities specific to the DCO consenting process, including environmental impact assessment (EIA) scoping to the SoS, preparation of a Preliminary Environmental Information Report and statutory consultation. The only options available to TW in this context are either to accept delay to the programme whilst a Section 35 Direction is awaited, or to progress the Project through the conventional TCPA planning process. However, in this latter scenario, the range of land assembly requirements and consenting requirements across multiple Local Planning Authorities and other decision makers place the Project at a risk both in terms of delivery and, in any case, programme, as the TCPA permission is not able to unify many of these consents and acquisitions in the way that a DCO can, both in terms of the consenting procedures themselves and through the exercise of the consents to deliver the Project.
- 2.55 Confirmation for all stakeholders that the Project is to be considered within the PA2008 regime along with the support from the NPS-WRI, particularly in respect of the Project's position in TW's draft WRMP24, is also essential to ensure that activities and responsibilities relevant to that regime's process can be confidently and effectively undertaken. This would provide a clear and robust basis for the consenting and delivery of the Project in a regime where the risks are manageable in the context of the need to secure delivery of the Project by the early 2030s.
- 2.56 For the reasons set out in this request, particularly in Section 6 below, TW therefore considers that the Project is of national significance and should be subject to the consenting regimes under the PA2008, including with reference to and in accordance with the NPS-WRI for Water Resources Infrastructure.

3. Project Description and Location

- 3.1 Work completed to date to inform initial Project scope and design has enabled both the initial form of development items that would comprise the principal development for the DCO and its associated development (in the meaning of section 115 of the PA 2008) components to be identified.
- 3.2 This includes identification of a potential route corridor and alignment for the water transfer between both the recycled water treatment plant and its discharge, and the abstraction plant and its connection to the TLT.
- 3.3 The principal development would be expected to comprise:
- tertiary treatment facilities (TTF) with an output of up to 75Ml/d of recycled water located at Mogden STW in the London Borough (LB) of Hounslow;
 - a water transfer pipeline located between the TTF and the outfall discharge infrastructure referred to below, situated across two LBs; the LB's of Hounslow and Richmond Upon Thames;
 - an outfall connection pipe and outfall discharge structure with an output of up to 75Ml/d located adjacent to and within the riverbank of the River Thames in the LB of Richmond Upon Thames;
 - an abstraction intake with an abstraction rate of up to 75Ml/d located adjacent to and within the riverbank of the River Thames in the Royal Borough of Kingston Upon Thames; and
 - a water transfer pipeline from the abstraction intake referred to above to the existing Thames Lee Tunnel raw water main in the Royal Borough of Kingston Upon Thames.
- 3.4 Key associated development necessary to deliver the principal development currently comprises but is not limited to:
- associated development (within the meaning of section 115(1)(b) of the Planning Act) including, but not limited to: upgrade and improvement works to existing water treatment and supply infrastructure, shafts to support construction and operation, temporary works to support construction, works to support operation and maintenance, site accesses, temporary and permanent utility connections, highway diversions and landscaping, environmental mitigation, enhancement and compensation measures ("the Associated Development"); and
 - ancillary matters ("the Ancillary Matters")
- 3.5 An indicative schematic of the Project is shown in Figure 1 below. Further detail is provided in Appendix C to this qualifying request.

Figure 1 Indicative route alignment and above ground infrastructure sites for the treatment and conveyance of recycled water from Mogden to the River Thames and abstraction of river water and connection to the TLT.



4. Regulator and Stakeholder Engagement

- 4.1 TW has already undertaken stakeholder consultation and engagement on the Project as it has progressed through key stages of WRMP development and further consideration under the RAPID Gated SRO process, as explained below.
- 4.2 TW's WRMP19, published in 2020, identified that the final WRMP19 should not include the Project as a scheme for delivery at that point and instead establish a process of ongoing investigations into the ability to deliver a direct river abstraction project at Teddington for further review.
- 4.3 This approach, which removed the Project from WRMP19, was taken in response to concerns identified by the Environment Agency (EA) and the Port of London Authority (PLA) with regard to the original scale and capacity of the scheme at 300ml/d and the potential impacts that could arise upon river water temperature in the vicinity of any discharge of highly treated effluent or recycled water. The WRMP was also subject to wider statutory public and technical consultation as part of its preparation prior to adoption.
- 4.4 In 2021, TW published its Gate 1 report under the RAPID gated process for water SROs. This process built on the outcomes of WRMP19 and examined further the ability to promote both the LWR SRO and, within that SRO, the Project as one of the potential schemes that could achieve the objectives of the LWR SRO. Although not subjected to formal public consultation, the Gate 1 report was informed by continued engagement with technical stakeholders, building on WRMP19 outcomes, to consider in particular the environmental and water supply acceptability of the concept design for the Project.
- 4.5 Although work through both the WRMP19 and as part of the RAPID Gate 1 process identified that concerns remained in respect of the environmental performance of the TDRA concept design, scaled at that stage to deliver a peak output of 150MI/d, the wider concept of the Project was identified as representing a potentially viable LWR SRO scheme to assist in providing water resilience for London.
- 4.6 Accordingly, the Project continued to be investigated as part of TW's work under Gate 2 of the RAPID process, including consideration of a smaller peak output for the Project of 75MI/d and further dialogue and engagement with key technical stakeholders including the EA, the Port of London Authority and Natural England, which continues to take place. Briefings were also held during the Gate 2 process with all three local planning authorities (LPAs) within whose area the Project could potentially be located.
- 4.7 As the Gate 2 process progressed, consultation on Water Resources South East's (WRSE) Regional Plan for water also took place, led by WRSE, informing in turn the preparation of TW's draft WRMP24 and confirming the identification of the Project as key for the provision of water resilience in London for the early 2030s onwards.
- 4.8 The outcomes of the WRSE Regional Plan preparation process, completion of the RAPID Gate 2 process, and the drafting and publication of TW's draft WRMP24 all dove-tailed during the period October 2022 – March 2023. The main outcomes from this period were that the Project continued to be confirmed as being of regional and London wide importance at the regional water planning level, and also led to its confirmation as both a project for continued investigation and progression under the RAPID process into Gate 3 and within TW's draft WRMP24, serving to emphasise the strategic importance that the Project is projected to play in London and the south east.

- 4.9 The Project was also the subject of public consultation as a critical element of the draft WRMP24 over the period December 2022 – March 2023, including via in-person engagement and webinar events and a supporting 'pop-up' event. These enabled members of the public to engage with both the draft WRMP and the Project and raise questions in respect of its purpose, need, impact and delivery. Briefings have also been provided to locally elected Members and Members of Parliament for the area in which the Project would be located, to local interest groups, and for members of the press on the intention and purpose of the WRMP. Since then, both the Revised Draft Regional Plan and the revised draft WRMP have been published by WRSE and by TW respectively in response to the feedback received through that earlier consultation.
- 4.10 At the time of submitting this Qualifying request, engagement is scheduled to commence at the Project level with key stakeholders across a number of technical disciplines (e.g. planning, environmental impact assessment, scheme development and land interests) as TW progresses the pre-application engagement activities for the Project. In addition to ongoing individual and stakeholder group engagement, this will also include the first planned stage of public consultation. This will be a 'non-statutory' consultation, ahead of a round of planned statutory consultation (should a Section 35 Direction be given), which is a requirement of the DCO process. This will enable interested parties to continue to provide meaningful input into TW emerging proposals in a format that would support a future DCO application submission.
- 4.11 TW has also commenced engagement with identified registered land owners of all currently identified potential main sites for the Project, to obtain information on known land interests and constraints, and to secure access for environmental surveys and investigations. Following submission of this qualifying request, TW will continue to engage with all stakeholders with land interests relevant to the Project, including via consultation in accordance with section 42(1)(d) of the PA2008. Early negotiations with landowners regarding potential option agreements for securing land interests for the Project will be undertaken.

5. Qualifying Request Requirements

- 5.1 Section 35(1) of the PA2008 states that the SoS may give a direction for development to be treated as development for which development consent is required. The provisions of Section 35 that must be met and are of particular relevance to the Project are that:
- the development is or forms part of a project (or proposed project) in the field of energy, transport, water, wastewater (section 35(2) (a) (i)) – this is a matter of fact;
 - the development would (when completed) be wholly in England or waters adjacent to England up to seaward limits of the territorial sea (section 35(2) (b)) – this is a matter of fact; and
 - the SoS thinks the project (or proposed project) is of national significance, either by itself or when considered with one or more projects (or proposed projects) in the same field (section 35(2) (c)) – this is a matter of judgement for the Secretary of State.
- 5.2 For completeness, as explained above, TW has considered the various categories of water NSIP in the PA2008 and has concluded the Project does not meet the criteria/thresholds in respect of each.
- 5.3 The development for which a Section 35 Direction is sought, namely the Project, principally comprises a water recycling plant, a water transfer pipeline and discharge, and a water abstraction and further transfer pipeline, as described further in Appendix B. The Project is therefore a project in the field of water and is of a type that is recognised by section 2.6 of the NPS-WRI (as explored above in Section 2 of this qualifying request) as being of importance for the enhancement of the resilience of water supplies and in the supply of a constant and reliable source of water and which could, in principle, be the subject of a Section 35 Direction. The Project also shares many similarities with the Hampshire Water Transfer and Water Recycling Project which was, in May 2022, the subject of a direction under Section 35.
- 5.4 In addition, the Project is proposed to be located wholly in England or within waters adjacent to England up to the seaward limits of the territorial sea and therefore meets the provisions set by section 35(2) (b) and (3) (a) of the PA2008.
- 5.5 The Project is considered to be a project of national significance, in accordance with section 35(2) (c) (i), for the following core qualifying reasons:
- The Project is of national significance and needed urgently as recognised by the WRSE Regional Plan and TW's WRMP24.
 - The Project is of national significance by virtue of its scale of development and its realised benefit.
 - The Project is of national significance by virtue of its interface with its receiving environment and its contribution to the UK's environmental objectives.
 - The Project is of national significance by virtue of the social and economic consequences of not proceeding with the Project.
 - The Project requires consenting by many organisations and across a number of different forms of consent that will best be secured through a single DCO.
 - The Project requires temporary and permanent rights over and acquisition of land under the control of others that will best be secured through a single DCO.
- 5.6 Section 6 below explains these core qualifying reasons in further detail.
- 5.7 Section 35ZA(1) states that the power in section 35(1) to give a direction in a case within section

35(2) (a) (i) is exercisable only in response to a qualifying request if no application for a consent or authorisation mentioned in section 33(1) or (2) has been made in relation to the development to which the request relates. TW confirms that no application for consent or authorisation mentioned in section 33(1) or (2) has been made in relation to the principal elements of the Project to which this request under section 35 relates.

5.8 Section 35 ZA(11) defines a 'qualifying request' as meaning "a written request for a direction under section 35(1) that:

- a) specifies the development to which it relates, and
- b) explains why the conditions in section 35(2)(a) and (b) are met in relation to the development".

5.9 This request represents a 'qualifying request' as it is made in writing and specifies the development to which it relates (see section 3 above). Furthermore, as confirmed in this section, the conditions in section 35(2) (a) and (b) are met.

6. Case for National Significance

Introduction

- 6.1 This section provides information to assist the SoS in determining whether the Project is of 'national significance', either by itself or when considered with one or more projects (or proposed projects) in the same field, as per section 35(2)(c)(i) of the PA2008.
- 6.2 The Project is significant as an infrastructure project in its own right. It is also a critical component in the delivery of a water industry Strategic Resource Option, being the identified project for delivery within the LWR SRO for which TW is the project sponsor.
- 6.3 The Project also continues to be selected for delivery by the early 2030s in both the Revised Draft WRSE Regional Plan, and in the revised draft of TW's WRMP24, which were both published in August 2023. This means the Project is significant as an infrastructure project in its own right, but also as a key component in a wider nationally significant programme of works set out in the WRSE Regional Plan and TW's WRMP24.
- 6.4 With regard to the Project and its role in these processes, its key objective is to help address a forecast deficit in water supply during drought conditions for a projected population of over 12 million people in London by 2050 with growth predicted of over 100,000 a year.
- 6.5 The Project is a strategically important water resource for London, and therefore due to the social, economic and environmental significance of London for the south of England and the UK as a whole. It will play a critical role in meeting the water resources needs and resilience of this large geographical region, which in itself makes it nationally significant.

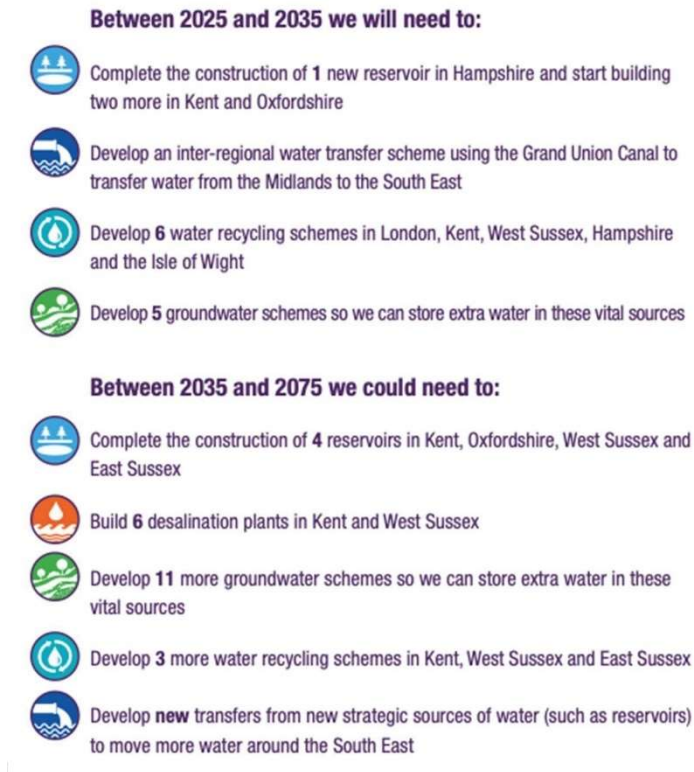
National Significance – Core Qualifying Reasons

The Project is of national significance and needed urgently as recognised by the WRSE Regional Plan and Thames Water's WRMP24

- 6.6 WRSE's Revised Draft Regional Plan identifies that the challenge faced by all water companies serving the south east will be to ensure sufficient water supply is achieved both now and, in the future, when balanced against three critical factors: climate change, population growth and the need for environmental improvement by reducing water abstraction. Alongside these a further critical objective will be to increase the resilience of supply by each water company during periods of drought. Challenging targets have been set, drawing on the provisions of the Government's National Infrastructure Strategy, to achieve such resilience to severe drought conditions by 2040, whereby water companies should only need to use emergency measures once in every 500 years on average.
- 6.7 The Revised Draft Regional Plan (August 2023) identifies that without the proposals in the regional plan, a deficit in supplies of 1,700 million litres of water a day would exist in the South East by 2040 and that this could increase to 2,700MI/d by 2075. Whilst demand management measures, including leakage reduction, will contribute more than half of this deficit, the revised draft regional plan makes clear that significant levels of new infrastructure need to be put in place in the period 2025 – 2075, as shown in Figure 2 below.

6.8 As part of the measures included in the Revised Draft Regional Plan, the Project is identified as one of the water recycling schemes whose collective role it will be to put in place the equivalent of 13% of the additional water required by 2040. Taken as a contribution to the region as a whole the project will play a substantial and significant role. Considered in its London-wide context this role is critical.

Figure 2 WRSE Regional Plan Water Infrastructure Requirements 2025 - 2075



6.9 Failure to provide the Project will place businesses and the growing population of London under very significant risk of water shortage when the weather is dry. The South East is identified as an area of significant economic growth, and with London recognised as being both water stressed and one of the driest areas of the UK, there is a need to have effective, integrated and resilient water infrastructure that is fit for purpose to meet the constant needs of a growing population. With population set to grow in the TW catchment from over 10 million people today to 12 million by 2050¹², and with a forecast reduction in the amount of water available based on current sources of approximately 120ml/d, if TW does not ensure that there is sufficient supply in its network when the weather is dry, the needs of existing communities and economic activities will not be sustained.

6.10 Accordingly, TW has addressed the challenges highlighted by the Revised Draft Regional Plan by identifying the relationship between population growth, water supply and climate change in its revised draft WRMP24. To ensure that it is able to maintain supply and achieve resilience to climate change TW has adopted the outcomes of the Revised Draft Regional Plan and has identified the SROs to be delivered across planned timescales that will meet both the needs of its customers and work to achieve the objectives of the Revised Draft Regional Plan. A key element of this approach is the delivery of the Project so that it can be made available for use from the early 2030s onwards.

¹² <https://dn9cxogfaqr3n.cloudfront.net/revised-draft/Technical+Report/rdWRMP24+-+Section+1+-+Introduction+and+Background.pdf>

- 6.11 As a key long-term infrastructure solution, the Project needs to be consented and implemented rapidly to safeguard customer supplies and to protect the environment, without recourse to Drought Permits and Drought Orders over the longer term. Until the Project is implemented, should Drought Permits and Orders not be approved, households and businesses in the area face serious restrictions to their water supply, which at its extreme could involve rota cuts and standpipes in a drought. Paragraphs 6.24 - 6.36 below explore the implications of such measures further.
- 6.12 The Project is therefore of national significance by virtue of its role in providing drought resilience in London as recognised by the Revised Draft Regional Plan and TW's revised draft WRMP24.

The Project is of national significance by virtue of its scale of development and realised benefit.

- 6.13 Following modelling to inform the regional plan and TW's draft WRMP, and through further investigation in respect of feasibility of delivery via the RAPID gated process, the Project has been defined as being able to meet the need for a supply output of up to 75MI/d in order to contribute (as a significant part of TW's Preferred Strategy) to the need to have new supplies to provide a 1:200-year level of resilience to TW's customers¹³. In particular, the delivery of the Project alone will require works to be carried out across three individual London Boroughs, whilst the benefits of the Project in respect of water supply resilience will be experienced across London as a whole.
- 6.14 TW is therefore requesting that the Section 35 Direction specifies the peak transfer and abstraction volume of the Project as '75MI/d', and the peak output of the TTF as '75MI/d'. This will mean that the Project would operate as a water recycling facility processing up to a peak output of 75MI/d, which will be conveyed via the recycled water pipeline to a single point of discharge into the River Thames which would also be sized to discharge up to a peak rate of 75MI/d. It will also mean that the peak rate of abstraction of raw water upstream from the point of discharge will also be 75MI/d, ensuring that the amount being abstracted for drought resilience is balanced by the amount of recycled water being discharged downstream. The deployable output benefit stated for the Project would be approximately 67MI/d, for the dry year annual average (DYAA) condition. Deployable output is the supply benefit which is generated under specified conditions and this deployable output benefit would exist under drought conditions (1 in 100 to 1 in 500-year drought).
- 6.15 TW acknowledges that, with regard to the raw water transfer element of the Project, a peak transfer volume of 75MI/d and DYAA deployable output of approximately 67MI/d does not meet the 'deployable output' NSIP threshold of 80MI/d for a water transfer scheme within Section 28 of the PA2008.
- 6.16 In terms of the source – route – destination of the water being transferred; it is nevertheless important to note that the infrastructure required for the Project is no different to that which would be required for a scheme capable of providing a deployable output of 80MI/d. The significance of the Project's location, its size, scale and complexity are not diminished by the fact it is scaled slightly smaller than the NSIP threshold: it is still a significant project of critical importance to both the receiving natural and socio-economic environment of London. This Project whether above or below the NSIP threshold would still require the same multiple applications for consents, permissions, land interests and licences and the same multiple local authorities and consultees would be impacted and engaged by the proposals.

¹³ TW revised draft WRMP24 Section 11 [11.357]

- 6.17 TW also acknowledges that the Project does not lead to the transfer of water between either river basin districts / water catchment areas or between water companies as per the thresholds set out by Section 28 of the PA2008, with the source of raw water being transferred from within the same catchment in which abstraction will take place.
- 6.18 However, the Project will lead to water being made available for transfer from west London to the Lee Valley reservoirs in north / north east London and in turn being able to be supplied across London post treatment. Given the scale of London as both a physical area and in terms of the population served by the water supply network this remains a considerable and significant undertaking irrespective of the relationship with the criteria set out in Section 28 of the PA2008, and one which would be comparable to a scheme more readily in accordance with those thresholds set out in the PA2008.
- 6.19 In addition, the physical infrastructure will be spread over three local authority areas in Greater London. The multiple sites and linear elements of the Project also mean that it has the potential to give rise to larger-than-local construction and environmental impacts (both adverse and beneficial) which could give rise to effects across the local authority areas within the vicinity of the Project (albeit these effects would be appropriately mitigated where practicable and in line with legal and policy requirements). These include potential impacts relating to construction traffic, the historic environment, ecology and biodiversity, landscape and visual amenity, water quality, air quality, land use and open space, and noise and vibration. The Project also has the potential to affect both designated and non-designated habitats and species which themselves are not necessarily confined to a specific local authority area. Notwithstanding the potential for such effects, appropriate mitigation would be proposed by TW and be secured as part of the consenting process.
- 6.20 In light of this, and by virtue of other key characteristics explored below under the delivery of consents, it is clear that the proposed scale and the benefits that the Project will realise means that it is necessary and appropriate to designate it as a project of national significance, to be treated as a development for which development consent is required.

The Project is of national significance by virtue of its interface with its receiving environment and its contribution to the UK's environmental objectives.

- 6.21 The UK Government's National Infrastructure Strategy states that delivering vital infrastructure whilst protecting and improving the environment is a top government priority, including supporting environmental net gains wherever possible.
- 6.22 Paragraph 3.4.2 of the NPS-WRI recognises that new water resources infrastructure projects have the potential to deliver significant benefits and enhancements resulting in wider environmental net gains including biodiversity net gain, local environmental gains, and progression towards national policy priorities such as reductions in greenhouse gas emissions, improvements to water quality and increased access to natural greenspace, all of which are of relevance to the Project.
- 6.23 Delivery of the Project would realise a number of beneficial impacts, from the core purpose of the Project to provide water supply resilience for London in times of drought, to the beneficial impacts upon river flows, water quality and reservoir raw water storage levels. It will provide the ability to ensure drought conditions do not impact upon TW's statutory requirement to maintain a resilient level of water supply in London whilst at the same time ensuring that levels of flow in the River Thames are maintained during periods of low flow and drought stress, benefiting the river environment around the Project.

- 6.24 The Project would also provide mitigation against the impacts of climate change and extreme weather upon the environment by helping to ensure that water levels within the River Thames can be maintained at the same time as abstracting sufficient additional water to ensure resilience of supply. Further, the timely provision of the Project and its ability to become operational by the early 2030s will ensure that London is provided with the infrastructure needed to help balance the water demand impacts of a growing population. At the same time, it will ensure the removal of the impacts and economic risks associated with not putting in place quickly enough the scale of infrastructure required to resolve the water supply deficits that would emerge in where water restrictions and other drought measures become necessary. The Project would therefore make a significant contribution to the UK Government's environmental objectives, international commitments and policy priorities.
- 6.25 Importantly, the Project will realise the ability to avoid reliance upon drought orders and drought permits and the associated potential need for increased water abstractions that are not supported by any means of flow augmentation during times of water supply shortfall.
- 6.26 The provision of permanent on and off site environmental and amenity mitigation, whilst not yet fully designed, is also expected to benefit the receiving environment and local communities living in proximity to the Project, as well as those who travel to visit the area.

The Project is of national significance by virtue of the social and economic consequences of not proceeding with the Project.

- 6.27 Chapter 3 of the Government's National Infrastructure Strategy acknowledges the PR19 funding from Ofwat for water companies to progress strategic new water resource and transfer infrastructure and the role of RAPID to support their delivery by overcoming barriers which might hamper the development of strategic schemes.
- 6.28 The Project would represent a major investment in London, securing resilient water supplies for the capital's communities and businesses in drought conditions. Critically, the Project would make a significant contribution to the economy of London by mitigating the risks of debilitating water restrictions for both businesses and households in drought conditions, with the consequential economic impacts that these would bring, as described further below.
- 6.29 The National Infrastructure Commission, in Figure 2 of its report Preparing for a drier future¹⁴ estimates that the costs of providing longer term water resilience infrastructure are significantly less than the cost of emergency response measures to maintain water supplies. This does not include the cost of subsequent emergency restrictions in the event water supplies cannot be maintained, such as restricting or even cutting off supplies to households and businesses, both of which it notes are unlikely to be publicly or politically acceptable. It highlights that most options would incur very high costs, and some would result in severe environmental damage and risks to public health.
- 6.30 In parallel, the population of London will continue to grow both during the period through to the Project achieving WAFU in the early 2030s and beyond this throughout the delivery periods of the London Plan, Borough Local Plans and the overarching timeframes for the regional plan and TW's WRMP24. The WRMP includes projections that identify a need to provide water for between 11.1 million (ONS forecast) and 12.3 million (local authority forecasts) people by 2050. This represents an increase in population supplied of between 10 – 20% more than current levels (at 2023), leading to an estimated increase in

¹⁴ <https://nic.org.uk/app/uploads/NIC-Preparing-for-a-Drier-Future-26-April-2018.pdf>

household demand of more than 200 Ml/d¹⁵. In tandem, services, wider infrastructure and employment opportunities will also need to be delivered to sustain these changes to population. All will require a resilient supply of water in all weather conditions all year round.

- 6.31 Furthermore, the Project is expected to create direct and indirect construction related jobs itself, and there would be significant supply chain opportunities and support for national, regional, and local businesses. Measures to ensure the localised realisation of such benefits within the area in which the Project is to be constructed are sought by paragraph 4.13.1 of the NPS-WRI which states that “...*Applicants should look to maximise local employment opportunities during construction...*”. Completion of the Project will lead to the safeguarding and supporting of economic growth within the wider London area through securing resilient water supplies for domestic and business customers.
- 6.32 Consideration of the estimated economic impacts of the imposition of water restrictions and other drought measures that could be necessary should insufficient resilience in London’s water supply be available has identified a large impact on Gross Value Added (GVA) in the capital. TW considered scenarios for the whole TW region, of which London accounts for approximately 80% of the GVA. The scenarios considered drought restrictions lasting 1 month, 3 months, and 6 months.
- 6.33 For a Level 3 Non-Essential Use Ban (NEUB)¹⁶ that lasts one month, the estimated daily output loss ranges from £7.17 million to £36.99 million. If this extends to three months estimated daily output loss rises to range from £13.20 to £73.65 million.
- 6.34 Should a level 3 NEUB extend to six months the estimated daily output loss rises further to range between £18.38 to £78.83 million per day. As drought restrictions increase in severity (i.e. as a drought itself becomes more severe), so does the impact on GVA. It is estimated that level 4 drought restrictions could lead to between £261 to £365m a day of GVA loss if such restrictions were in place for 6 months¹⁶.
- 6.35 Whilst there may be some uncertainty in these estimates, it is clear that the socio-economic costs of one drought that causes level 4 water use restrictions across London would easily exceed the costs of the new water resource solution. For example, when looking at potential costs to businesses alone, a drought lasting only 45 days would incur over £6.3 billion in economic costs (at £142 million per day). For context, GVA in the whole UK was increased by £598bn in Quarter 2 of 2023, meaning that such a London-specific level 4 drought event would have decreased that UK-wide GVA figure by 1.1%.
- 6.36 Drought incidents can clearly result in significant impacts on local businesses and households. The Project will help to ensure resilient and secure supplies over the longer-term, substantially mitigating the risk of level 4 restrictions being needed in a drought and avoiding the consequential economic impacts on customers and the economy as a whole. Given the role that the Project would play in such circumstances, and the importance of the economic and social well-being of London as a capital city not just to the south east region but to the UK as a whole, it is clear that the Project will have a nationally significant role to play.

¹⁵ NERA Economic Consulting report “Economic Assessment of the Impact of a Drought Order in London and the Thames Valley” October 2022

¹⁶ Level 2 = Temporary Use Ban (e.g. a hosepipe ban) / Level 3 = Non Essential Use Ban under s.74 Water Resources Act 1991 (e.g. prohibiting or limiting water use for non essential purposes) / Level 4 = drought restrictions (e.g. water rationing by using rota cuts or standpipes)

The Project requires consenting by many organisations and across a number of different forms of consent that will best be secured through a single DCO

Planning permission

- 6.37 In the absence of a Section 35 Direction, TW would need to submit planning applications for the Project to each of the three LPAs in whose areas the Project would be sited, namely the London Boroughs of Hounslow and Richmond Upon Thames, and the Royal Borough of Kingston Upon Thames. The Mayor of London also has a planning function, under the Greater London Authority Act 1999, and any development works in the tidal River Thames would require a marine licence to be granted by the Marine Management Organisation (MMO). There is currently no efficient procedure outside of the PA2008 to bring all of these applications into a single and coordinated consenting regime, and no fixed timescales for the determination of the planning applications including on any potential appeal or call-in.
- 6.38 A refusal of planning permission by one local authority, or a potential planning appeal or call-in inquiry, or any combination of these, could easily add considerable delay to the delivery schedule. Any significant delay to the Project could detrimentally impact on the delivery of the critically important resilient water supply benefits and environmental benefits that it is intended to achieve. These risks can be mitigated through the single procedure DCO regime, which a Section 35 Direction would unlock.
- 6.39 Delivering planning permission for the Project using the TCPA also increases the risk of not achieving timely project delivery through:
- the risk of delay to the Project through local planning authority processes not aligning, and delays with one application in one authority area impacting on the progress of other applications being considered by other authorities;
 - the need for a potential Marine Licence to be obtained and coordinated alongside multiple applications for planning permission;
 - a lack of local plan allocation or support for infrastructure of this scale, cross-boundary geographic extent and type, increasing the potential for refusal of part of the Project, necessitating call-in or an appeal and consequential delay;
 - an absence of coherent Local Plan policy support for the provision of infrastructure of this type, also increasing the potential for refusal of part of the Project, necessitating call-in or an appeal and consequential delay; and
 - a risk of conflicting planning conditions and/or varying requirements (including section 106 planning obligations agreements) across the pipeline route in relation to mitigation to address different local planning policy and planning authority requirements.
- 6.40 Mindful of the timescales to achieve these and the continued deadline for WAFU for the Project by the early 2030s, a single DCO application, supported by the WRSE Regional Plan and WRMP24 and able to draw upon the policy support of the NPS-WRI, would address all of these concerns.
- 6.41 It would allow all stakeholders to contribute to a single process in which key information including Environmental Impact Assessment (EIA), Habitat Regulations Assessment (HRA) and Water Framework Directive (WFD) assessment issues, and related mitigation, could be considered efficiently and consistently across the entire Project. It would provide the necessary certainty of timely delivery, and a single process for conferring statutory powers (including compulsory acquisition powers) and the majority of the requisite consents, permissions and licences for construction and operation of the Project, as opposed to securing such authorisations and acquisitions individually under the TCPA and the Water industry Act 1991, among others.

6.42 The PA2008 regime would also be underpinned by the strong national planning policy context as set out in the NPS-WRI for such a DCO application to be considered against. This is crucial in filling the policy gaps that exist at the local level for this scale of cross-boundary infrastructure provision. It would also confirm the need for the Project, as this would be fully established by paragraph 2.4.4 of the NPS-WRI via the adoption of the Project within TW's final WRMP24, as set out below:

2.4.4. As explained, if a nationally significant infrastructure project is included in a water resources management plan, the 'need' for that scheme will have been demonstrated in line with government policy and the applicable statutory requirements, and 'need' would not be revisited as part of the application for development consent.

Other consents, permissions and licences

6.43 The PA 2008 regime enables a range of additional consents, permissions and licences to be delivered in a single DCO. This would be beneficial to the Project, as TW has identified through its ongoing Gate 3 process the potential requirement for a considerable number of secondary licences and consents for the Project covering such matters as highway orders, traffic regulation orders, powers to temporarily close/divert public rights of way during construction work and, potentially, a river works licence.

6.44 If planning permission were to be sought under the TCPA, all of these additional consents, permissions and licences would need to be applied for and granted separately, with some only capable of being sought sequentially following the grant of planning permission, introducing the risk of delay whilst all of the separate processes to obtain the necessary consents, permissions and licenses are completed, including any related public inquiries as a result. This would be mitigated by a Section 35 Direction, as TW would then be able to "wrap up" most of these consents in a single application for a DCO, involving a comprehensive and inclusive examination process that all interested parties could fully engage and participate in.

6.45 Generally, using the PA2008 regime would bring together multiple stakeholders (who would otherwise be the competent authorities for the various secondary consents and authorisations required) as part of the assessment of the DCO application. In turn, this would enable the SoS to determine, having regard to all elements of the Project on a comprehensive basis, an application for the granting of the necessary powers, permissions, consents and licences in a coordinated, comprehensive and coherent way with a predictable timeline to decision. This is considered crucial for TW to deliver the Project at the earliest opportunity to meet the urgent need and to meet TW's obligations to deliver the regional plan and its own WRMP24.

6.46 Finally, TW would need to seek to co-ordinate the delivery of the various consents and authorisations with the procurement process (whatever the chosen model may be) in order for the appointed contractor to complete the detailed design and deliver the Project. However, with the PA2008 regime, the contractor would be 'handed' a single authorisation which would deal with the majority of consents and authorisations required, reducing the risk of delay and uncertainty.

The Project requires temporary and permanent rights over and acquisition of land under the control of others that will best be secured through a single DCO.

- 6.47 Although specific site extents and final pipeline routes have yet to be confirmed, the site of the discharge outfall and abstraction intake will likely leave permanent assets within areas of open space. The pipelines associated with the Project will also pass beneath a considerable number of land ownerships and other land interests and rights. Whilst any land loss or other direct interface from the pipeline itself is expected to be minimal, it is anticipated that the Project could nevertheless interface with several hundred separate land interests and rights in this regard.
- 6.48 TW has undertaken land referencing, is contacting landowners to seek negotiated access to land for surveys and is committed to negotiating voluntary purchase of the land and rights over land where that is required for the Project. However, unless such agreements can be confirmed on that basis TW will need to rely upon compulsory acquisition powers to deliver the Project. It is true that TW has existing powers in this regard under the Water Industry Act 1991, but TW considers that it would be more appropriate to seek to rely on a DCO to confer such powers, given the other benefits of the regime cited above. In addition, should TW pursue compulsory acquisition under its existing powers, this could result in a separate inquiry process, which could run separately to the other consenting processes. There is clearly a risk in that regard in terms of programme and delivery of the Project. In contrast, the DCO regime would ensure that compulsory acquisition matters are considered alongside other consenting matters as part of one streamlined process.
- 6.49 Project progression has also led to a greater understanding of the relationship between the amount of development and how much is to be sited within 'Special Category' land, that being open space land in the case of the Project. Special Category land requires special treatment in relation to compulsory acquisition proposals, with the use of a quantum of open space land above a set threshold (200m²), without replacement land, requiring the Project to secure a Special Parliamentary Order before it can be implemented.
- 6.50 TW's land searches have also considered interactions with land and apparatus belonging to statutory undertakers. The route of the underground water transfer pipeline is also expected to need to interface with strategic road networks in London, railway, the River Thames, and significant utilities including power, which would be dealt with more efficiently for all parties in a DCO with the necessary enabling powers, legislative disapplications and related protective provisions.
- 6.51 The Project will require utility connections and provision for those connections could also (where necessary) be included within a DCO to ensure that all necessary supporting connections (including electricity supply) are delivered in a single consent.
- 6.52 With the improved clarity over the type of sites and other interactions that will be encountered by the Project that has been gained as consideration of the Project has moved through Gate 3 of the RAPID process, the identified (significant and complex) interfaces now, in TW's view, support the case for the Project proceeding through the DCO route, hence a Section 35 Direction being sought.
- 6.53 A DCO can include powers for compulsory acquisition of land and rights over land and can also provide for temporary possession of land (for example in relation to land required temporarily for construction, or to facilitate diversions of existing utilities to facilitate delivery of the Project). The availability of temporary possession powers (which are currently not available under the 'conventional' compulsory acquisition regime) will help to reduce the impact on affected landowners and reduce the cost of and necessity for land acquisition.

7 Conclusion

- 7.1 The Project would ensure a resilient water supply for a projected population of over 12,000,000 people (at 2050) across London during drought conditions and would mitigate against the risks of debilitating water restrictions for both businesses and households in drought conditions, with the consequential socio-economic impacts that these would bring. The Project's role in this regard supports the need for its urgent delivery.
- 7.2 In addition, it would contribute substantially to the UK's environmental objectives and policy priorities by removing the environmental risks and impacts from emergency Drought Permits and Drought Orders that would otherwise have to be deployed to maintain essential water supplies.
- 7.3 The Project is a significant infrastructure scheme of substantial size (equivalent in scale to projects that automatically fall to be in the PA 2008 regime), comprised of extensive and large-scale water transfer pipelines and critical above-ground plant. It will interface with multiple land interests, designations, sites of ecological, landscape and historic interest and other major infrastructure, stretching across multiple local authority and decision-making boundaries and requiring an extensive range of consents, powers, licences and permits, whilst potentially having a range of temporary and permanent effects.
- 7.4 Accordingly, the Project is considered to be a project of national significance, in accordance with section 35(2)(c)(i) of the PA2008, for the following core qualifying reasons:
- The Project is of national significance as recognised by the WRSE Revised Draft Regional Plan and TW's revised draft WRMP24.
 - The Project is of national significance by virtue of its scale of development and realised benefit.
 - The Project is of national significance by virtue of its interface with its receiving environment and its contribution to the UK's environmental objectives.
 - The Project is of national significance by virtue of the social and economic consequences of not proceeding with the Project.
 - The Project requires consenting by many organisations and across a number of different forms of consent that will best be secured through a single DCO.
 - The Project requires temporary and permanent rights over and acquisition of land under the control of others that will best be secured through a single DCO.
- 7.5 This request represents a 'qualifying request' under section 35 of the PA2008. The Project is within the field of water and would be located wholly within England. The information within this request explains why the conditions in section 35(2)(a) and (b) are met in relation to the development, and why the Project is considered to be of national significance. This request therefore meets the requirements for a 'qualifying request' within the meaning of section 35ZA(11) of the PA2008 to enable the SoS to give a direction for the Project under section 35(1).
- 7.6 It is also crucial that, should the Secretary of State be minded to give one, a section 35 direction is given as soon as practicable. This will enable TW to fulfil its pre-application obligations as an applicant under the PA2008 regime to achieve the programmed milestones for submission of a DCO application by late 2025.

- 7.7 Consideration of the Project through the DCO consenting route and determined in accordance with the Water Resources NPS-WRI will minimise and manage planning and consenting risks that could otherwise result in significant potential delays to the consenting of the Project thereby delaying the delivery of a resilient water supply for London residents and businesses.
- 7.8 Fundamentally, the certainty of timely delivery and the largely single authorisation of consents enabled by the PA2008 regime, within a clear national policy context of the NPS-WRI, are considered to be critical to ensure that the Project is delivered and operational on programme by the early 2030s as identified by the Revised Draft Regional Plan and the revised draft WRMP24.
- 7.9 For all of these reasons, TW therefore requests that the SoS gives a Section 35 Direction for the Project, in the form of the draft at Appendix B to this request.

Appendix A Glossary

Item	Definition
Abstraction intake	A site comprising an inlet into which pre-determined rates of flow can be abstracted and directed to a recipient pipeline for onwards transfer.
Deployable Output	The supply benefit which is generated under specified conditions. The output for specified conditions for a water resources system as constrained by; source yield; licensed quantities; abstraction assets; raw water transfer assets; treatment; water quality; and levels of service
Development consent order (DCO)	A statutory instrument granted by the Secretary of State to authorise the construction and development of a Nationally Significant Infrastructure Project.
Discharge outfall	A site comprising pipework interfacing with a receiving water course into which transferred flows can be discharged
Drought Permit	An authorisation granted by the Environment Agency under drought conditions, which allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis
Drought Order	Powers granted by the Secretary of State during drought to modify abstraction/discharge arrangements on a temporary basis
Environmental Impact Assessment (EIA)	A procedure to be followed for certain types of project to ensure that decisions are made in full knowledge of any likely significant effects on the environment
Final effluent	Water treated and discharged from existing secondary treatment process in Mogden Sewage Treatment Works
Gross Value Added (GVA)	The value generated by a unit engaged in the production of goods and services
Intermediate shaft	Vertical below ground shafts along a tunnel or pipeline corridor route installed to provide construction or operational access, maintain health and safety protocols, and / or allow for air flow management
Marine licence	A licence granted by the Marine Management Organisation on behalf of the Secretary of State to authorise the licence holder to carry on activities for which a licence is required under Part 4 of the Marine and Coastal Access Act 2009
Megalitres per day (Ml/d)	Millions of litres per day. Unit of measurement for flow in a river or pipeline
National Policy Statement for Water Resources Infrastructure (NPS-WRI)	National Policy Statement providing planning guidance for applicants of nationally significant infrastructure projects for water resources, as defined in the Planning Act 2008
Non-Essential Use Ban (NEUB)	A drought order approved by the Secretary of State to restrict specific water uses by businesses
Pipeline	A (normally) below ground pipeline used to transfer raw or treated water, typical constructed by excavating into the ground, laying pipes and backfilling
Planning Act 2008 (PA2008)	The primary legislation which established the legal framework for applying for, examining and determining applications for Nationally Significant Infrastructure Projects; taking into account the National Policy Statements.

Raw water	Water that has not been purified
Regulators' Alliance for Progressing Infrastructure Development (RAPID)	An organisation formed by Ofwat, Environment Agency and Drinking Water Inspectorate to help accelerate the development of new water infrastructure and design future regulatory frameworks
Strategic Resource Option (SRO)	Large-scale infrastructure solutions for securing additional water
Teddington Direct River Abstraction drought resilience project	Option to develop a water treatment plant at Mogden STW taking effluent for tertiary treatment then discharging to River Thames including abstraction, treatment and conveyance scope
Tertiary Treatment Facility (TTF)	An additional, final stage of the waste water treatment plant process. It uses physical and chemical methods to remove contaminants from final effluent
Thames Lee Tunnel (TLT)	Existing raw water tunnel built in the 1960s, currently used to convey water from the River Thames in west London from Hampton Intake to the Lee Valley reservoirs
Town and Country Planning Act 1990 (TCPA)	Act of Parliament regulating the development of land in England and Wales
Water Available for Use (WAFU)	Combined total of deployable output; future changes to deployable output from sustainability changes, climate change etc.; transfers and any future inputs from a third parties; short term losses of supply and outage; and operational use or loss of water
Water Framework Directive (WFD)	Environmental legislation relating to river basin management and committing all EU member states to achieving good quantitative status to all water bodies and retained as UK law following Brexit
Water recycling	A process where wastewater is treated above usual standards to be returned to the environment and then abstracted downstream to process for drinking water
Water Resources Management Plan (WRMP)	A strategic plan which sets out how the company plans to maintain the balance between supply and demand for water for a minimum planning period of 25 years, although companies with particularly complex planning problems are encouraged to take a longer-term view
Water Resources South East (WRSE)	Alliance of the six water companies that cover the South East region of England, with the aim of securing the water supply for future generations through a collaborative, regional approach to managing water resources
Water Resources South East Regional Plan	Plan which assesses the future need for water and identifies the set of options that present the best value to customers, society and the environment to secure long-term resilience.

Appendix B Teddington Direct River Abstraction S.35 Direction

DIRECTION BY THE SECRETARY OF STATE UNDER SECTION 35(1) OF THE PLANNING ACT 2008 (AS AMENDED) RELATING TO THE TEDDINGTON DIRECT RIVER ABSTRACTION PROJECT

By a [letter] to the Secretary of State dated [XX] 2023 ("the Letter") Thames Water Utilities Limited ("the Applicant") formally requested that the Secretary of State exercise the power vested in the Secretary of State under section 35(1) of the Planning Act 2008 (as amended) ("the Planning Act") to direct that the proposed Teddington Direct River Abstraction project referred to in the Letter and supporting submissions ("the Project") be treated as development of national significance for which development consent is required.

The Secretary of State has made a decision within the primary deadline set out in section 35A(2) of the Planning Act and wishes to convey that decision.

Having considered the Applicant's request and the details of the Project, the Secretary of State is satisfied that:

- the Project does not automatically fall within the definition of a "nationally significant infrastructure project" ("NSIP") under the Planning Act and therefore it is appropriate to consider use of the power in section 35 of that Act;
- the elements of the Project that are requested to be development for which development consent is required either are, or are a part of, a project in the field of water;
- the Project is within England;
- no application for consent or authorisation mentioned in section 33(1) or (2) of the Planning Act has been made in relation to the development to which the request relates; and
- the Applicant's request therefore constitutes a "qualifying request" in accordance with section 35ZA(1) of the Planning Act.

In coming to these conclusions, the Secretary of State notes that the Project relates to the construction of new infrastructure for the purposes of water supply and thus sits within one of the qualifying infrastructure fields listed in section 35(2) (a) (i) of the Planning Act, namely water.

The Secretary of State notes from the Letter that the Project comprises the following:

- tertiary treatment facilities (TTF) with an output of up to 75MI/d of recycled water;
- a water transfer pipeline between the TTF and the outfall discharge infrastructure referred to below;
- an outfall connection pipe and outfall discharge structure with an output of up to 75MI/d located adjacent to and within the riverbank of the River Thames;
- an abstraction intake with an abstraction rate of up to 75MI/d located adjacent to and within the riverbank of the River Thames; and

a water transfer pipeline from the abstraction intake referred to above to the existing Thames Lee Tunnel raw

water main, (together, "the Principal Development");

- associated development (within the meaning of section 115(1)(b) of the Planning Act) including, but not limited to: upgrade and improvement works to existing water treatment and supply infrastructure, shafts to support construction and operation, temporary works to support construction, works to support operation and maintenance, site accesses, temporary and permanent utility connections, highway diversions and landscaping, environmental mitigation, enhancement and compensation measures ("the Associated Development"); and
- ancillary matters ("the Ancillary Matters").

The Project does not include the construction of any dwellings.

The Project can therefore be summarised as comprising:

- the Principal Development;
- the Associated Development; and
- the Ancillary Matters,

all as detailed or referred to in the Letter.

Having considered the details of the Project set out in the Letter, the Secretary of State is of the view that the Principal Development is nationally significant, for the reasons set out in the Annex below. The Secretary of State is further of the view that the Principal Development would:

- be for a complex and substantial scheme, involving extensive infrastructure works and requiring multiple powers and consents (including multiple planning permissions, marine licences, river works licences, compulsory acquisition powers and environmental consents), which should be seen as nationally significant development in its own right; and
- benefit from the application being determined in a timely and consistent manner by the Secretary of State, and by removing the need to and uncertainty of applying for a large amount of separate powers and consents.

THE SECRETARY OF STATE HEREBY DIRECTS that the Principal Development is to be treated as development for which development consent is required. Any application for development consent for the Principal Development may also include any matters that may properly be included in a development consent order (in accordance with section 120 of the Planning Act) including ancillary matters (section 120(3)) and associated development (within the meaning of section 115(2) of the Planning Act).

THE SECRETARY OF STATE FURTHER DIRECTS in accordance with section 35ZA(3)(b) of the Planning Act that any proposed application for a consent or authorisation mentioned in section 33(1) or (2) of the Planning Act for the principal development is to be treated as a proposed application for which development consent is required.

This direction is given without prejudice to the Secretary of State's consideration of any application for development consent which may be made in relation to all or part of the Project.

Signed by

[name of person signing]

[position or role of named person]

Authorised to sign on behalf of the Secretary of State [date]

Appendix C Teddington Direct River Abstraction draft Alignment and Sites

Indicative Project Summary

- 1.1 Although the full detailed design for the Project is yet to be developed, the Project is expected to comprise the following:
- at Mogden STW located in the London Borough (LB) of Hounslow:
 - a Tertiary Treatment Facility (TTF) with a peak output of 75MI/d of recycled water; and
 - a recycled water drop shaft and conveyance pipeline;
 - located at the following potential sites and below ground in the LB of Hounslow and the LB of Richmond Upon Thames:
 - up to five intermediate shafts at sites located at no more than approximately 1km intervals between Mogden STW and the River Thames upstream of Teddington Weir at:
 - Ivybridge Retail Park Car Park – indicative Intermediate Shaft 1 location (LB Hounslow)
 - Moormead and Bandy Recreation Ground Central – indicative Intermediate Shaft 2 location (LB Richmond Upon Thames)
 - Ham Street Car Park – indicative Intermediate Shaft 3 location (LB Richmond Upon Thames)
 - Land to the west of Riverside Drive playground – indicative Intermediate Shaft 4 location (LB Richmond Upon Thames).
 - Ham Lands, west of Riverside Drive – indicative Intermediate Shaft 6¹⁷ location (LB Richmond Upon Thames)
 - a recycled water transfer pipeline between Mogden STW and the River Thames upstream of Teddington Weir aligned with the indicative Intermediate Shaft sites and located in the LB Hounslow and the LB Richmond Upon Thames;
 - an outfall and abstraction facility site south of Burnell Avenue in the LB Richmond Upon Thames and the Royal Borough of Kingston Upon Thames;
 - a drop shaft, raw water pipeline and connection shaft to the TLT located within the Royal Borough of Kingston Upon Thames potential at either:
 - TLT Connection Option 1 Land south of Northweald Lane, or
 - TLT Connection Option 3 Land at Tudor Drive
 - works associated with the permanent provision of accesses, utilities, landscaping and environmental mitigation necessary for the Project.

Tertiary Treatment Facility

- 1.2 A start point in this regard is to site the TTF, which is required to enable the further treatment of final effluent, within the STW itself. This reduces the distance that final effluent must be transferred prior to its treatment to generate recycled water, allows any by-products to remain and be managed within the STW, and removes the

¹⁷ Although the Intermediate Shafts are numbered up to '6', only five have been identified as part of the project. Intermediate shaft no. 5 has been removed from the project.

need for an additional offsite location on which to site the TTF.

- 1.3 Furthermore, it presents the option for the TTF to treat final effluent from the STW in non-drought circumstances prior to the release of that effluent to the Thames Tideway as per existing discharge provisions, thereby improving the water quality within the Tideway in non-drought conditions as well as during drought conditions.
- 1.4 Space constraints at Mogden STW limit the location for the TTF. One option would be to build the TTF over the footprint of existing storm tanks.
- 1.5 In this scenario, the TTF would be sited on a platform which will be erected above storm tanks 7 and 8 in the south east corner of the STW. The design of the platform would need to minimise any impact on the operation and maintenance of the storm tanks. A detailed Interface Plan would be prepared as the Project progresses to ascertain that the scheme will not compromise the operation of Mogden STW.
- 1.6 The TTF would also be provided with its dedicated maintenance lifting equipment.
- 1.7 During consideration of the design requirements for the TTF it was confirmed that the existing STW has sufficient capacity (hydraulic and biological) to accept the projected waste that would arise from the 75MI/d TTF.

Outfall Structure

- 1.8 A portion of final effluent from Mogden STW would undergo treatment at a new TTF within the Mogden STW. The resulting recycled water would then be transferred via pipeline to a new outfall structure to be located on the River Thames, upstream of Teddington Weir.
- 1.9 This structure is intended to act as an energy dissipator by receiving the recycled water from a pressure pipeline and slowing the speed of the water so that the flow is very slow when it discharges into the river. This is achieved by having a below-ground wide weir that spreads the flow evenly across the width of the structure. The weir also acts as a hard barrier to prevent fish or any backflow from the river entering into the tunnel system.
- 1.10 Construction of the outfall structure would require installation of a temporary steel sheet pile cofferdam extending out into the river. Once the outfall structure has been constructed any excavation will be backfilled so the final ground profile matches existing.
- 1.11 The outfall would be buried in the river bank, constructed from reinforced concrete and would be approximately 10m wide, 4m of which would be visible, angled at approximately 45 degrees to the river flow.
- 1.12 Very little of the outfall structure would be visible from ground level. Only access manhole covers and the path along the river edge would be noticeable.
- 1.13 The outfall would be positioned on the bank of the River Thames approximately 180m upstream of Teddington weir and approximately 170m downstream of the intended Intake structure to the TLT.

Intake Structure

- 1.14 An intake structure is required to abstract water from the River Thames to provide water to the TLT where it can be passed forward for treatment and use.
- 1.15 The intake structure would be constructed from reinforced concrete and be positioned either on the bank of the river, or partially on the bank and partially within the river, approximately 170m upstream of the outfall structure.

- 1.16 The intake structure, including wing walls, would have a width along the riverbank of approximately 38m, with the actual screens being approximately 15m wide, and extend some 4m from the riverbank.
- 1.17 Construction of the intake structure would also require installation of a temporary steel sheet pile cofferdam to allow its construction. The cofferdam would minimise the amount of excavation required and allow the structure to be installed in a safe and efficient manner. The temporary cofferdam could encroach into the river by approximately 10m.
- 1.18 It is intended that the water abstraction rate at the intake would be controlled to match the delivery rate at the outfall to maintain equilibrium.
- 1.19 The intake structure would have a low velocity fine screen and a silt trap to minimise the effect of the abstraction on the river ecology and flow. The low water velocity allows fish to swim away from the screen so they are not drawn into the intake.
- 1.20 The screen and the silt trap are continuously cleaned when in use and washed back into the main river. The intake screens sit in the river flow adjacent to the riverbank to encourage silt and debris to be carried away in the normal flow of the river.
- 1.21 The screens will be positioned on a platform extending out from the riverbank into the river flow. The silt trap and connection pipes and manholes to the TLT will be buried with only manhole covers visible at the surface.
- 1.22 A fenced compound around the structure will be required for security to protect kiosks containing mechanical and electrical equipment on the site.

Thames Lee Tunnel Connection

- 1.23 The TLT is an existing raw water tunnel built in the 1960s using a key wedge block method. This tunnel is currently used to convey water from the River Thames in west London from Hampton Intake to the Lee Valley reservoirs.
- 1.24 Following the discharge into the surrounding reservoirs the water is abstracted and transferred to Coppermills Water Treatment works where it is treated to required standards to be provided as high-quality drinking water to customers throughout London.
- 1.25 To enable the TDRA scheme to connect to the TLT a vertical drop shaft would need to be sunk to the level of the TLT (which is approximately 18m below ground level) and an underground connection made to the tunnel.
- 1.26 Once the water has passed through the intake screen and silt trap the flow will connect, through buried pipework, to the vertical drop shaft connecting to the TLT. A permanent control building or buried structure would be required to be located alongside the drop shaft.
- 1.27 The flow rate will be controlled to match the flow being discharged from the outfall and will be designed to pass a flow of up to 75Ml/d. Valves would control the flow and are electrically controlled.

Pipeline and Intermediate Shafts

- 1.28 The maximum practical drive length depends on several factors such as skin friction, available jacking force, or the nominal diameter of the jacking pipes. Consideration of safe access and egress during construction may limit the practical drive lengths at diameters below 3500mm and will need further consideration.
- 1.29 According to ground conditions and the pipeline internal diameter, the Tunnelling and Pipejacking: Guidance for Designers by the Pipe Jacking Association document provides a guide to select the suitable excavation

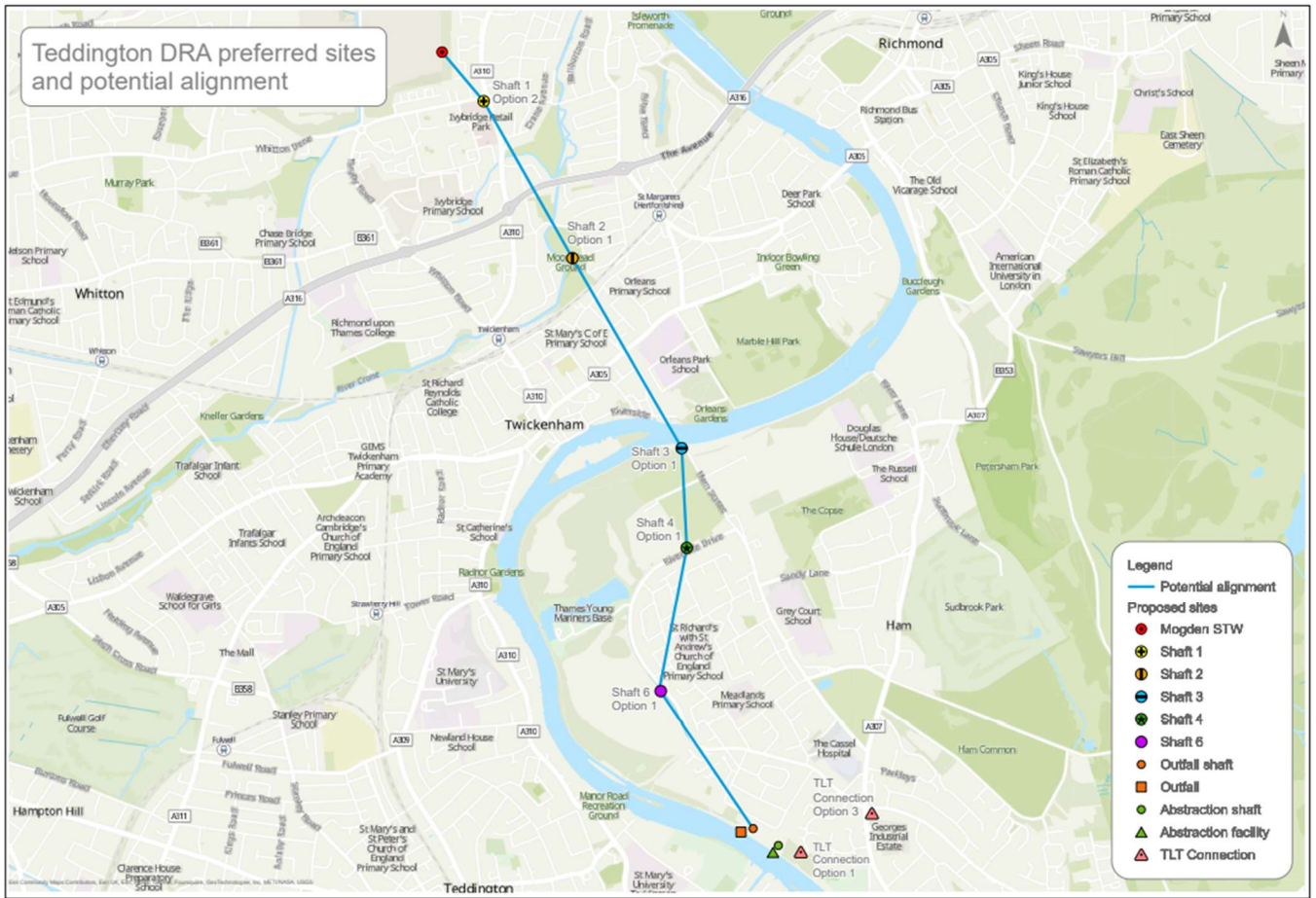
techniques and drive lengths and in particular it is noted that, for tunnels, drives over 1000m are not considered acceptable unless the pipe/ tunnel is of sufficiently large cross section to allow the contractor to incorporate an access envelope 0.9m wide by 2.0m high within the pipe/ tunnel and clear of services including ventilation ducts and spoil conveyors.

- 1.30 Longer tunnels may be achievable on the provision that appropriate safe access and egress and use of remote method could be adopted, including the possible inclusion of safety refuges. This would need to be further reviewed in collaboration with potential tunnelling contractors.
- 1.31 An essential component for pipeline or tunnel conveyance delivery between Mogden STW and the discharge outfall location on the River Thames is the provision of intermediate shafts. The design and scale of intermediate shafts are directly linked to the scale of the conveyance to which they relate, with each shaft providing construction access, and health and safety support as part of their primary function.
- 1.32 At the scale of pipeline proposed (1.8m internal diameter) the following key design limits are required to be followed in the siting of intermediate shafts:
- intermediate shaft sites need to be accessible, relatively level and suitably sized to facilitate construction and use;
 - shaft sites should no more than approximately 1,000m apart; and
 - shaft diameters should be circa 10m diameter.

Location Plans

- 1.33 An overview of the indicative TDRA Project site locations and associated potential alignment is shown below:

Indicative TDRA Project Site Locations and Potential Alignment



1.34 The following figures show the indicative construction and operational site areas associated with each of the potential sites that could comprise the Project.

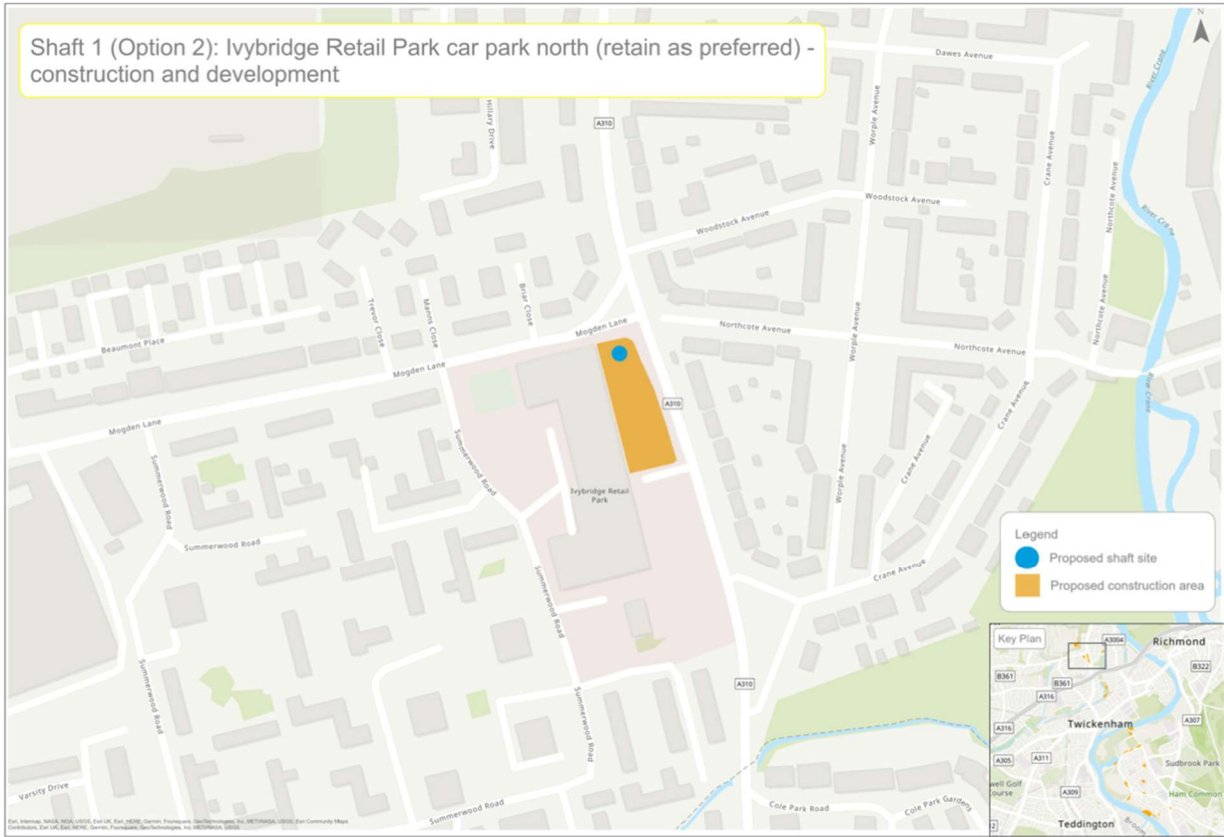
Mogden STW – Construction and Development



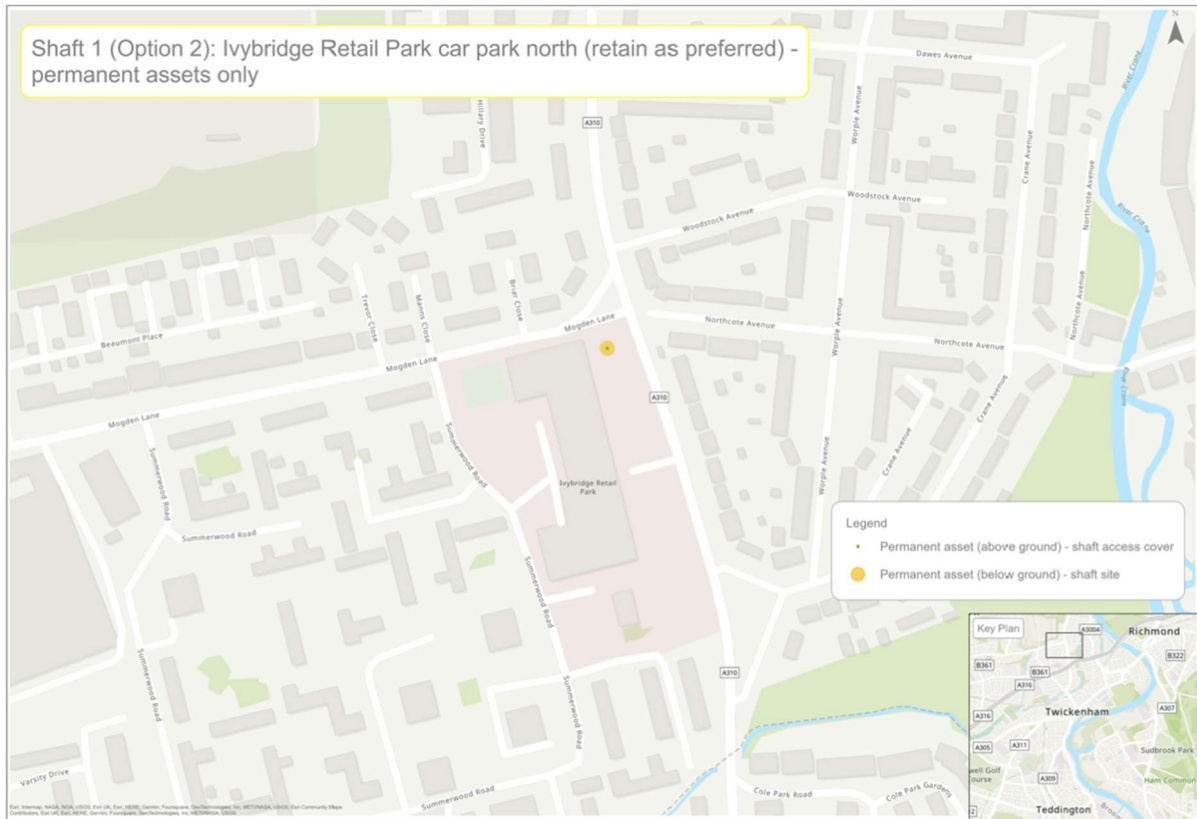
Mogden STW – Permanent Assets



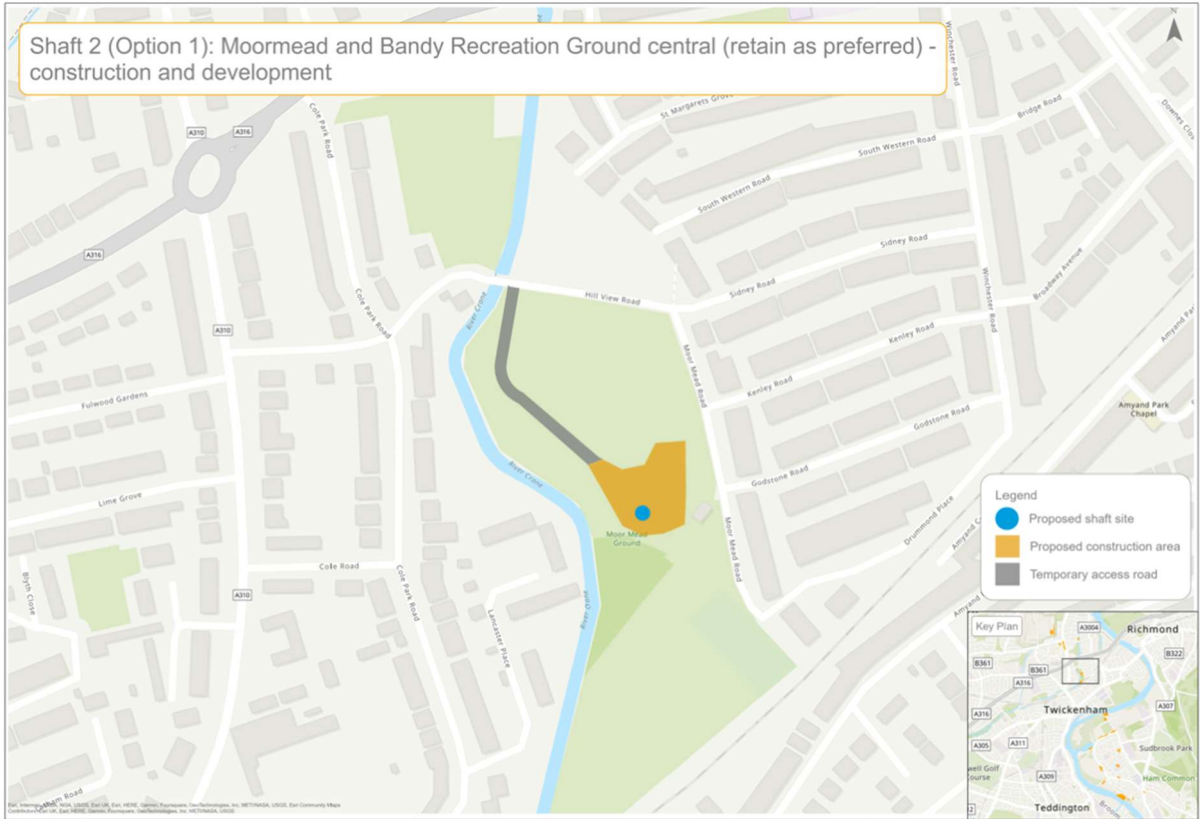
Intermediate Shaft 1 Ivybridge retail Park Car Park – Construction and Development



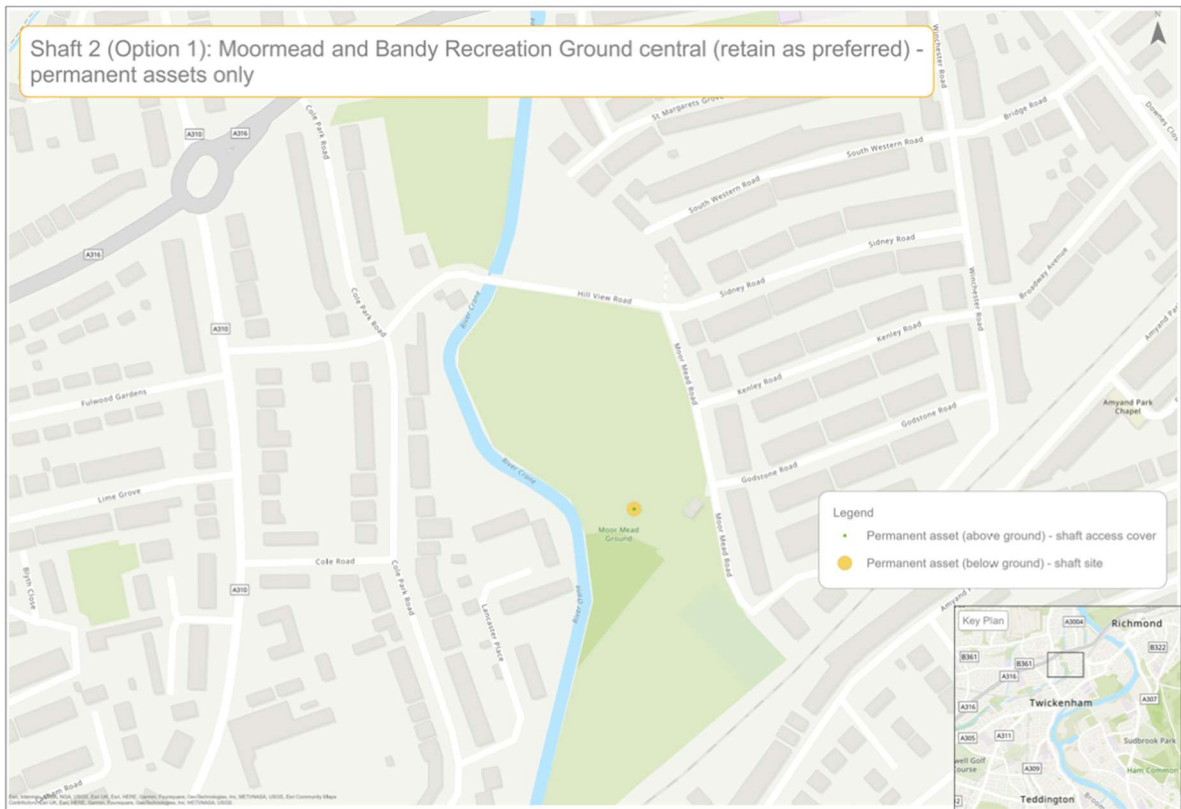
Intermediate Shaft 1 Ivybridge Retail Park Car Park – Permanent Assets



Intermediate Shaft 2 Moormead and Bandy Recreation Ground Central – Construction and Development



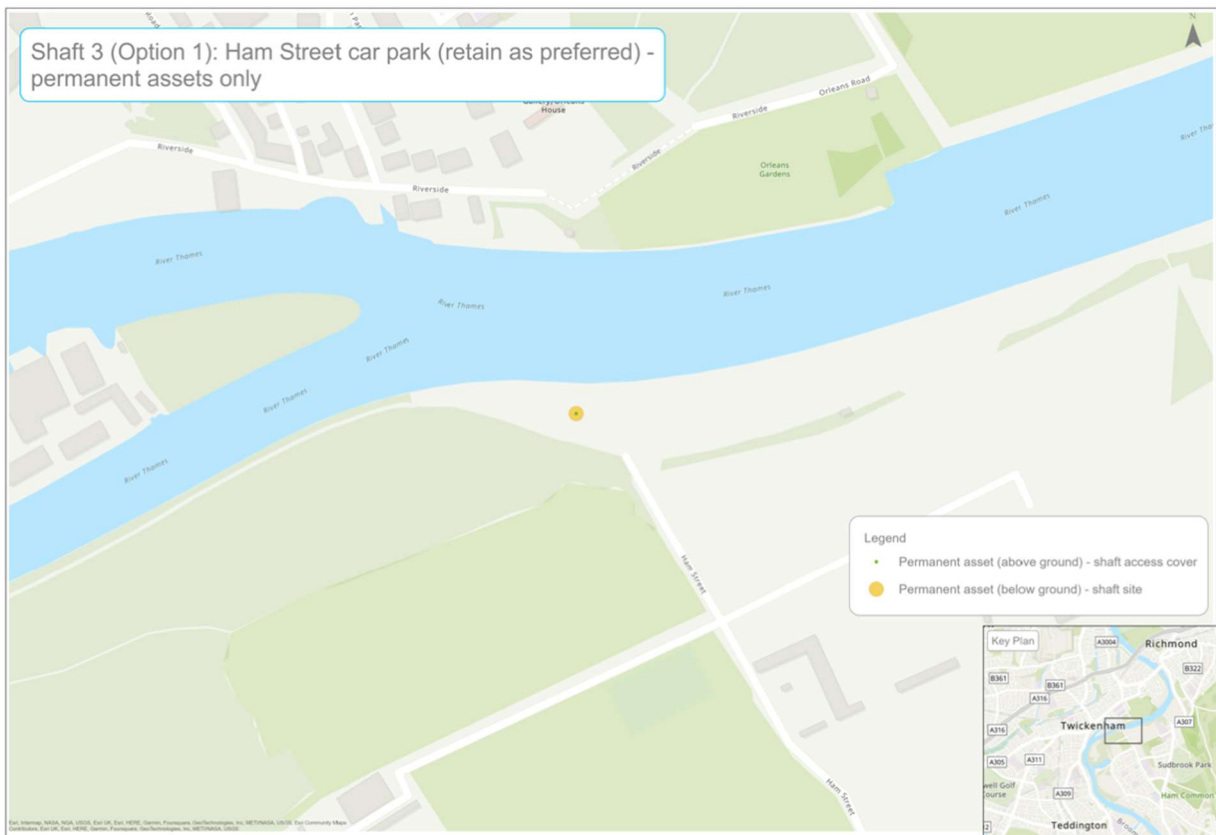
Intermediate Shaft 2 Moormead and Bandy Recreation Ground Central – Permanent Assets



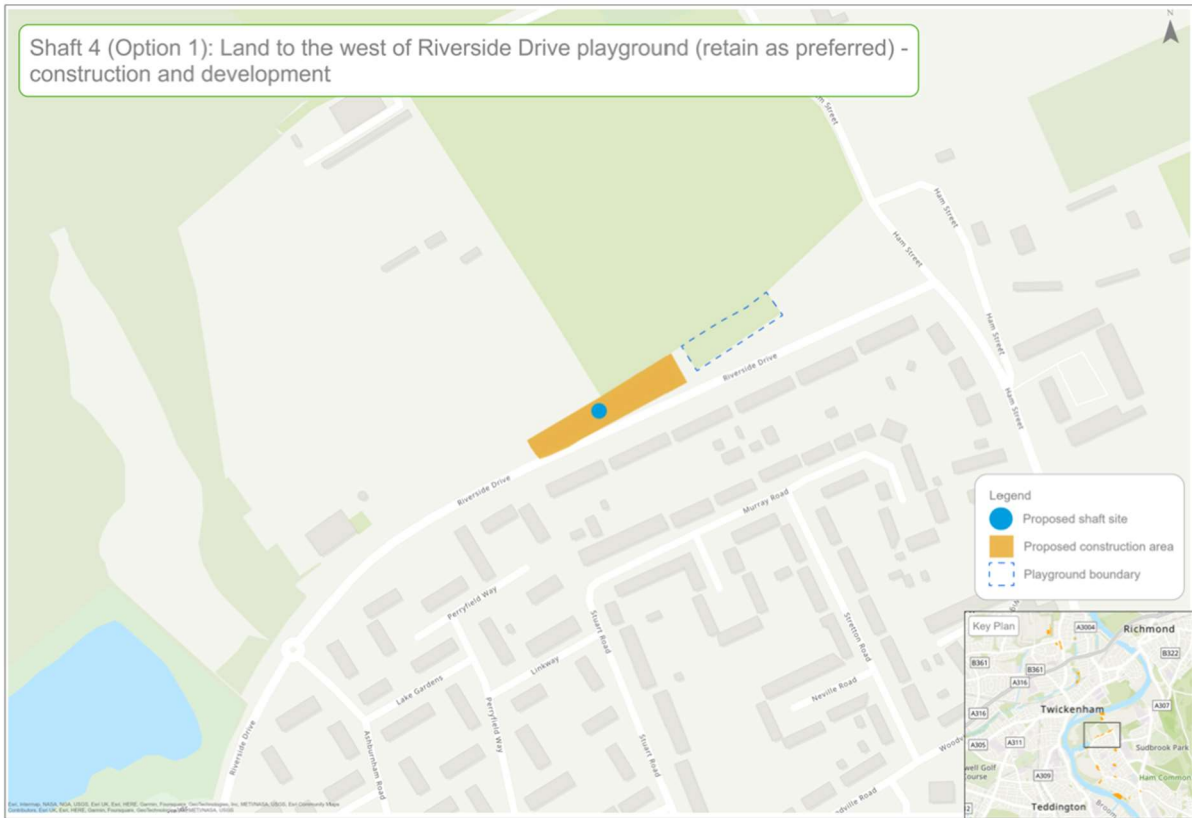
Intermediate Shaft 3 Ham Street Car Park – Construction and Development



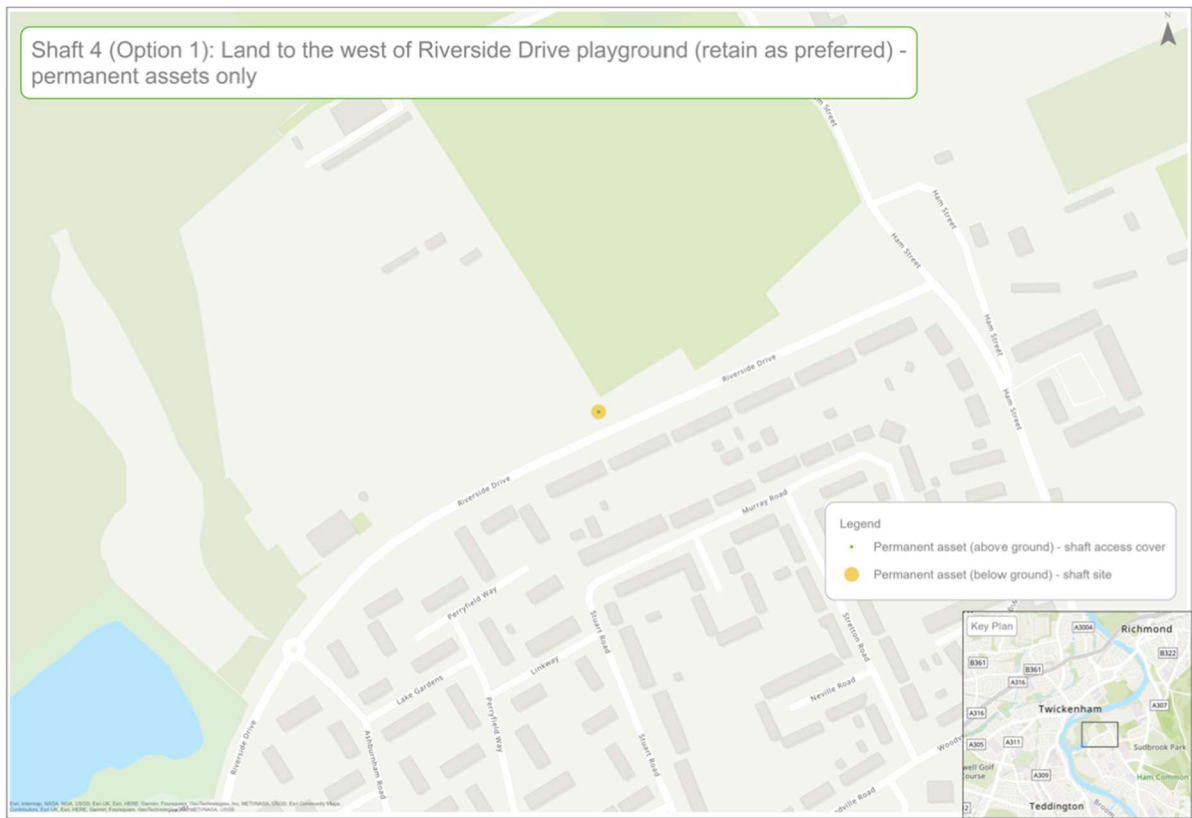
Intermediate Shaft 3 Ham Street Park Car Park – Permanent Assets



Intermediate Shaft 4 Land to the west of Riverside Drive playground – Construction and Development



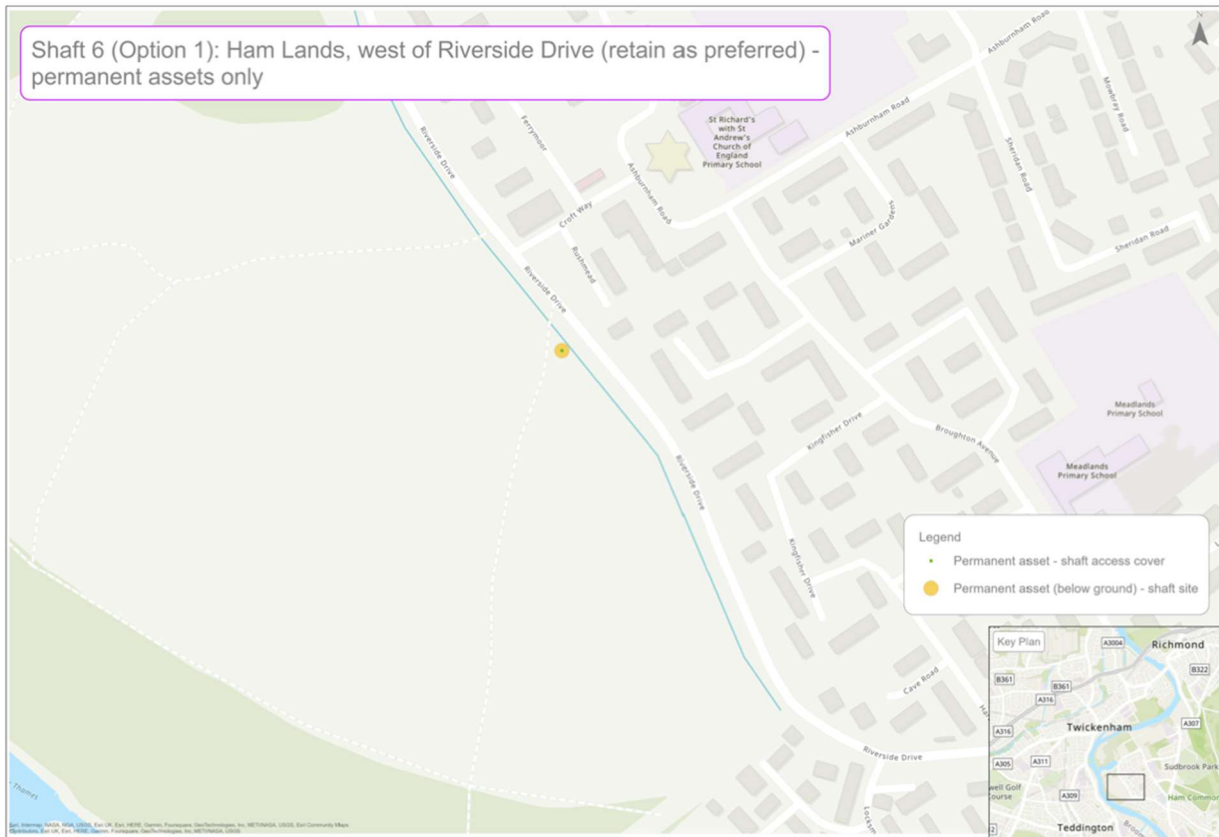
Intermediate Shaft 4 Land to the west of Riverside Drive playground – Permanent Assets



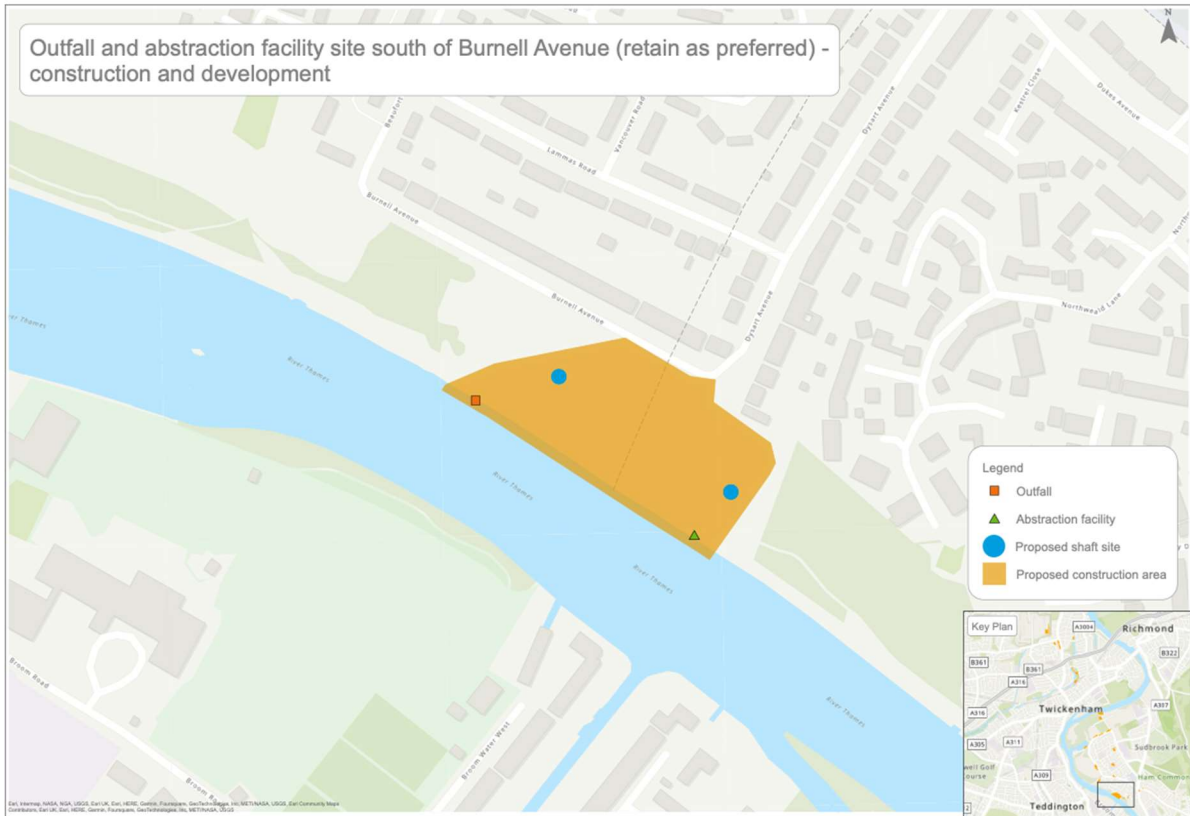
Intermediate Shaft 6 Ham Lands, to the west of Riverside Drive – Construction and Development



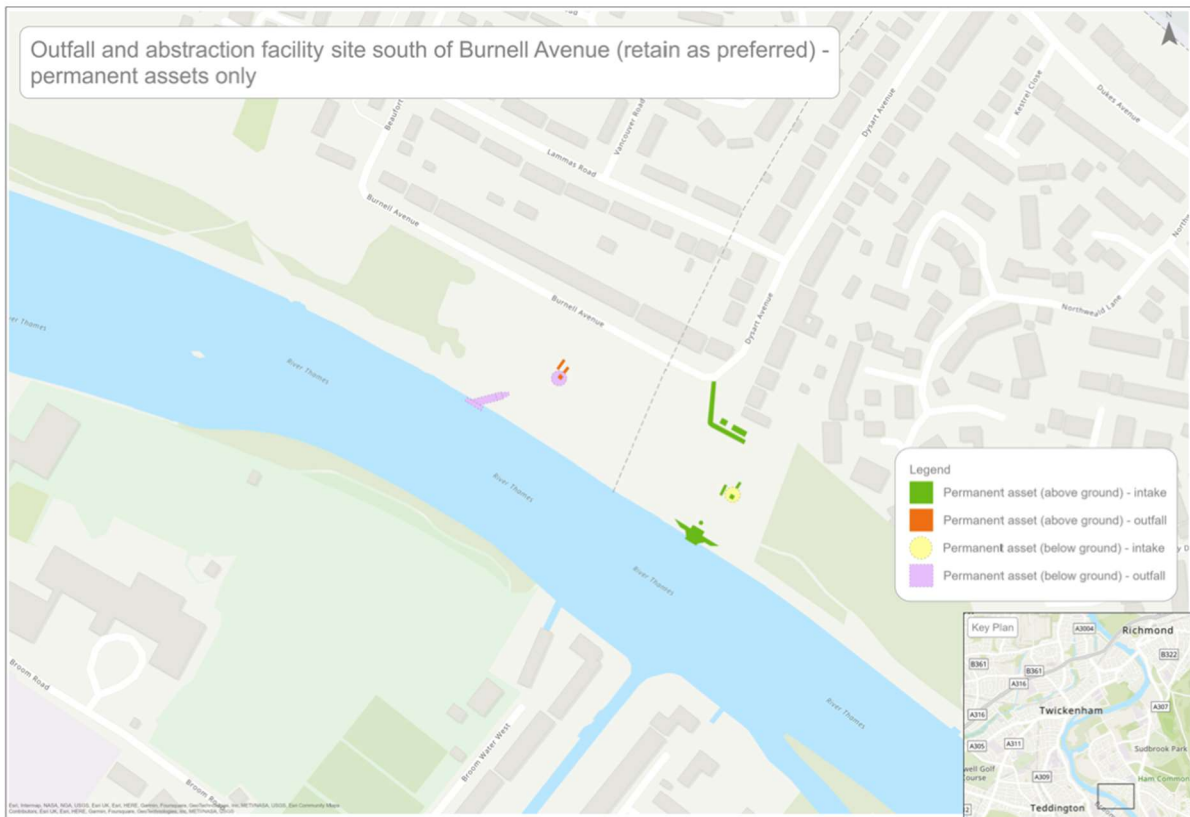
Intermediate Shaft 6 Ham Lands, to the west of Riverside Drive – Permanent Assets



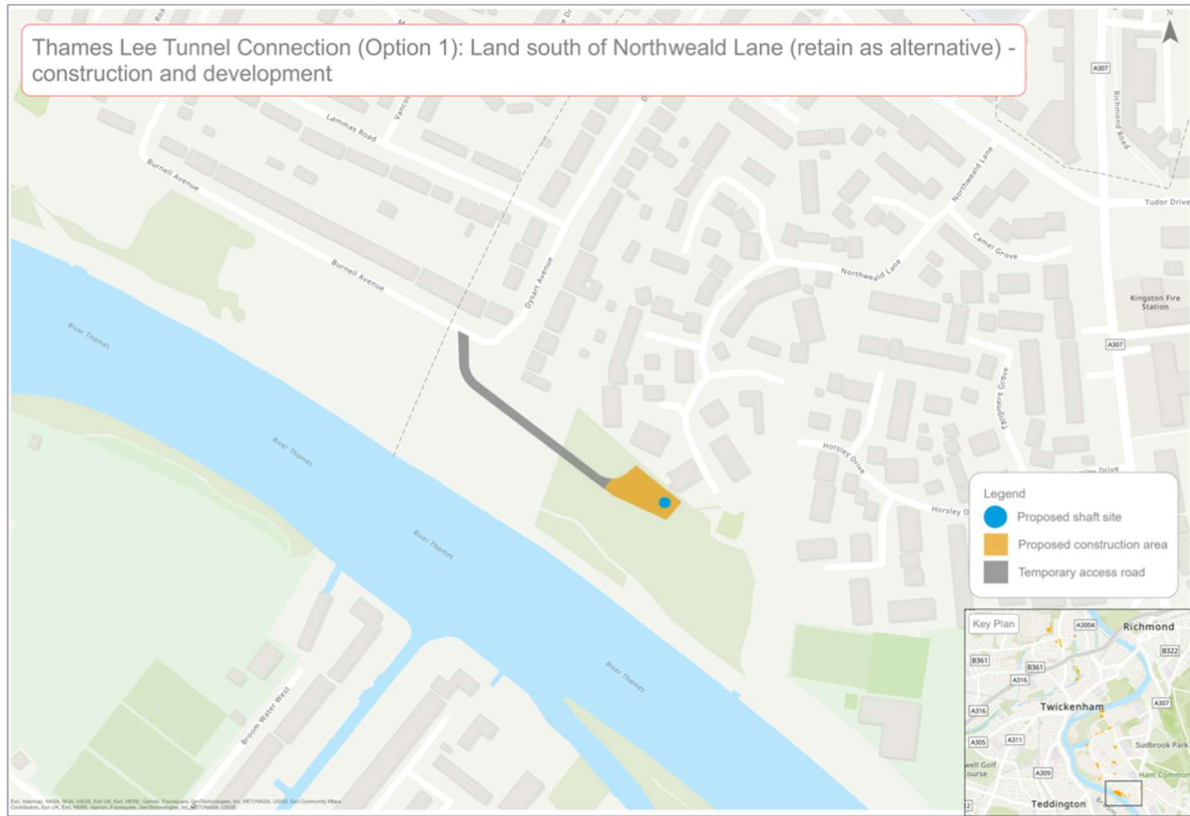
Outfall and Abstraction Facility Site South of Burnell Avenue – Construction and Development



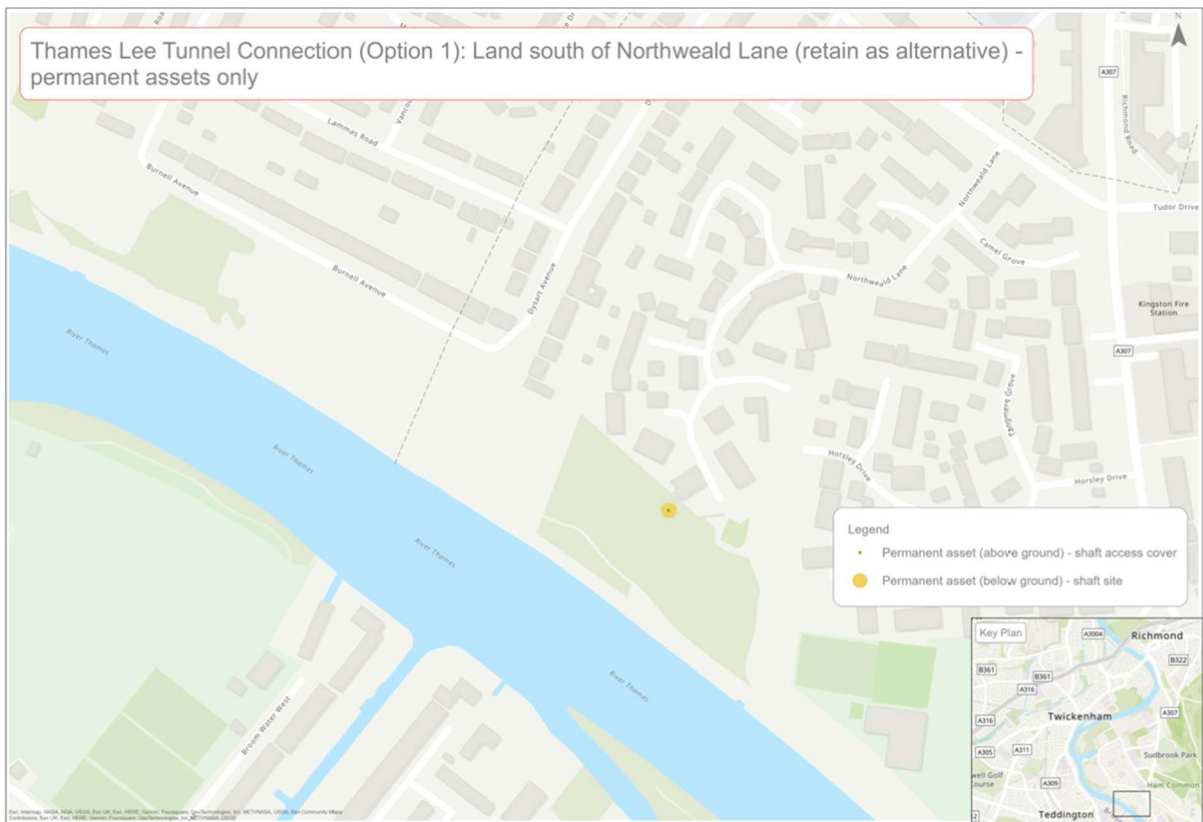
Outfall and Abstraction Facility Site South of Burnell Avenue – Permanent Assets



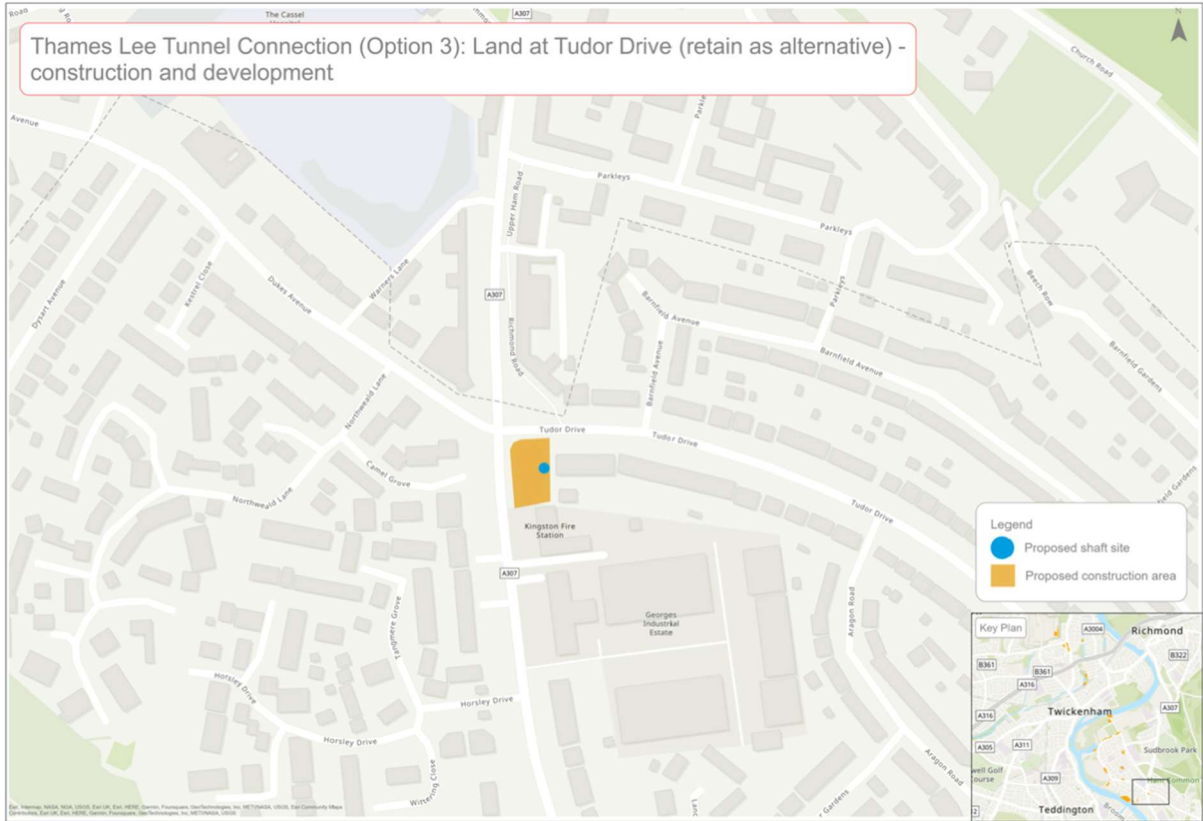
Thames Lee Tunnel Connection Option 1 Land to the south of Northweald Lane – Construction and Development



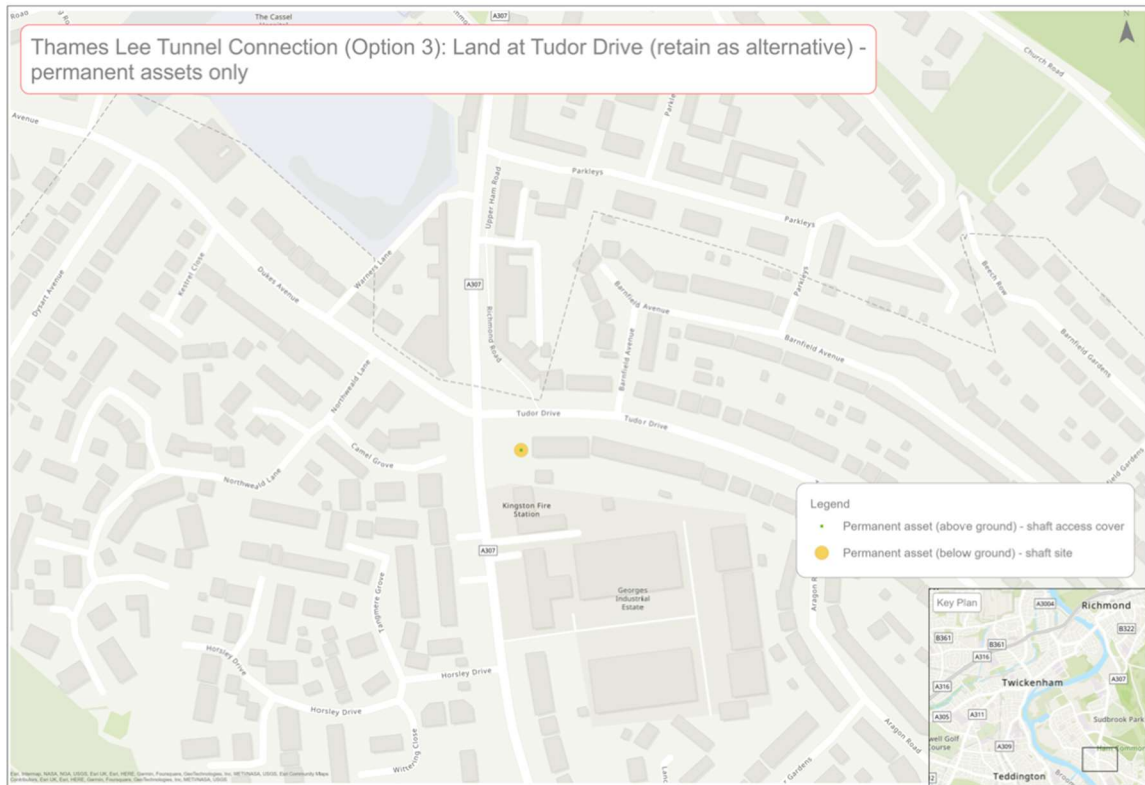
Thames Lee Tunnel Connection Option 1 Land to the south of Northweald Lane – Permanent Assets



Thames Lee Tunnel Connection Option 3 Land at Tudor Drive – Construction and Development



Thames Lee Tunnel Connection Option 3 Land at Tudor Drive – Permanent Assets





It's everyone's water