Teddington Direct River Abstraction

Statutory Consultation Brochure

June 2025

Foreword

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The South East is one of the UK's driest regions, classified by the Environment Agency as "seriously water stressed". London is an essential part of the UK's economy and is a global hub for culture and finance, but the city faces economic, social, environmental and public health risks stemming from severe droughts.

The combined effects of climate change, population growth and the need to protect the environment mean that if we don't do anything, then we forecast that we'll have a shortfall of one billion litres of water every day by 2050.

A large part of addressing this challenge is driving down leakage and helping our customers save more water. We're targeting our largest leaks first, with an ambitious mains pipe replacement programme as we work towards our goal to halve leakage by 2050. We're also continuing our smart meter rollout – we've already installed over 1.2 million smart meters across the region, with over a million more planned over the next five years. Smart meters play a crucial role in helping customers to use water wisely, while helping to us to quickly locate leaks.

However, these measures won't be enough on their own. That's why we're investing in projects that increase the water supply in London and the South East.

Teddington Direct River Abstraction (TDRA) is a vital drought resilience project for London and is a key part of our plan to secure water supplies for the future.

During droughts, it would supply up to an additional 75 million litres of water per day – enough for over 500,000 people. It would help taps continue to flow, businesses and schools to remain open, and daily life to go on as usual.

We've been developing our project for several years and, since we last consulted with you in 2023, we've made significant changes in response to your feedback, survey information, and as a result of our ongoing design development work.

Now we want to hear your views on our updated proposals before we submit our application for development consent in summer 2026.

Our statutory consultation will last 10 weeks, running from 17 June to 26 August 2025. The consultation puts communities at the forefront of our plans and this brochure explains how you can have your say, including details of our in-person and online public information events.

Thank you for taking the time to read our consultation materials. Please give us your feedback and help us shape our proposals to keep water flowing for the future.

Best wishes

Leonie Dubois

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About Thames Water

Every day, we serve 16 million customers across London and the Thames Valley. From that first cup of tea in the morning through to baths at bedtime.

We take water from rivers and natural underground sources, with the Environment Agency regulating how much we can take. We also store water from rivers in large reservoirs until we need it, before treating it to a high standard and distributing it to homes and businesses.

When water goes down your drain, we collect it in our network of sewers and treat it at one of our 352 wastewater treatment works, before it's returned to rivers and streams across the South East.

Investing to keep water flowing

In 2019, the Environment Agency warned that within 25 years England will not have enough water to meet growing demand. This year, we're already seeing the impact of climate change, with the hottest and driest spring on record where we received only half the expected rainfall. We forecast we'll need an extra 1 billion litres of water every day for our customers by 2050. The worst droughts could cost London's economy up to £500 million every day – as well as disrupting our daily lives.

We have a legal responsibility to provide resilient water supplies, now and into the future. Alongside reducing leakage and helping our customers save more water, we need to invest in new water sources. This is to ensure we can better protect our customers from droughts and reduce the amount of water we take from the environment, to safeguard it for future generations.

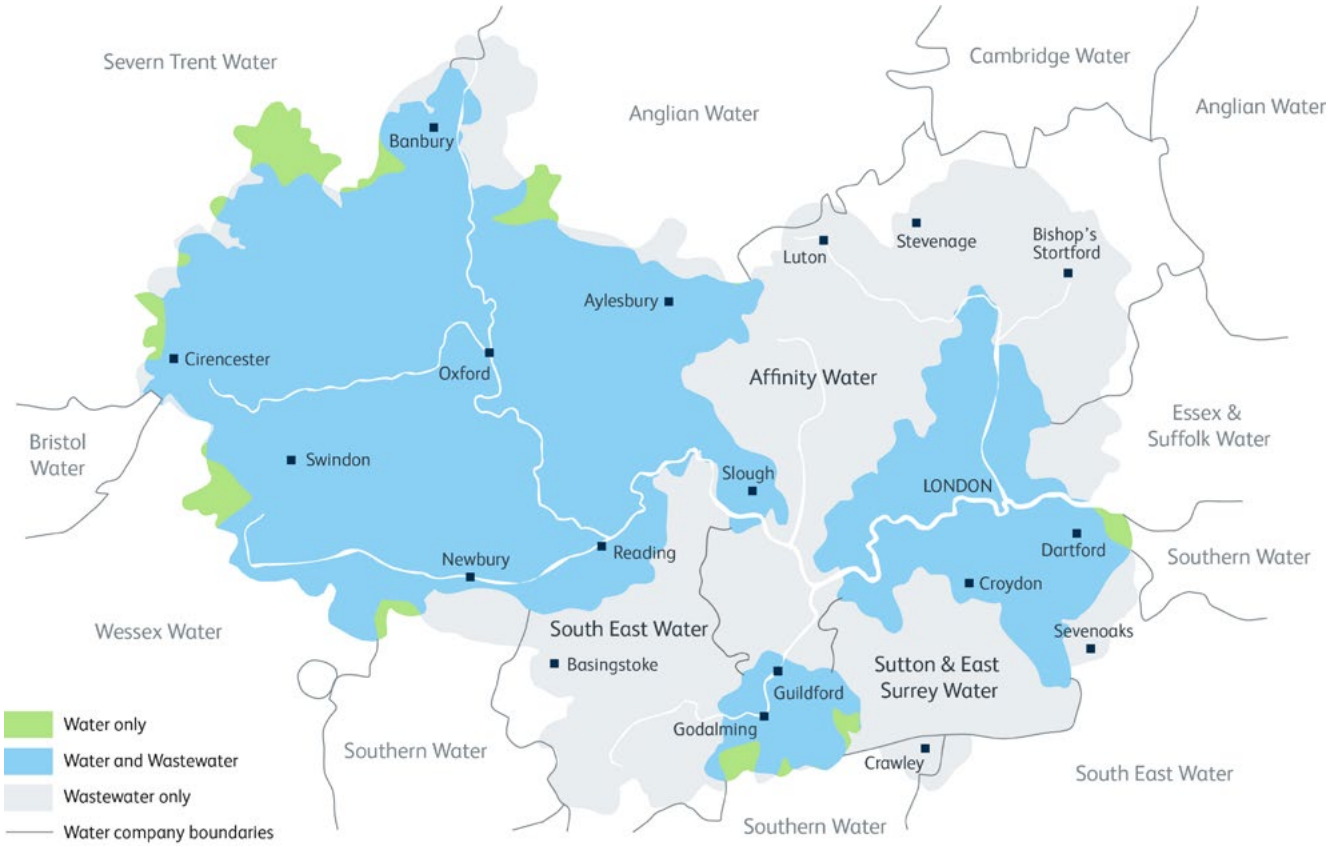


Figure 1: Our region

Why we need the TDRA project

There are four main pressures on our water supplies:

- **Climate change:** We're facing longer, hotter, drier summers, which means there'll be less rain when we need it most, and extreme weather events will happen more often.
- **Population growth:** We're expecting to supply water to nearly 12 million people by 2050, including 10 million people in London. This includes all of the businesses and public services on which we all rely.
- **Protecting the environment:** We've already reduced the amount of water we take from sensitive areas of the environment across our region by 134 million litres per day over the past 25 years, but there's more to do to protect habitats for future generations.
- **Increasing drought resilience:** Each year there is a 1 in 100 chance we'll need to introduce severe water use restrictions, such as temporary use bans and public water collection points. To meet government standards, we need to reduce this to a 1 in 200 chance by the mid-2030s and a 1 in 500 chance from 2040.

We've explored over 1,400 supply and demand options to address the regional water shortfall. TDRA is one of several resource options in our area selected for further development, chosen for its best value in water output, environmental impact, carbon footprint, delivery timeline and future resilience. The project is a cost-effective scheme that will increase drought resilience for our customers and people that visit and work in London.

About this consultation

In December 2023, the Secretary of State for Environment, Food and Rural Affairs designated TDRA a project of national significance.

This means we need to apply for a Development Consent Order (DCO) to build, operate and maintain the project, which would be granted by the relevant Secretary of State. The application process is governed by the Planning Act 2008.

We held a public consultation on initial site options for the project in 2023, before updating our proposals and publishing them as part of a project update in autumn 2024.

We've now reached the next important milestone where we can share enough information about the project to enable us to carry out a statutory consultation.

What is a statutory consultation?

A statutory consultation is a legal obligation under the Planning Act 2008 that we must fulfil before we submit our DCO application. It's important because it gives customers, communities and stakeholders the opportunity to comment on our proposals while they are still at a formative stage.

To develop our approach to the statutory consultation, we've prepared a Statement of Community Consultation (SoCC) setting out how we'll consult, what we'll consult on, and how people can have their say on our proposals. You can view the SoCC in the document library on our consultation website.

What we're consulting on

We've already asked for your views on some matters relating to the project.

Our Water Resources Management Plan 24 (WRMP24) consultation set out our preferred plan for reducing demands on water and increasing supplies in our area, including proposals for the project. This is why we're not consulting on matters like the need for the project or the amount of water it would recycle, because they're settled through the published WRMP24.

We also presented site options through our non-statutory consultation in autumn 2023 and have made some decisions based on feedback provided.

The boxes opposite explain the things we are, and aren't, consulting on as part of our statutory consultation. Throughout this brochure, we've signposted where the information we're providing directly corresponds to a question on our feedback form.

What we're consulting on

- Project design, operation and maintenance
- Indicative construction activities and schedule
- Potential effects on communities and the environment
- Managing potential environmental effects
- Land needed for the project and how it would be used
- Draft overarching Design Principles
- Opportunities to enhance local spaces

- **What we're not consulting on**
- The need for the project
- Our other water resources projects
- Our metering and leakage programmes
- Other parts of our business
- Other water companies'or organisations' projects

Our statutory consultation materials

We've produced a range of consultation materials, as well as this brochure, to help you understand our proposals.

All our materials can be viewed on our consultation website at **www.thames-sro.co.uk/tdra/statcon2025**, or at our in-person public information events. Printed copies of all consultation documents will be available to view at the five deposit locations in the community, with printed brochures and feedback forms available to collect from deposit locations and information points.

At the back of this brochure, you'll find more information about our deposit locations and information points. It also includes a list of our events and explains the different ways you can give us your feedback.

Our consultation documents include:

Consultation brochure

Feedback form

Preliminary Environmental Information Report (PEIR)

PEIR Non-Technical Summary (NTS)

Draft Code of Construction Practice (Appendix 4.3 of the PEIR)

Draft overarching Design Principles

Map Book 1: Draft Order Limits and Land Use

Map Book 2: Tunnel Plans and Profile Drawings

A vital drought resilience project for London

During drought periods, TDRA would provide up to an extra 75 million litres of water a day.

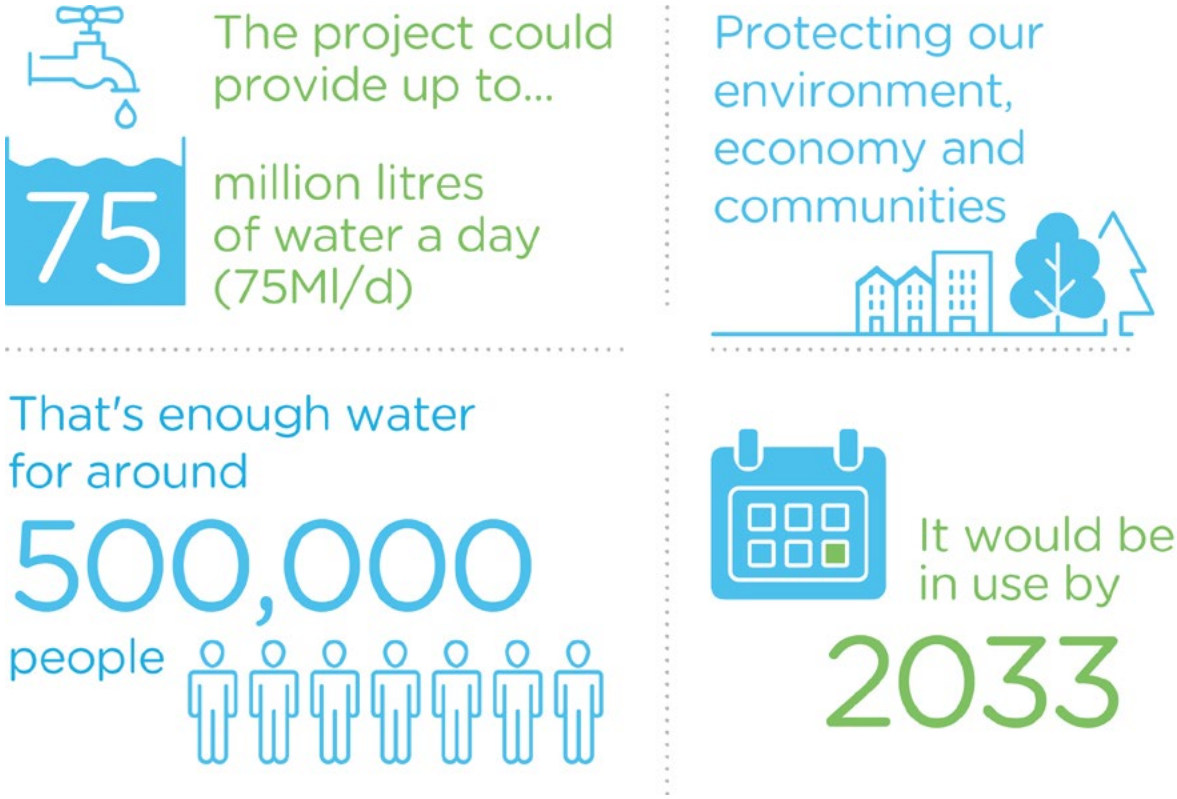
The project works in two parts: the first tops up reservoirs with water from the River Thames, while the second replaces the water taken from the river with recycled water from a new Tertiary Treatment Plant (TTP).

When would we use TDRA?

We'd only use the project during droughts, which we estimate will happen roughly every two years, usually between late summer and late autumn. We'd reach an operating agreement with the Environment Agency that would set out when we can use it.

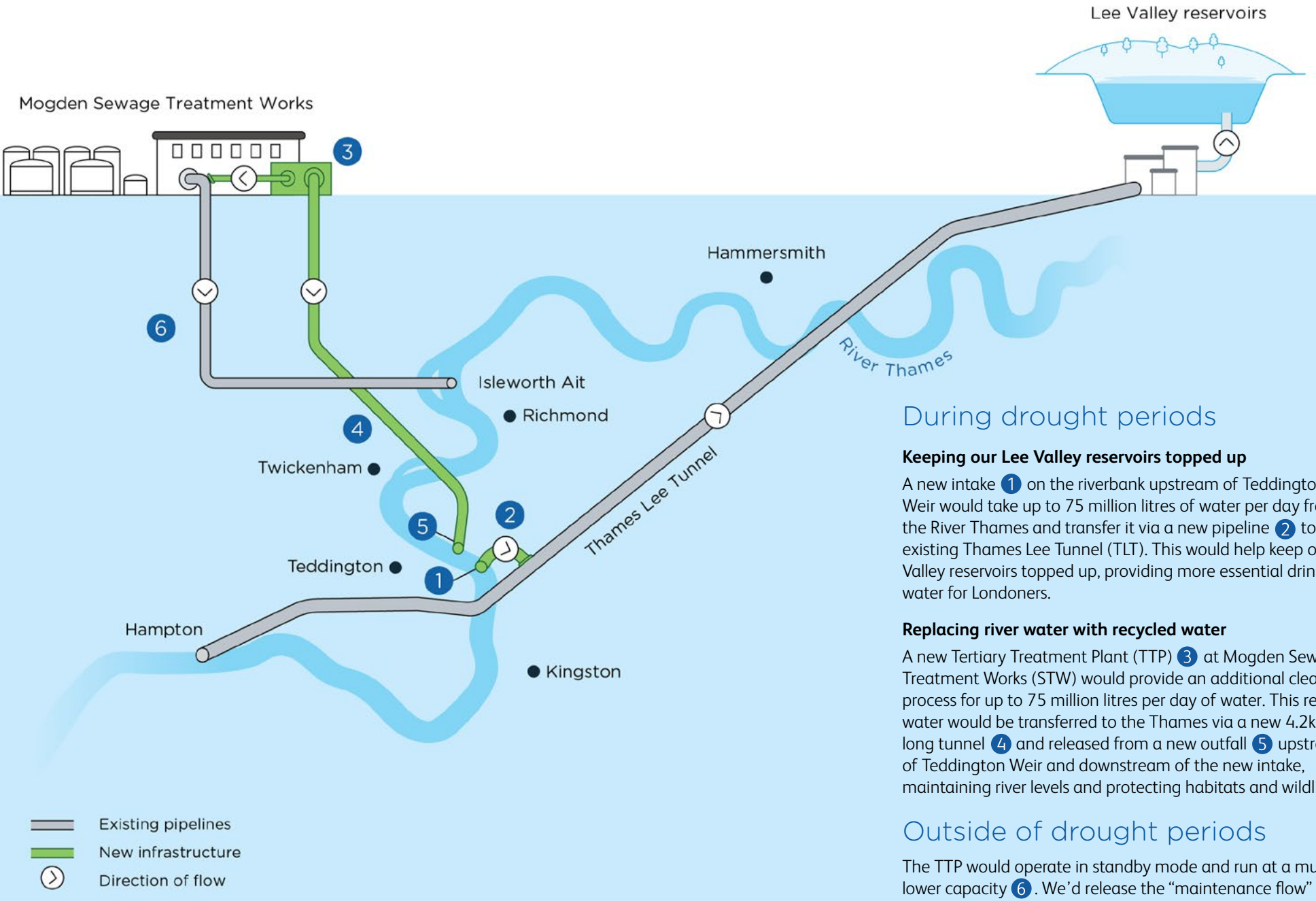
To keep our TTP in good working order and ready for when we need it the most, we'd keep it in "standby" mode.

We'd run a low volume of water through it outside of droughts and release it through our existing outfall at Isleworth Ait. This would help support water quality improvements in the tidal River Thames as the recycled water is treated to a higher standard.



What is a drought?

A drought is a prolonged period of abnormally low rainfall. Droughts aren't caused by a few dry weeks, and they can't be solved by a few wet ones. We need regular rainfall throughout the year to make sure we always have enough water.



During drought periods

Keeping our Lee Valley reservoirs topped up

A new intake 1 on the riverbank upstream of Teddington Weir would take up to 75 million litres of water per day from the River Thames and transfer it via a new pipeline 2 to the existing Thames Lee Tunnel (TLT). This would help keep our Lee Valley reservoirs topped up, providing more essential drinking water for Londoners.

Replacing river water with recycled water

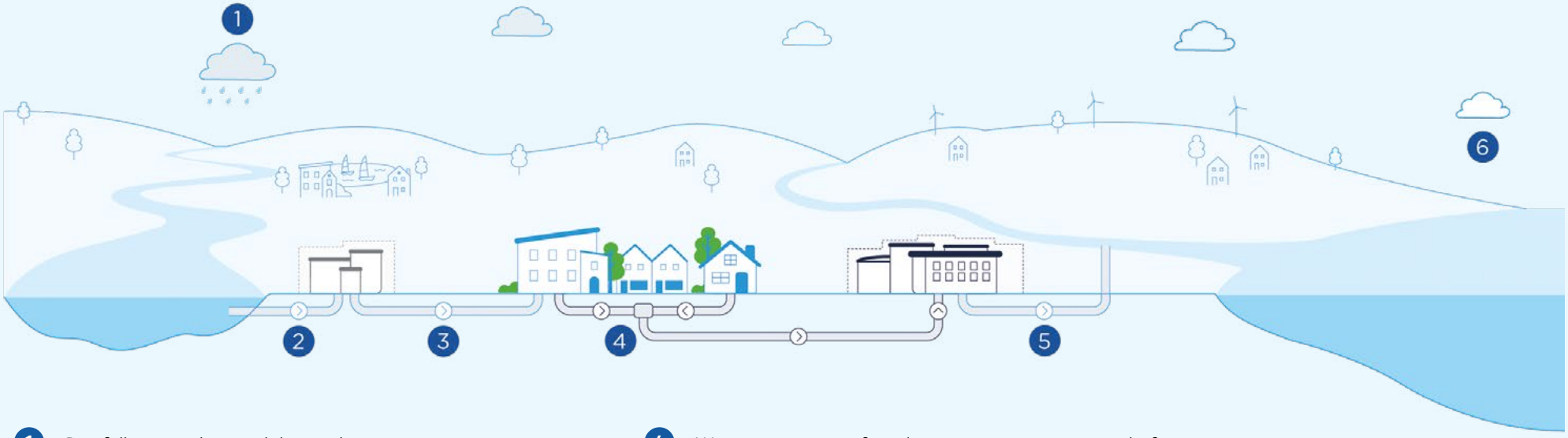
A new Tertiary Treatment Plant (TTP) 3 at Mogden Sewage Treatment Works (STW) would provide an additional cleaning process for up to 75 million litres per day of water. This recycled water would be transferred to the Thames via a new 4.2km-long tunnel 4 and released from a new outfall 5 upstream of Teddington Weir and downstream of the new intake, maintaining river levels and protecting habitats and wildlife.

Outside of drought periods

The TTP would operate in standby mode and run at a much lower capacity 6. We'd release the "maintenance flow" of recycled water produced in standby mode into the tidal Thames via our existing outfall at Isleworth Ait.

Water treatment

The image below illustrates the water treatment cycle.



1. Rainfall accumulates in lakes and rivers.
2. River water is pumped into water treatment works.
3. Treated water supplied to homes and businesses.
4. Wastewater is transferred to sewage treatment works for treatment.
5. Treated wastewater discharged to the river and sea.
6. Water evaporates and condenses into clouds.

Rainwater flows into our lakes, rivers and streams, as well as being absorbed into the ground. We remove water from rivers and groundwater sources, and treat it in our water treatment works to turn it into top-quality drinking water, which flows from your taps.

Once water's been used, we call it wastewater. It goes down your drain or plughole into our network of sewer pipes. These lead to our sewage treatment works, where we treat the water until it's clean enough to go back into the rivers or sea.

Our water treatment process is regulated by the Environment Agency

Typically, wastewater is piped to sewage treatment works, where it can be filtered before undergoing “primary” and “secondary” treatment to make it safe to be released back into local watercourses. Primary and secondary treatment get wastewater clean enough to discharge safely into the environment. The Environment Agency, together with existing legislation, determines the level of treatment that’s required to ensure the environment is protected.

At some sewage treatment works there is a further stage, called “tertiary treatment”, which we’re proposing to introduce at Mogden Sewage Treatment Works (STW) as part of this project.

Tertiary treatment is used to remove tiny suspended particles such as dissolved organic and inorganic substances, and additional contaminants, from wastewater that has already undergone primary and secondary treatment.

This extra level of treatment is able to achieve levels of water purification that make the water safe for reuse in water intensive processes or, after further treatment, onward use as drinking water. Water recycling is a tried-and-tested process used widely in other countries to treat wastewater so that it can be introduced back into the environment.

The story of the project so far

We've been working with partners, stakeholders and regulators on the project for several years

This includes collaborating with other water companies to ensure the project is part of a regional solution to the water resources challenges that we face.

Alongside the consultation and public information events we've held to date, we've engaged with local authorities, elected representatives, statutory environmental bodies, and people who have an interest in the land that may be impacted.

We've set up Technical Working Groups to seek feedback on technical topics, collaboratively developing methodologies for environmental assessment and sharing information. Members of these groups include (but have not been limited to) our host local authorities, the Environment Agency, Natural England, Historic England and the Port of London Authority.

We've held more than 50 Technical Working Group meetings since 2021, covering a range of topics including engineering design and environmental investigations.

Since 2023, we've met regularly with the host local planning authorities (boroughs within which the project is located), which are the London Borough of Hounslow, the London Borough of Richmond upon Thames, and the Royal Borough of Kingston upon Thames. These meetings included discussions to inform our Environmental Impact Assessment Scoping Report (see the Managing Environmental Effects section of this brochure from page 44).

We've also engaged with other individuals, authorities and organisations such as local MPs, the Greater London Authority, Transport for London, and the Planning Inspectorate (PINS).

Working with other water companies

Water Resources South East (WRSE) is an alliance of the six water companies that serve the South East of England, including Thames Water. It was established in 1996, and its collective aim is to secure the water supply for future generations through a collaborative, regional approach to managing water resources. You can read more at **www.wrse.org.uk**.

Every five years, water companies must prepare a Water Resources Management Plan. Our Water Resources Management Plan 2024 (WRMP24) sets out the challenges we face in terms of how much additional water capacity we'll need in the future. It has regard to WRSE's Regional Plan and also explains how we intend to secure resilient water supplies and address potential shortfalls. You can find out more at **www.thameswater.co.uk/about-us/regulation/water-resources**.

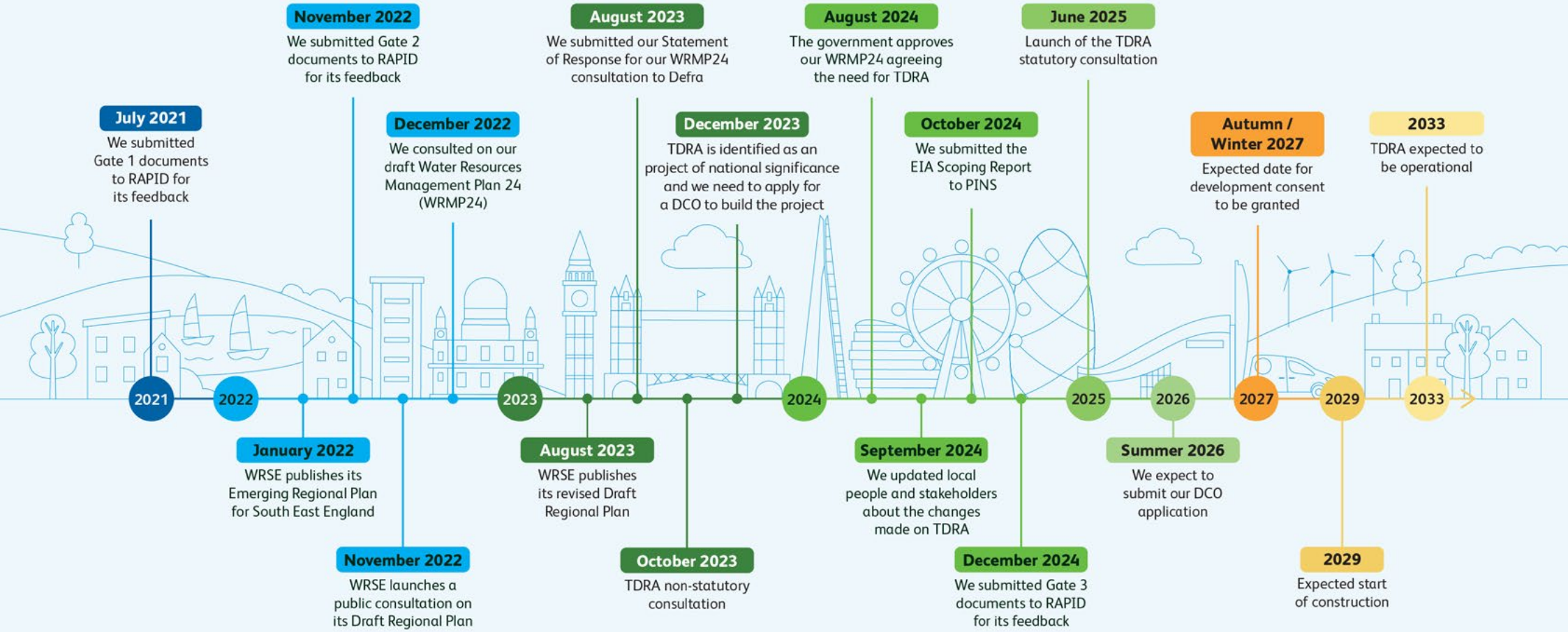
Working with industry regulators

The project is a Strategic Resource Option (SRO). This is because of the amount of water it would contribute, as well as being part of a regional plan to meet our future water needs. As an SRO, the project must go through a "gated" process managed by an organisation called the Regulators' Alliance for Progressing Infrastructure Development (RAPID), which is made up of Ofwat, the Drinking Water Inspectorate and the Environment Agency.

There are four RAPID gates during project development. At each gate, we're required to submit information about our work, which is assessed by RAPID to ensure we're making satisfactory progress on the investigation and development of the project. The project has gone through two gates so far and at the time of publishing this brochure, we're in Gate 3. During this time, RAPID has reviewed our proposals and confirmed the funding to keep developing the project further.

More information about RAPID is available at **www.ofwat.gov.uk/regulated-companies/rapid/about-rapid.**

Proposed project timeline



How the project will work

The project works in two parts: the first tops up reservoirs with water from the River Thames, while the second replaces the water taken from the river with recycled water.

This section explains how we'd remove water from the River Thames and transfer it to our Lee Valley reservoirs before it is then treated to provide drinking water for millions of Londoners.

Thames Lee Tunnel (TLT)

The TLT is an existing tunnel that carries water from south to east across Greater London. It starts in Hampton (in the borough of Richmond upon Thames) and runs to our Lee Valley reservoirs. We're proposing to connect to it so we can transfer the water we take from the River Thames to the Lee Valley reservoirs.

The intake

The new intake we're proposing to build would take up to 75 million litres of water per day from the River Thames during periods of drought. It would be located on the riverbank, approximately 350 metres upstream of Teddington Weir, and connect to the TLT.

The main intake apparatus in the middle of the structure would be roughly 12 metres wide, with the entire intake (including the adjoining wing walls) being roughly 38 metres wide.

The intake would include controls to manage the amount of water taken from the river to ensure we don't take more than the 75 million litres per day we'd need during droughts.

Under normal operation, water would enter using gravity and the river's flow, avoiding the need to continuously pump water from the river. However, we'd install a priming pump at the intake, which we might need to use occasionally to start the flow of river water (also called "raw water") to the TLT, after which the pump would be switched off.

The section of the intake that is within the river would have screens to prevent fish, including eels, from entering, as well as measures to stop it being blocked by debris or silt. To keep everyone safe, including swimmers and paddle boarders, we'd restrict access to the water around the intake by installing posts and floating booms.

The proposed intake would provide water for the Lee Valley reservoirs, which in turn feeds Coppermills water treatment works, which is a critical part of Thames Water's national infrastructure, providing millions of customers with safe drinking water. We'll continue to work with stakeholders using National Protective Security guidelines to establish if there's a requirement for any additional security measures to protect the intake, which could include lockable hatches, additional fencing and CCTV.

We'd need to build a kiosk to accommodate the intake and outfall's control and other equipment. This kiosk would be approximately 5.5m by 5m and would be set back from the riverbank, screened by trees as much as possible, and connected to a power supply via an underground cable.

The intake would also include lighting, which would remain off unless staff need to carry out emergency maintenance at night.

We're working with local authorities and regulators on the temporary and permanent realignments of existing walking and cycling paths around the intake, keeping these close to the riverbank while also maintaining a safe distance around the new structure. The routes would also be aligned, where possible, to minimise any impact on existing trees within the Riverside North Conservation Area and trees with Tree Preservation Orders.

Question 7 of the feedback form asks for your views on our indicative intake design.

Figure 2: Our indicative intake design

Figure 3: Our indicative intake design

Figure 4: Our indicative intake design

We'd plant native trees and shrubs within the project's footprint along the riverbank, and we'll explore opportunities to align with the Thames Landscape Strategy (**www.thames-landscape-strategy.org.uk**) and local authority tree-planting aspirations. As part of permanently realigning the walking and cycling paths, we're considering installing features such as benches with views over the River Thames and an information board about the project.

Our staff would inspect the intake regularly to make sure it's working properly, accessing the intake on foot.

You can find out how we'd build the intake in our Building the project section.

Intake concept design

As we further develop the project, in advance of the submission of our DCO application, we'll carry out more work on the intake design. The image below shows one of the indicative concept designs that we've been developing. The intake design will be further informed by the feedback received during statutory consultation, as well as ongoing technical surveys and liaison with our operational colleagues. We'll share updates on our design work in advance of the submission of our DCO application.

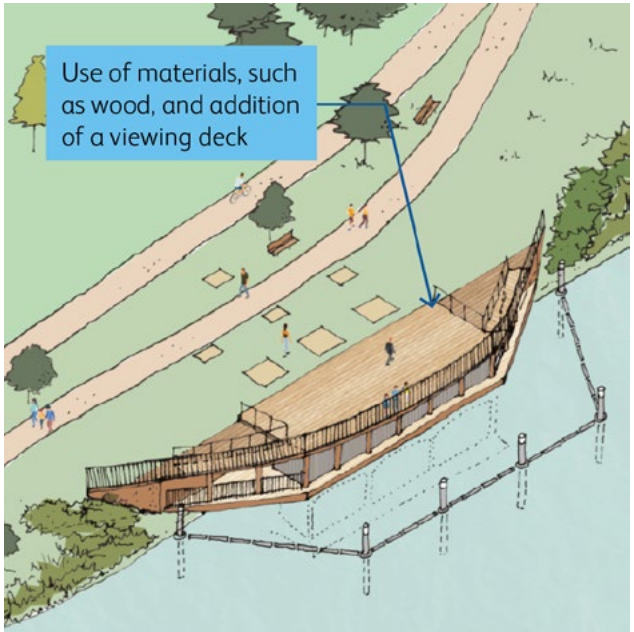


Figure 5: An indicative concept drawing, illustrating how our design could further evolve

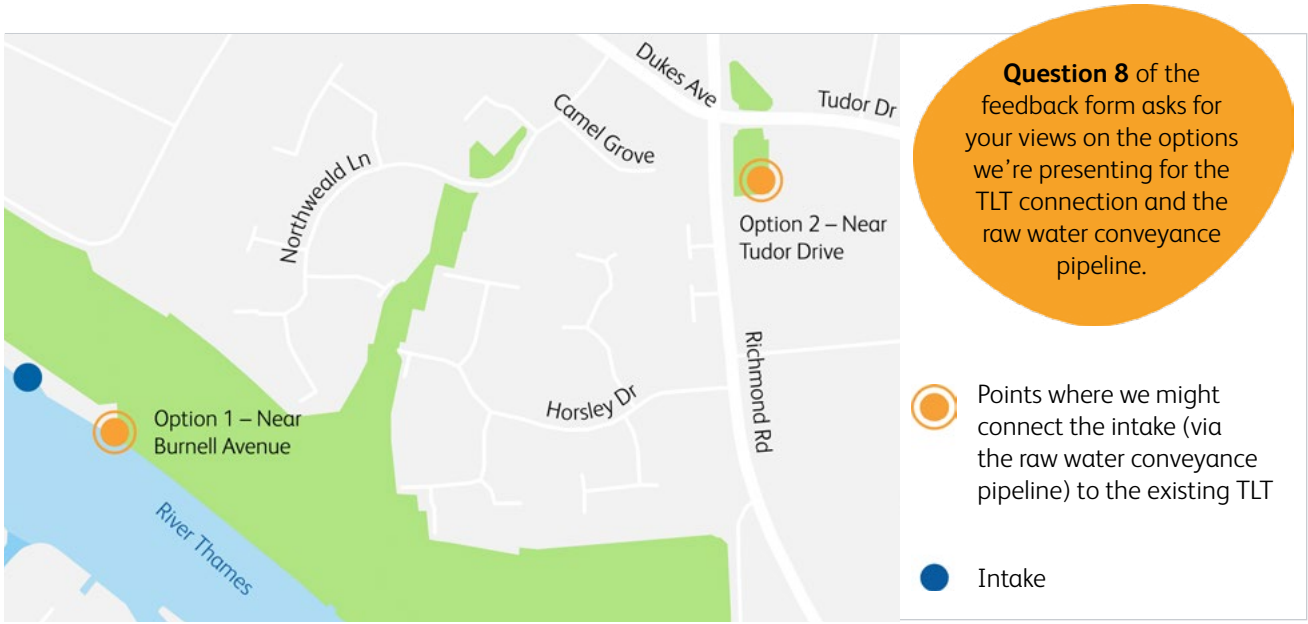
The TLT connection and the raw water conveyance pipeline

An essential part of our project is connecting it to the existing TLT, which passes close to our proposed intake. River water would enter the intake, and flow to the TLT through a new raw water conveyance pipeline. Once the river water has reached the TLT, it would then be transferred to our existing Lee Valley reservoirs.

Our preferred option (Option 1) is to connect the intake to the TLT near Burnell Avenue using a 70-metre-long pipeline. As an alternative, we're also considering a longer pipeline to connect to the TLT near Tudor Drive (Option 2), 500 metres away from the intake. For more information about why we have a preferred option and how each option would be built, see page 38.

Changes to the project since our 2023 consultation

We've updated our design for the TLT connection so we wouldn't need to make a surface connection into the TLT affecting a protected area near Northweald Lane.



This section explains how we'd top up the River Thames with recycled water from the Tertiary Treatment Plant (TTP) we're proposing to build at our Mogden Sewage Treatment Works (STW) site. It also explains how it would connect to a new outfall, through an underground tunnel.

Tertiary Treatment Plant (TTP)

To keep river levels balanced, we'd replace the water we've taken at Teddington with the same amount of recycled water from our proposed new TTP, which would be built at our Mogden STW.

The new plant and its associated equipment would be located entirely within our existing Mogden STW site in Isleworth and none of the functions of the existing site would be affected once the project is complete. The plant would be situated on the eastern side of the STW, on a new platform above two pairs of existing storm tanks. The platform would be roughly 5,000m^2 and the height of the TTP is expected to be approximately 15 metres above ground level, subject to further design development.

The associated equipment we'd need to build near the TTP would include buildings for staff to operate the TTP, as well as buildings for materials, storage and other control equipment. More information about constructing the TTP is presented in the Building the project section of this brochure.

The TTP would introduce an extra treatment step that would improve the quality of the water that would be released into the River Thames at Teddington. It would include water quality detection systems and automatic flow controls that would prevent insufficiently treated water reaching the freshwater River Thames.

We're currently testing the TTP water recycling processes in a pilot plant at Mogden STW. We're working closely with the Environment Agency on this activity. More information about the pilot plant can be found in Chapter 5, Water Resources and Flood Risk, of the PEIR.

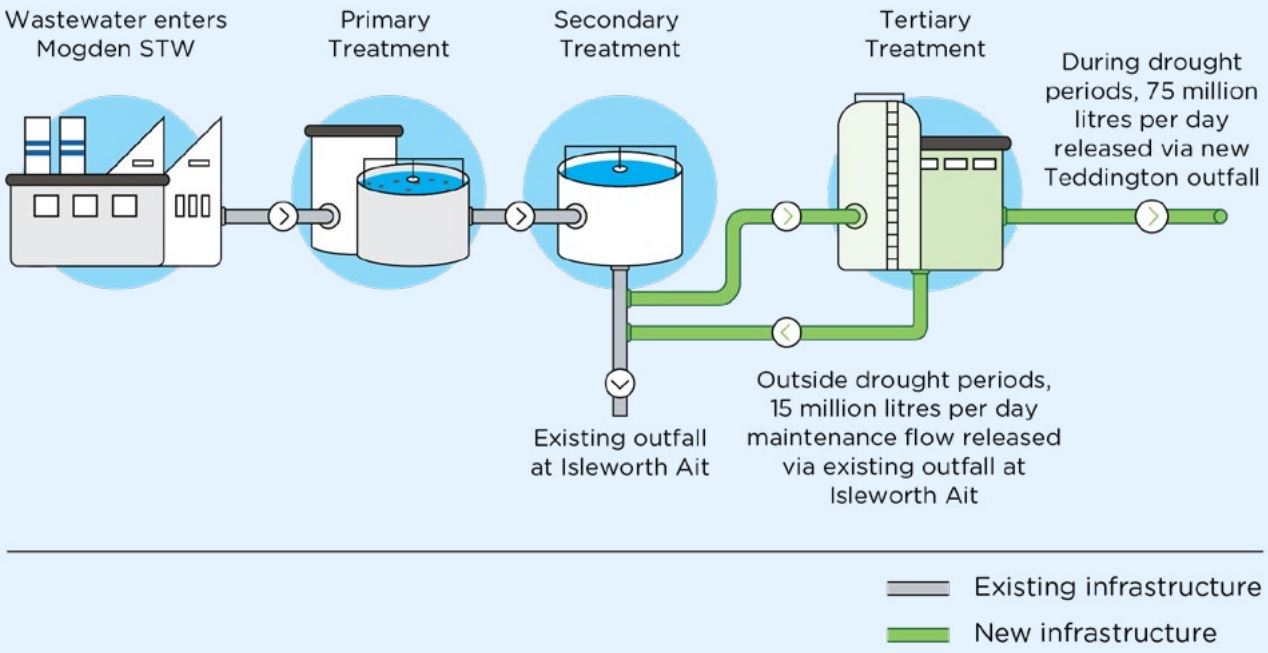
Figure 6: Indicative image of the TTP within Mogden STW

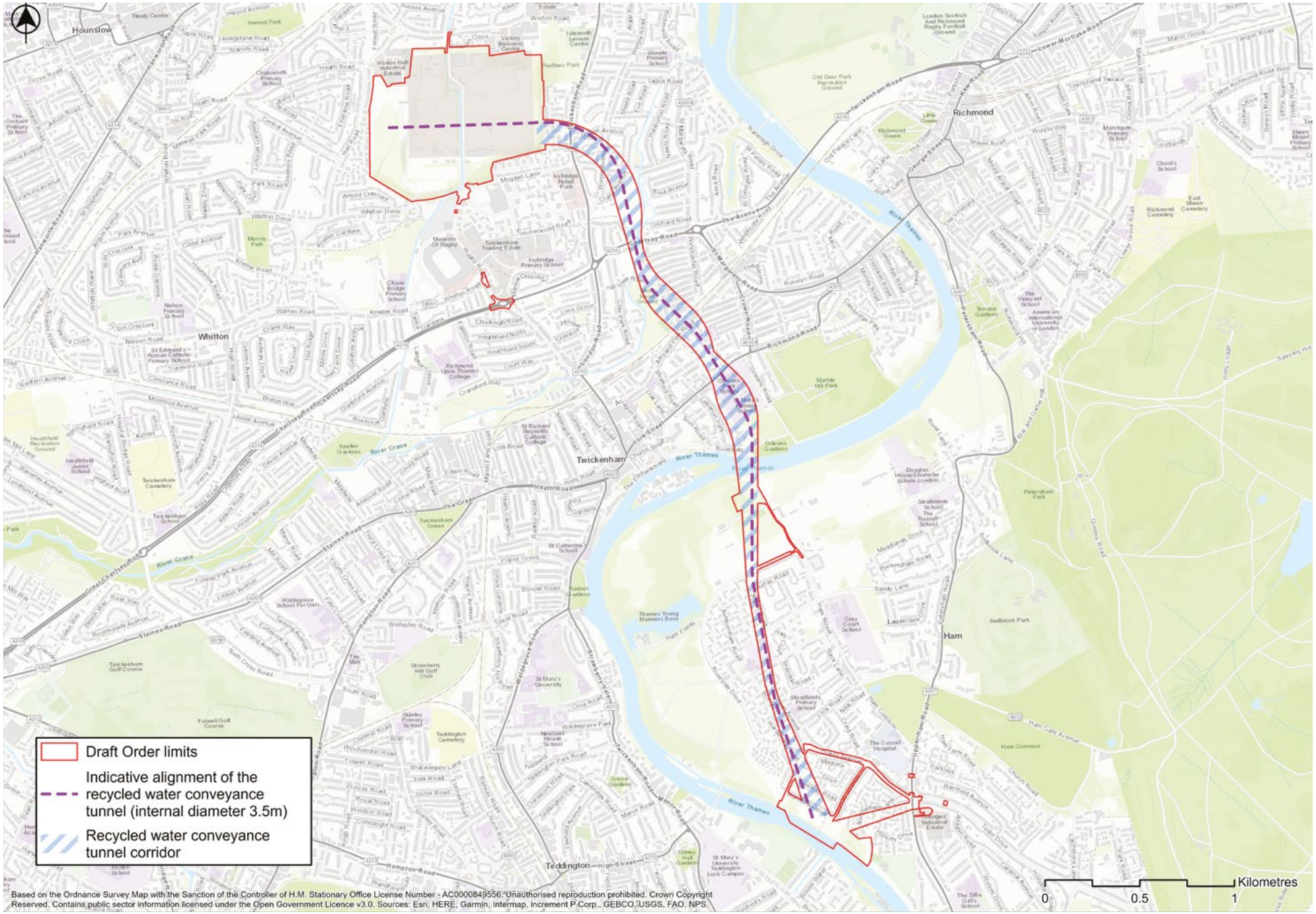
Question 9 of the feedback form asks for your views on our proposed design and operation of the TTP and its associated equipment.

To make sure our TTP is always in a state of readiness, during non-drought periods we'd run it in "standby" mode, so it could become fully operational in only two weeks.

In standby mode, the TTP would run at a lower capacity, recycling up to 15 million litres of water a day. We'd release the "maintenance flow" of recycled water generated in this standby mode into the tidal Thames at Isleworth Ait, through the existing Mogden STW outfall. Because it has been through the TTP, the maintenance flow would support water quality improvements in that part of the tidal Thames.

How the tertiary treatment process works




Draft Order limits
Indicative alignment of the recycled water conveyance tunnel (internal diameter 3.5m)
Recycled water conveyance tunnel corridor
Kilometres
0
0.5
1
Based on the Ordnance Survey Map with the Sanction of the Controller of H.M. Stationary Office License Number - AC0000849556. Unauthorised reproduction prohibited. Crown Copyright Reserved. Contains public sector information licensed under the Open Government Licence v3.0. Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS.

Recycled water conveyance tunnel between Mogden STW and the River Thames

To transfer the recycled water from the TTP to the new outfall, we're proposing to build a new recycled water conveyance tunnel. The proposed tunnel would be approximately 4.2km long and would have an internal diameter of up to 3.5 metres. It would be located approximately 20 to 40 metres below ground in the geologically stable London Clay.

The tunnel will slope uphill from its deepest point at Mogden STW to the reception shaft at the Burnell Avenue site. When in operation, the recycled water will flow from Mogden STW to the river because the tunnel has a hydraulic gradient. This means that the head of the water at Mogden STW is higher than the outfall which causes the water to flow. When the tunnel is not in use the recycled water will be drained back to Mogden STW.

Question 10 of the feedback form asks for your views on the location of the proposed proposed recycled water conveyance tunnel, including the proposed access shaft that would be permanently located at Ham Playing Fields.

Our draft Order limits, which can be seen in full in Map Book 1, show the corridor of land within which the tunnel would be constructed. However, it's important to know that this corridor is wider than the tunnel would end up being. This is because we're carrying out ground investigations and other surveys to establish the preferred alignment for the tunnel and the locations of the associated shafts. We'll continue to explore opportunities to refine the tunnel corridor and share our updated Order limits when we submit our DCO application.

We'll need to build one intermediate shaft as part of the project, and our proposed location for this is Ham Playing Fields. This will allow staff to safely access and inspect the tunnel to carry out inspections and maintenance once the project is operational. More information about the construction of all of the proposed shafts can be found in the Building the project section of this brochure.

The draft Order limits

The draft Order limits are the anticipated boundaries of the area within which the project may be constructed and operated. These limits are currently in draft and may be adjusted because of feedback received during this consultation, ongoing engagement, and as a result of further design development.

The draft Order limits are presented in Map Book 1: Draft Order Limits and Land Use. Map Book 1 also shows the different uses of land within the draft Order limits, such as land that would only be needed temporarily to build the project, and other land that would be needed permanently to accommodate the permanent infrastructure associated with the project, such as the intake and outfall.

Changes to the project since our 2023 consultation

The most substantial change we've made to the project since our 2023 consultation is to how we propose building our recycled water conveyance tunnel between Mogden STW and Teddington. We would now use a Tunnel Boring Machine (TBM) to build the tunnel instead of the previously proposed pipe-jacking method.

Using a TBM is less disruptive than pipe-jacking because it would require fewer intermediate shafts along the route. We'd need to build an additional shaft inside our Mogden STW, but we'd now need only one additional shaft, which we're proposing to build within Ham Playing Fields.

This means we've been able to remove four of the five previously preferred intermediate shafts between Mogden STW and the River Thames from our proposals.

These changes also mean:

- We've relocated the tunnel drive shaft (where we'd launch our TBM) from the east side of Mogden STW to the west side of the site, where there's more space.
- We plan to remove all excavated material from the tunnel via the drive shaft at Mogden STW, where it would be stored temporarily before being transported off-site, rather than from one of the previously proposed intermediate shaft sites.
- We plan to deliver the materials and equipment we need for our tunnel to our Mogden STW site, rather than to the intermediate shafts.
- We've revised the draft Order limits for the tunnel corridor to reflect the change in construction technique, with the new alignment being more direct and a shorter overall distance to the River Thames, but still finishing on land to the south of Burnell Avenue.

The outfall

To release the recycled water from the conveyance tunnel into the River Thames at Teddington we're proposing to build a new outfall roughly 180 metres upstream of Teddington Weir and 180 metres downstream of our proposed intake.

We're presenting two outfall design options: a bankside outfall and a near bankside in-river outfall. We initially explored the bankside option, consulting on this during our non-statutory consultation in 2023. However, to address concerns raised by one of our key statutory stakeholders, the Environment Agency, we're strongly considering a near-bankside in river solution that moves the outfall away from the river edge. We're consulting on both options to ensure that the views of communities and stakeholders form part of our decision-making process.

Option A: Bankside outfall

The bankside outfall option would release recycled water into the River Thames from a structure that would be largely buried into the riverbank to reduce the visual impact and to maintain public access to the riverbank, including existing walking and cycling routes.

The approximately 4-metre-wide structure would feature access covers at ground level and extend slightly over the river edge. Vertical bars would prevent debris blocking the outfall, while an internal weir will prevent fish swimming inside the tunnel.

We'd integrate the bankside outfall option into the landscape by planting native shrubs and trees along the riverbank, and we're exploring opportunities to align with the Thames Landscape Strategy and local authority tree-planting aspirations.

Question 11 of the feedback form asks for your views on the two options we are presenting for the outfall

Figure 7: Indicative imagery of the bankside outfall

Figure 8: Indicative imagery of the bankside outfall

We'd carry out regular inspections of the bankside outfall on foot, with vehicle and equipment access only needed for more significant maintenance and repairs, roughly once per year.

Option B: Near bankside in-river outfall

The near bankside in-river outfall would release recycled water into the river through a series of underwater pipes and diffusers. These would be located within and on the riverbed, roughly six to eight metres from the riverbank.

We'd install safety measures including posts with ropes and buoys to protect the structures and river users. This would form a protective area extending roughly 15 metres from the riverbank. We'll continue to work with the Environment Agency and river users to understand the most appropriate safety measures. The near-bank outfall option would also need to be inspected and maintained regularly.

Changes to the project since our 2023 consultation

We initially explored the bankside option, consulting on this during our non-statutory consultation in 2023. However, following discussions with the Environment Agency, we're exploring development of the near bankside in-river outfall which is the subject of further design development work.

Figure 9: Indicative imagery of the near bankside in-river outfall

Figure 10: Indicative imagery of the near bankside in-river outfall

Designing the project

We understand the importance of ensuring what we build is safe and sustainable, is suitable for the surrounding environment and is sympathetic to the needs of the local communities who will live alongside it.

Key information relating to the project's design is contained in the PEIR that we've developed for this statutory consultation. In particular:

- Chapter 3 of the PEIR explains how we've developed the project and the design journey we've followed. It includes information about how we've considered design alternatives, in the context of meeting the project's environmental and sustainability objectives.
- Chapter 2 of the PEIR includes information about our Preliminary Townscape and Environmental Master Plan (Figure 2.5 in the PEIR). This Preliminary Master Plan sets out how we propose to sensitively design all our above-ground infrastructure, including any infrastructure that would be built within the Mogden STW site, Ham Playing Fields site, Burnell Avenue site and Tudor Drive site. It explains our approach to landscaping and how we'd carefully restore our construction areas.
- The Preliminary Townscape and Environmental Master Plan will be updated following our statutory consultation, and a revised Master Plan will form part of our DCO application. The document will continue to be informed by the evolution of our draft overarching Design Principles which are presented on the opposite page, grouped into the five topic areas.
- More information about our approach to townscape and visual amenity can also be found in Chapter 9 of the PEIR.

When we submit our DCO application, it will present an indicative design. This indicative design will maintain a degree of flexibility so that if the DCO is granted, our chosen contractor (who would build the project) can accommodate any refinements and innovations they may need to make later down the line. The contractor will prepare a "detailed design", which would be the final design that is implemented. This is a normal process for large-scale projects.

Development of the detailed design would be controlled by a set of documents that are submitted as part of our DCO application.

The controls would include defining the maximum areas in which the project can be delivered and would ensure that the mitigation and commitments that the project has made are implemented.

Our final Design Principles will also govern how the detailed design is developed.

Design Vision

TDRA aims to address London's supply challenges by providing a new resilient source of water when it's most needed. It will protect and enhance the environment by protecting the health of the River Thames and will leave a positive legacy through enhancements to the local environment.

Question 12 of the feedback form asks for your views on our draft overarching Design Principles.

Our draft overarching Design Principles

To guide the project's design, we've developed a Design Vision and a set of draft overarching Design Principles. The Design Principles are informed by guidance adopted by other water companies that are also delivering essential strategic water resource projects, as well as national design guidelines. The development of our Design Vision and draft overarching Design Principles are explained in more detail in the Draft overarching Design Principles document that forms part of this consultation.

Safe and Well

Actively manage the health, safety and wellbeing of the public.

Provide a safe and healthy environment for our workers.

People

Engage widely with a range of stakeholders and integrate feedback into the design and operation of the Project.

Create meaningful relationships between people and infrastructure through good design.

Climate

Mitigate greenhouse gas emissions across the Project lifecycle.

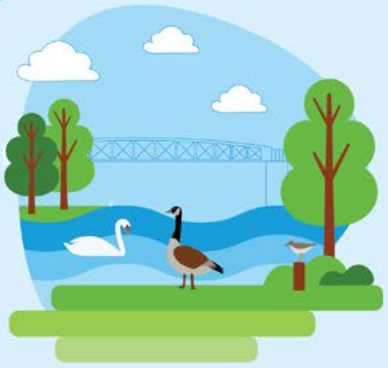
Optimise use of materials and minimise waste through efficient design and construction techniques.

Embed resilience to climate change to support long-term function.

Value

Collaborate with local projects to contribute to wider benefits and mitigate cumulative impacts.

Work with local communities to create environmental, social and economic opportunities.



Place

Design infrastructure sensitively and integrate it with its surroundings.

Develop a design that supports local nature recovery and ecological connectivity.

Celebrate the River Thames through good design that reflects the local heritage and ecology of the area.

Building the project

This section provides indicative information about how we're proposing to build the project.

There are four above-ground sites in which construction would take place: the Mogden STW site, the Ham Playing Fields site, the Burnell Avenue site, and the Tudor Drive site.

Construction sites and working areas

To build the project, we'd need to establish four above-ground construction sites. As the project includes tunnels, there would also be construction work underground. The temporary land requirements we're proposing during the construction phase are presented in Map Book 1 which is available on our website at **www.thames-sro.co.uk/tdra/statcon2025**.

Each of our above-ground sites would need cranes of various sizes, welfare and administration buildings, vehicle parking, materials storage, plant and equipment storage, power and utilities, and wheel-cleaning facilities. All sites would have traffic management measures, which may include temporary traffic lights or traffic marshals, to allow vehicles to enter and exit safely.

All sites would also be surrounded by hoarding or security fencing, which would typically be 2.4 metres high. The sites would also need lighting to ensure safe working conditions and to maintain security. Any lighting would have regard for potential impacts on wildlife and nearby properties. Where necessary, topsoil would be stripped before construction activities start. It would be replaced when works are complete.

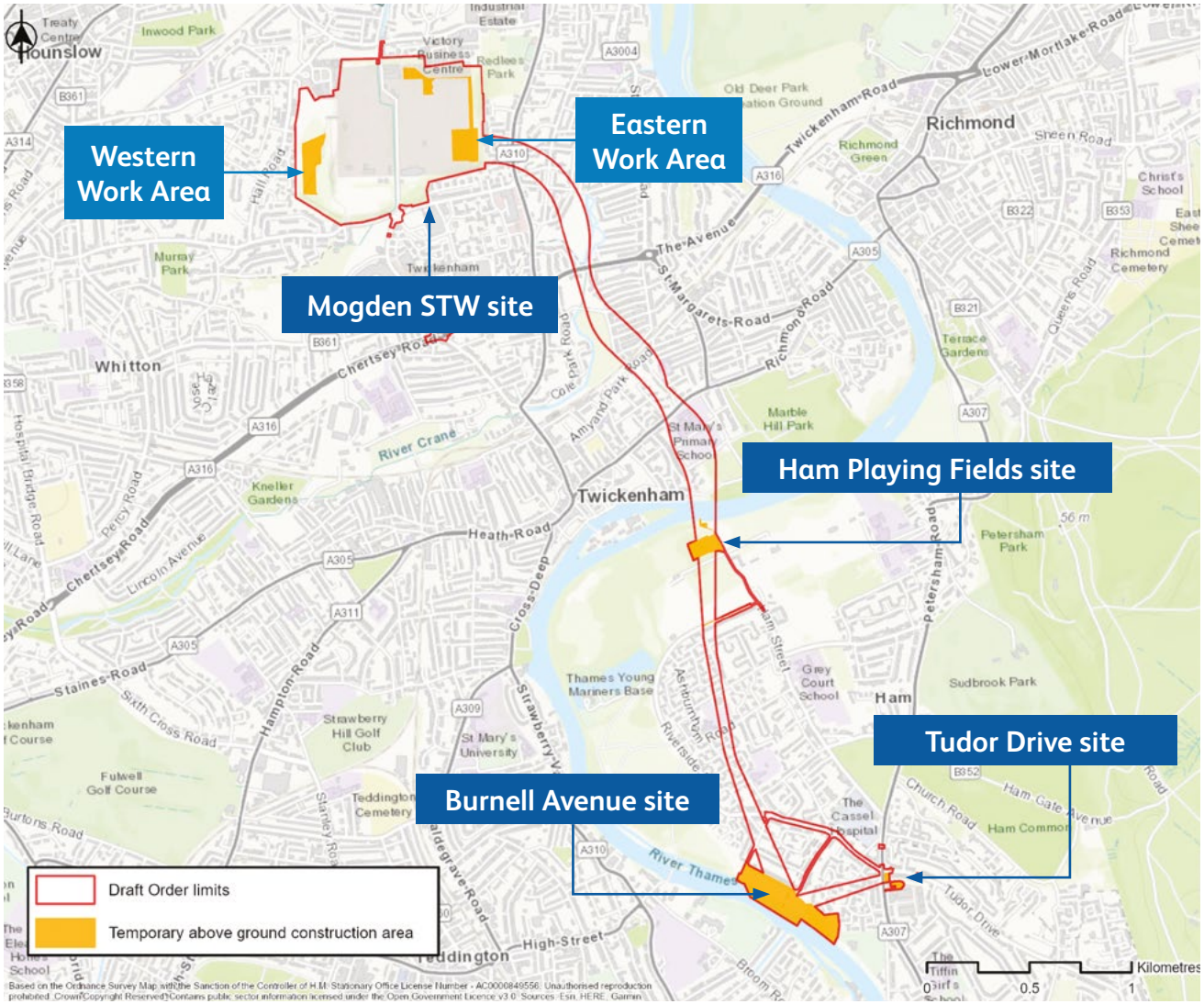


Figure 11: Construction sites

Construction schedule

If granted permission, we expect to start construction in 2029 and the project would be operational by 2033. Works would be carried out in phases to reduce effects on the environment and local communities, and to help deliver the project efficiently.

Figure 12 shows our indicative construction schedule. While the project delivery date is expected to remain as presented, some phasing details may change as we develop the design, as new information becomes available before our DCO application, and when our contactors carry out their own planning and scheduling.

There would be a period of testing and commissioning the new infrastructure, which would take place during 2033.

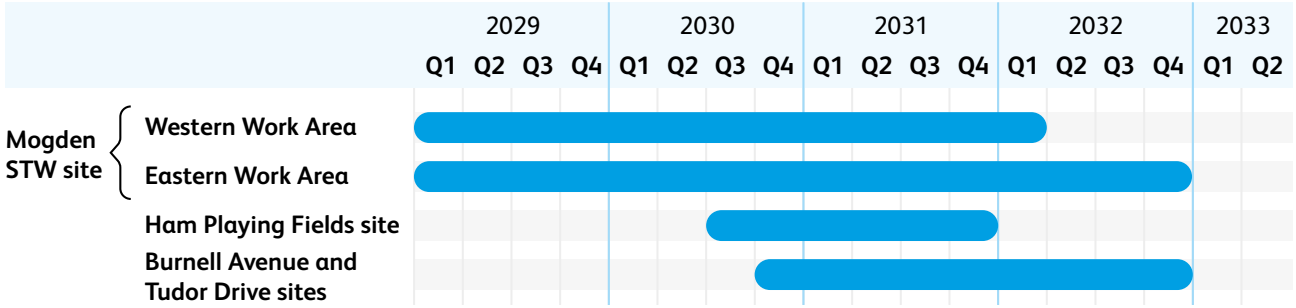


Figure 12: Indicative construction schedule for the above-ground work sites

How we assess and manage construction effects

The experienced contractors we'd appoint to build the project would be required to avoid, reduce or mitigate impacts on the environment and local communities in line with the commitments set out in our DCO application.

As part of this statutory consultation, we've prepared a draft Code of Construction Practice (CoCP) (Appendix 4.3 of the PEIR), which provides more information about how we currently propose to build the project, including the mitigation, commitments and principles that would be followed. It focuses on setting the standard good-practice mitigation measures that we've identified at the current stage of the project's development. We're inviting feedback on this as part of our statutory consultation.

Work sites in open space land

To deliver the project we'll need to carry out construction works and leave permanent infrastructure in areas that are classed as "open space", including Ham Playing Fields, Burnell Avenue and Tudor Drive. Our DCO application will need to consider the final permanent amount of open space land, and the areas of river open space, that may be affected by the project. It will need to consider how we can best achieve the balance between delivering our essential project alongside the most appropriate design and future ongoing use of the open space land that will remain.

Through our ongoing design work we'll seek to minimise the final total amount of open space that is permanently affected, and to also ensure that our permanent infrastructure has the least intrusive footprint and is of the highest quality that it can be.

Moving materials and equipment to and from work sites

Our assumption is that all materials and waste would be moved by heavy goods vehicle (HGV). The construction routes we're proposing to use for HGVs prioritise direct routes to the Strategic Road Network (SRN) and London Lorry Control Scheme permitted routes. However, we're carrying out a review of multimodal transport (more than one method of transport) options for the import of materials, plant and equipment for construction, the export of excavated material and construction waste, and removal of plant and equipment on completion. Existing railheads are currently under consideration for selected types of freight.

The table on this page shows a reasonable worst-case scenario for how many HGVs we predict our contractors could need across the duration of the entire construction period (each "HGV" comprises both a trip to the site and another away from the site).

More information about how we'd transport waste, materials, equipment and our workforce can be found in our draft CoCP (Appendix 4.3 of the PEIR). More information about HGVs and construction sites can be found in Chapter 12, Traffic and Transport, of the PEIR.

Construction traffic routes north and south of the River Thames

The majority of HGVs will travel to and from the Mogden STW site, from which we'd build the drive shaft where we'd need to launch our Tunnel Boring Machine (TBM) and supporting tunnelling operations.

Most of the construction traffic would move to and from Mogden STW using the site's existing southern entrance, linking to the SRN at the A316 Chertsey Road via Rugby Road. However, additional routes are also proposed to allow construction vehicles to use the northern entrances on occasions such as when the southern entrance is closed. There is also an alternative route, that is to be used by exception only. This route heads along the A316 and then south through Richmond's one-way system and onto Petersham Road.

South of the river, most construction traffic would move to and from the sites using a combination of some or all of Ham Street, Riverside Drive, Burnell Avenue, Beaufort Road, Dysart Avenue, Dukes Avenue, A307 through Kingston upon Thames, A243 Brighton Road, Upper Brighton Road and Hook Road, linking to the SRN at the A3. However, additional routes are also proposed to allow vehicles to reach the nearest railhead at Tolworth. There is an identified route through Petersham towards the A316 Twickenham Road that would only be used in exceptional circumstances and only in agreement between the London Borough of Richmond upon Thames and our appointed contractor.

We'll continue to undertake transport assessments as we progress our DCO application. More information about construction traffic routes for sites north and south of the River Thames, including maps, can be found in Chapter 12, Traffic and Transport, of the PEIR.

Construction site	Total HGVs across the entire construction period	Estimated maximum anticipated HGVs per day
Mogden STW site	In: 23,943 Out: 23,943 Total: 47,886	In: 50 Out: 50 Total: 100
Ham Playing Fields site	In: 1,158 Out: 1,158 Total: 2,316	In: 9 Out: 9 Total: 18
Burnell Avenue site	In: 3,123 Out: 3,123 Total: 6,246	In: 16 Out: 16 Total: 32
Tudor Drive site	In: 657 Out: 657 Total: 1,314	In: 6 Out: 6 Total: 12

Figure 13: Total and maximum HGVs by site

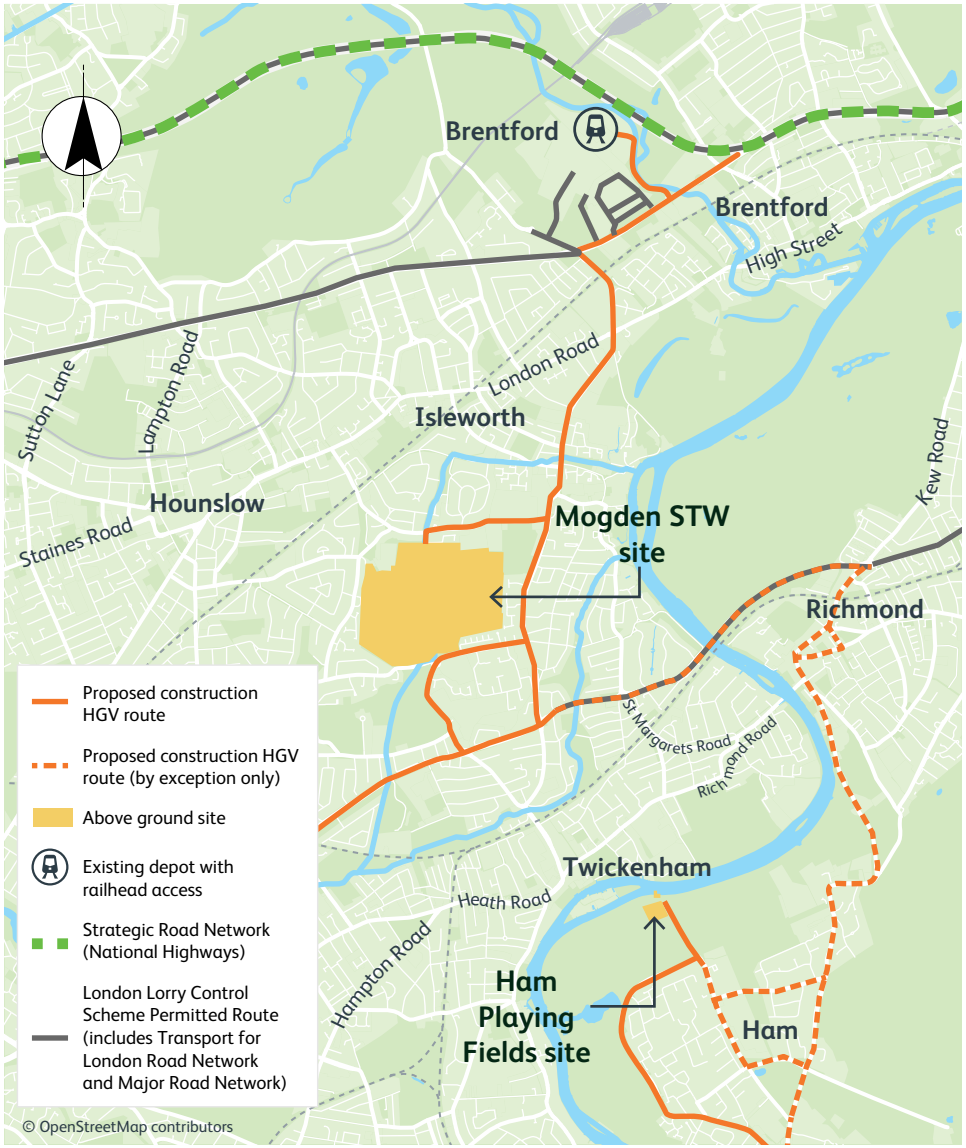


Figure 14: Anticipated construction routes - North

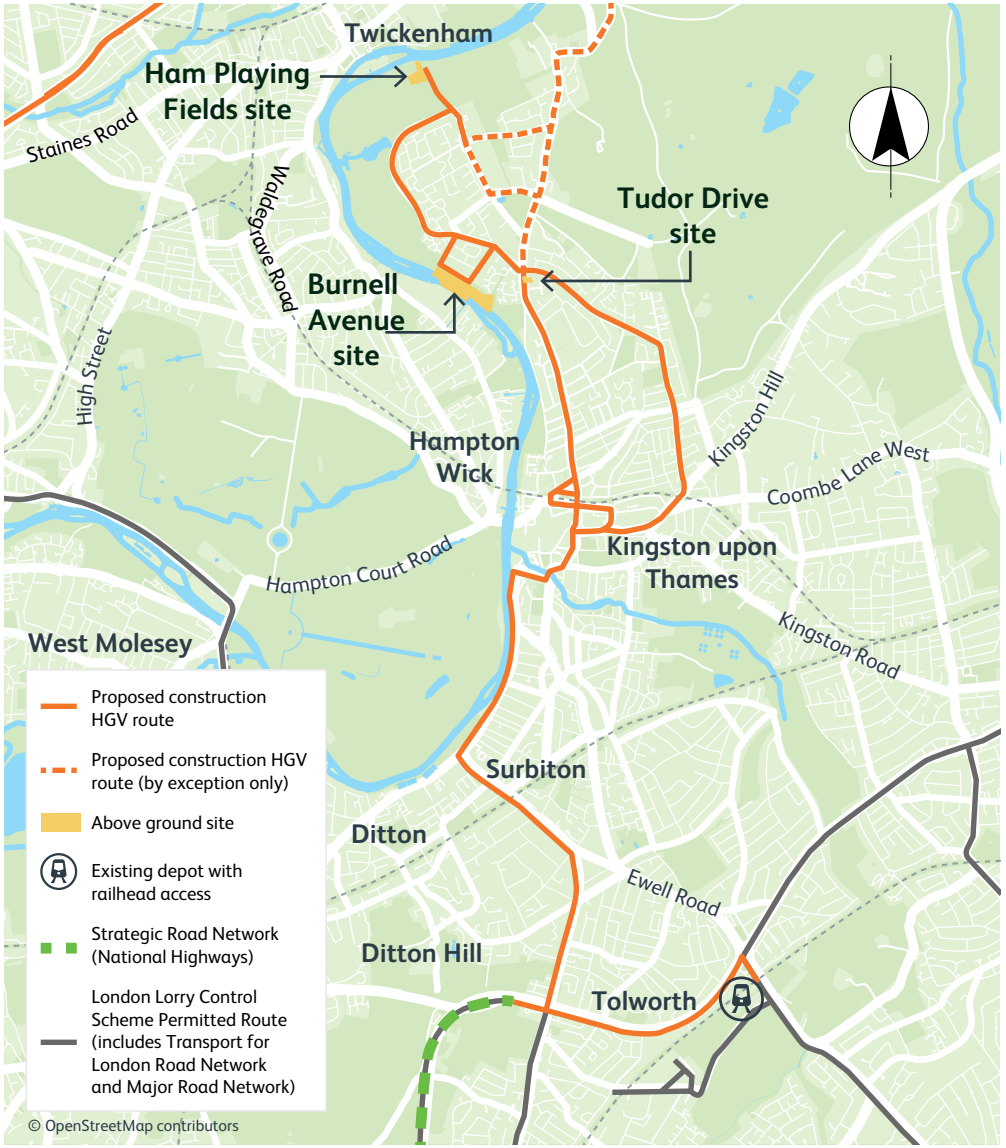


Figure 15: Anticipated construction routes - South

Our approach to constructing the recycled water conveyance tunnel

We'd build the roughly 4.2km long tunnel from Mogden STW to Teddington using a TBM. TBMs have been used successfully on numerous projects within Greater London, including on our Lee Tunnel and Thames Tideway Tunnel.

Using a TBM also allows us to reduce the number of intermediate surface-to-tunnel shafts that would be needed, meaning fewer construction sites than were proposed during our non-statutory consultation in 2023. This means less impact on recreation areas and open space, and greatly reduced construction impacts.

The tunnel would have an internal diameter up to 3.5 metres and would be 40 to 60 metres below ground level within Mogden STW, and 20 to 40 metres below ground level in most places. It would be built within the London Clay band, which is the most stable ground for tunnelling.

TBMs are very good for limiting disturbance to the surrounding ground making them particularly suitable for tunnelling in urban environments, avoiding ground movements and damage to land and property on the surface. It's highly unlikely that the construction of the new tunnel would have any significant impact on the properties above because the depth of the tunnel would greatly reduce the risk of any impacts.

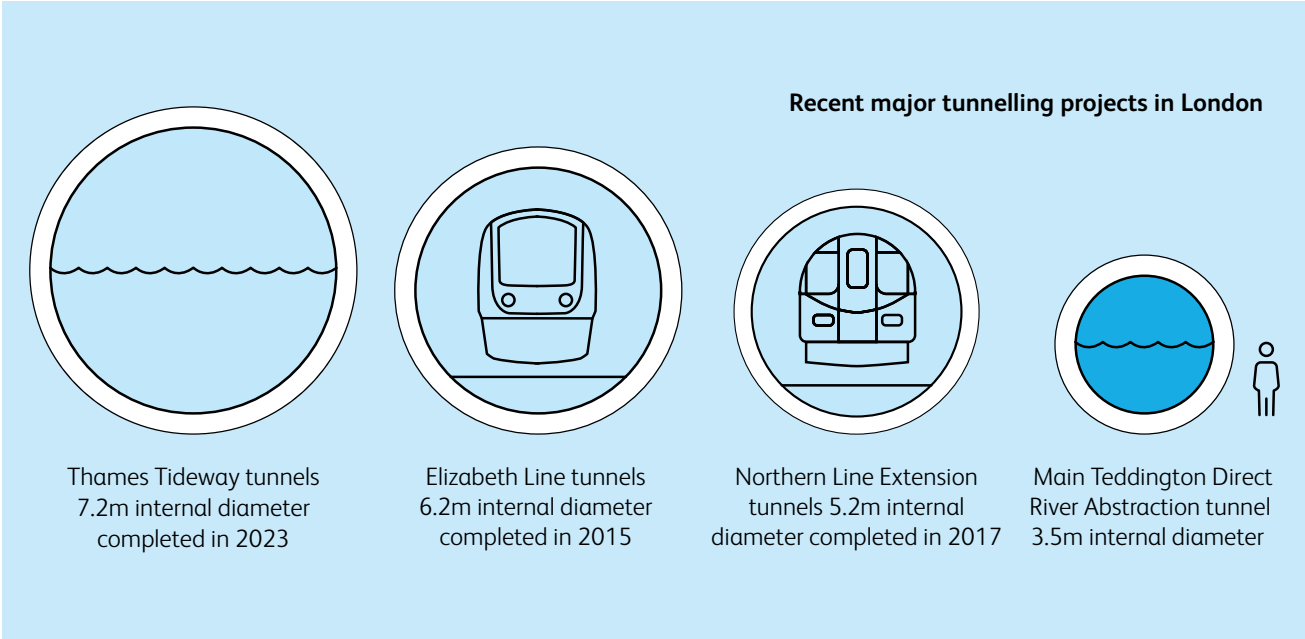


Figure 16: Recent major tunnelling projects in London

The depth of the tunnel would be greatest within Mogden STW because the western area has higher elevation levels than the rest of the site, and the tunnel also needs to pass under the foundations of existing structures. The tunnel would slope uphill from its deepest point at Mogden STW (roughly 60 metres deep) to the riverside near Teddington (roughly 20 metres deep). The recycled water would flow from Mogden to the river while the project is operational because the tunnel would be sealed and under low pressure. This creates what's called a "hydraulic gradient", whereby the head of water at Mogden is higher than the outfall which causes the water to flow from Mogden to the outfall. When the project is in standby mode, the recycled water in the tunnel would be drained back to Mogden STW using gravity, emptying the tunnel when it's not in use.

A rotating cutting head at the front of the TBM excavates the ground in front of it, transferring the excavated material back down the tunnel to the drive shaft, from where it would be lifted out and temporarily stored on site before being taken away by HGV.

The TBM uses hydraulic jacks to move along, installing pre-cast concrete segments as it goes to form the tunnel lining. It automatically grouts the gaps between the lining and the excavated ground to minimise settlement, improve stability, and minimise water entering the tunnel.

We'd remove the TBM from the reception shaft at the Burnell Avenue site (see the section on the Burnell Avenue site on page 36 for more information).Protecting properties above the tunnels

Tunnels created by TBMs are a tried-and-tested construction method, used successfully in numerous projects across Greater London.

- We'd seek to carry out detailed ground surveys and settlement assessments, as well as property surveys, where appropriate, to ensure that tunnelling methods used mitigate against ground settlement
- In advance of any tunnelling, we'd seek to undertake defect surveys of properties, where appropriate, to record their pre-tunnelling condition, so that changes caused by tunnelling works (such as hairline cracks) could be identified and, if needed, addressed
- We'd most likely use an earth pressure balance TBM, designed to balance earth and water pressures and support the face of the tunnel excavation during tunnelling. Earth pressure balance TBMs are often used for soft ground tunnelling in urban areas
- If needed, we'd carry out ground improvement or treatment, during or after tunnelling works, to reinforce the ground and provide extra stability
- The tunnel would be lined with pre-cast concrete segments to support the ground as the tunnel is being excavated by the TBM
- We'd carry out monitoring of the tunnel lining, the surrounding ground and properties on the surface, to detect any small movements of the ground

Question 14 of the feedback form asks for your views on our proposed approach to constructing the recycled water conveyance tunnel, including the proposed operation of the TBM.

Construction at Mogden STW

Mogden STW treats wastewater from across west London. The existing site is largely surrounded by an embankment, including trees and vegetation.

To build the project, we'd need to establish two working areas within the Mogden STW site: the Western Work Area and the Eastern Work Area.

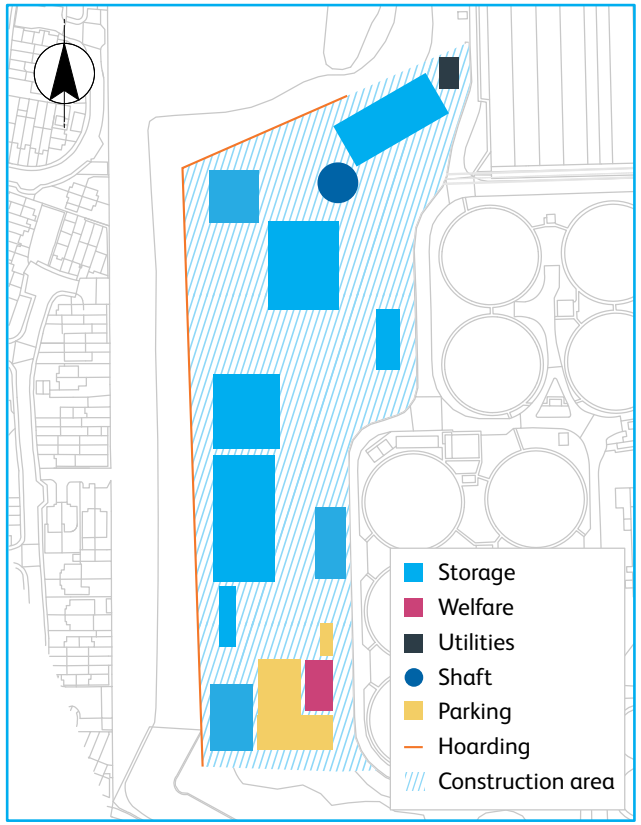


Figure 17: Indicative proposed Mogden STW construction site layout (Western Work Area)

In our Western Work Area, we'd build the drive shaft needed to launch our TBM and support tunnelling operations. All excavated material would be removed via the drive shaft, which would also be used to import materials needed to construct the tunnel, such as pre-cast concrete segments.

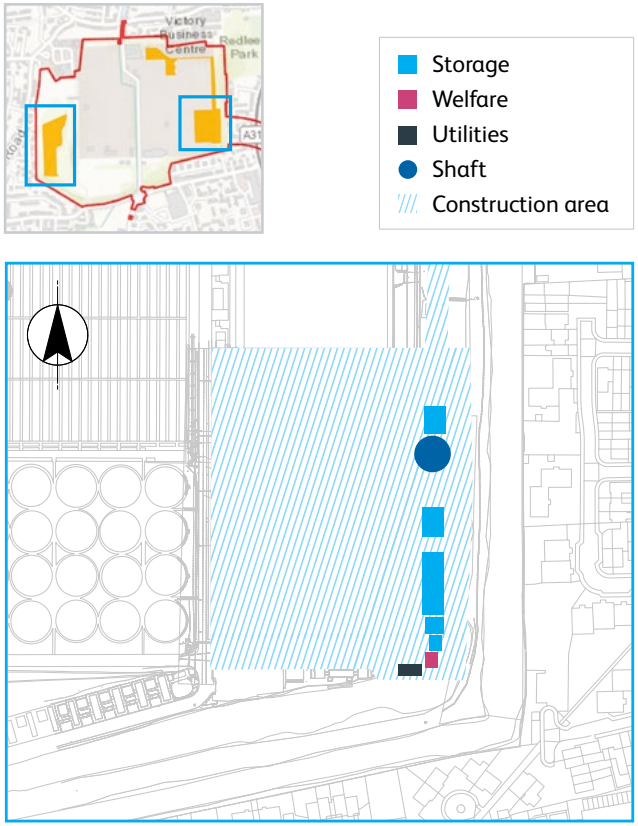


Figure 18: Indicative proposed Mogden STW construction site layout (Eastern Work Area)

In our Eastern Work Area, we'd build our TTP and its supporting infrastructure and connect the TTP to the tunnel via the interception shaft. We'd ensure construction across the site would take place in a way that allows Mogden STW to continue carrying out its essential water treatment functions 24/7.

Working hours

Standard construction working hours for the Mogden STW site would be from 8am to 6pm on weekdays and 9am to 1pm on Saturdays. However, some works would require 12-hour days, such as shaft sinking or concrete pours for the TTP. In the case of tunnelling, 24/7 works would be needed to allow for efficient and safe construction. Deliveries and removal of excavated material would take place during standard working hours. We'd agree any other work outside standard working hours with the London Borough of Hounslow.

Workforce

We expect up to 100 people would be working at Mogden STW to build the project (in addition to the usual complement of staff who operate the sewage treatment works).

Question 13 of the feedback form asks for your views on our proposed approach to construction at the Mogden STW site.

Western Work Area

The Western Work Area would be in a currently undeveloped area of Mogden STW, on an existing man-made embankment. In addition to constructing the TBM drive shaft, this area would be used to support tunnelling operations which include the storage of excavated material and pre-cast concrete segments, along with parking, welfare and administration functions.

Worksite set-up

Before constructing the drive shaft and starting tunnelling, some earthworks may be required in the Western Work Area to create a safe and level works area. We'd also set up the welfare and administration units, ensure the site has power, communications and water infrastructure, and create any temporary access roads within the site and areas for storing equipment and materials, and parking.

Drive shaft construction and tunnelling

The main works would start with the construction of the 15-metre internal diameter TBM drive shaft, which is expected to extend down to 60 metres below ground level.

We'd deliver our TBM to the site in sections and assemble it using cranes and other specialist equipment. We'd need to temporarily restrict traffic on some roads to accommodate the specialist vehicles to deliver the TBM, as well as potentially making temporary changes to some nearby junctions, such as removing traffic islands, dropping kerbs, removing road signs and cutting back trees and other vegetation. We'd reverse any temporary infrastructure changes after delivery is complete.

Excavated material from construction of the drive shaft and the tunnel would also be removed via the Western Work Area. Any wastewater generated by the works would be treated within Mogden STW.

Worksite removal and restoration

Once construction works are complete, we'd demobilise the Western Work Area, with equipment and cranes being removed, the underground shaft and access hatch remaining.

Eastern Work Area

The Eastern Work Area would be located predominantly in the south-eastern corner of the Mogden STW, with some extension along the east and north-east of the Mogden STW site. The works at this location would be largely screened from nearby properties by the existing embankment.

Mogden STW has eight pairs of storm tanks and our TTP would be built on a new platform above two pairs of tanks to the south. The Mogden STW licence requires seven out of the eight pairs of storm tanks to be operating at any time, and our works at this site would be carried out to comply with this requirement.

Worksite set-up

The set-up works would involve clearing and levelling the site to bring in the equipment to carry out the works on the embankment, as well as providing access, parking and welfare units for the workforce.

Embankment and shaft construction

To provide space to build the TTP's supporting equipment and the interception shaft, we'd cut back a section of the existing 50-metre-wide embankment from the existing site road. The new area, roughly 150 metres long by 20 metres wide, would be stabilised by permanent retaining walls.

Construction of the proposed interception shaft would also take place, to allow connection of the TTP to the recycled water conveyance tunnel.

Building the TTP

During this phase, we'd first build the platform on top of the storm tanks, with piling required to prepare the storm tanks for the weight of the TTP. Once the new platform is constructed, we'd build the new TTP on top of the platform. We'd make most of the TTP's process elements off-site and use tower cranes to install them.

We'd install new pipework to connect the existing Mogden STW outlet to the TTP, ready for water recycling. We'd make a separate connection from the TTP to the existing Mogden STW outlet that flows to Isleworth Ait to release the maintenance flow recycled water through it into the tidal Thames when the TTP is running in standby mode outside of drought periods.

In addition, we'd install a separate pipe to connect the TTP to the start of our main treatment works at Mogden. This new pipe would return the small quantity of waste water produced by the TTP back to the main treatment process and could return any recycled water back to the main treatment process, if needed.

Once the TTP is complete and connected to the recycled water conveyance tunnel, we'd test and commission the project, before it comes into operation.

Worksite removal and restoration

When the works are complete, we'd demobilise the Eastern Work Area. The tower cranes would be dismantled and removed, along with other construction equipment, with only the permanent infrastructure remaining.

More information about construction can be found in the draft Code of Construction Practice (Appendix 4.3 of the PEIR) on our consultation website at **www.thames-sro.co.uk/tdra/statcon2025**.

Construction at Ham Playing Fields

Figure 19: Indicative proposed Ham Playing Fields construction site layout

We'll need to build one intermediate shaft as part of the project, and our preferred location for this is Ham Playing Fields. This site would include a Main Work Area on Ham Playing Fields, and a Support Work Area next to Ham Street car park, which would be accessed through the car park.

The purpose of this shaft is to provide access to the tunnel for health and safety reasons, allow for maintenance and ventilation during construction, and for inspection once the recycled water conveyance tunnel is built.

The Ham Playing Fields site is on the southern bank of the River Thames and is in a recreational area. During construction, we'd seek to minimise the effects on the land and its recreational use, including the existing footpaths, as far as practicable.

Moving materials and equipment to and from site

We might need to reduce on-street parking on Riverside Drive during works to improve construction traffic flow. To compensate, we'd provide parking on temporary hard surfaces placed over the public green areas to the north-west of Riverside Drive, as well as traffic marshals and/or temporary pedestrian crossings. To accommodate the parking areas, we may remove some immature trees. We expect to remove parking restrictions after the intermediate shaft has been built.

After construction has finished, we'll restore the green space to its previous state as much as possible — including planting new trees where appropriate.

Working hours

Our standard working hours at the Ham Playing Fields site would be from 8am to 6pm on weekdays and 8am to 1pm on Saturdays. This includes deliveries and removing waste materials from our site. If we need to work outside these hours, we'd seek agreement with the local authority.

Workforce

We expect that up to 30 people would be working at the Ham Playing Fields site at the peak of the construction for the intermediate shaft. During other periods, the number of people on site would be less.

Worksite set-up

We'd minimise the impact on established trees and shrubs, although we may need to remove some. We'd strip topsoil from the site and replace it after works where possible.

We'd set up hoarding, temporary buildings for welfare and administration, and divert utilities to provide power and communications. We'd also carry out temporary works to protect the existing pressurised sewer that runs underneath the Main Work Area.

We'd install any required drainage pipes, by either connecting to a nearby existing surface water drain or by installing above-ground pipework and creating our own temporary outfall into the river.

We'd also implement the proposed changes to parking and traffic management in Riverside Drive, including removing of some immature trees, as well as any temporary Public Rights of Way (PRoW) diversions around the site. Other trees would have protection applied to them for the duration of the works.

Building the intermediate shaft

The intermediate shaft would be excavated and lined with concrete. We'd temporarily store the excavated material from the intermediate shaft within the Ham Playing Fields site before it's taken away by HGV.

Tunnelling

During the tunnelling phase, the site would provide access to the under-construction recycled water conveyance tunnel, as well as ventilation.

Worksite removal and restoration

After we've finished construction, we'd remove our construction site and restore the area with grass and new planting, including reinstating PRoW and providing local enhancements. The new permanent infrastructure of the underground shaft and two 4m^2 above-ground access hatches would remain.

More information about construction can be found in the draft Code of Construction Practice (Appendix 4.3 of the PEIR) on our consultation website at **www.thames-sro.co.uk/tdra/statcon2025**.

Question 14 of the feedback form asks for your views on the proposed construction approach to the intermediate shaft at the Ham Playing Fields site.

Construction at Burnell Avenue

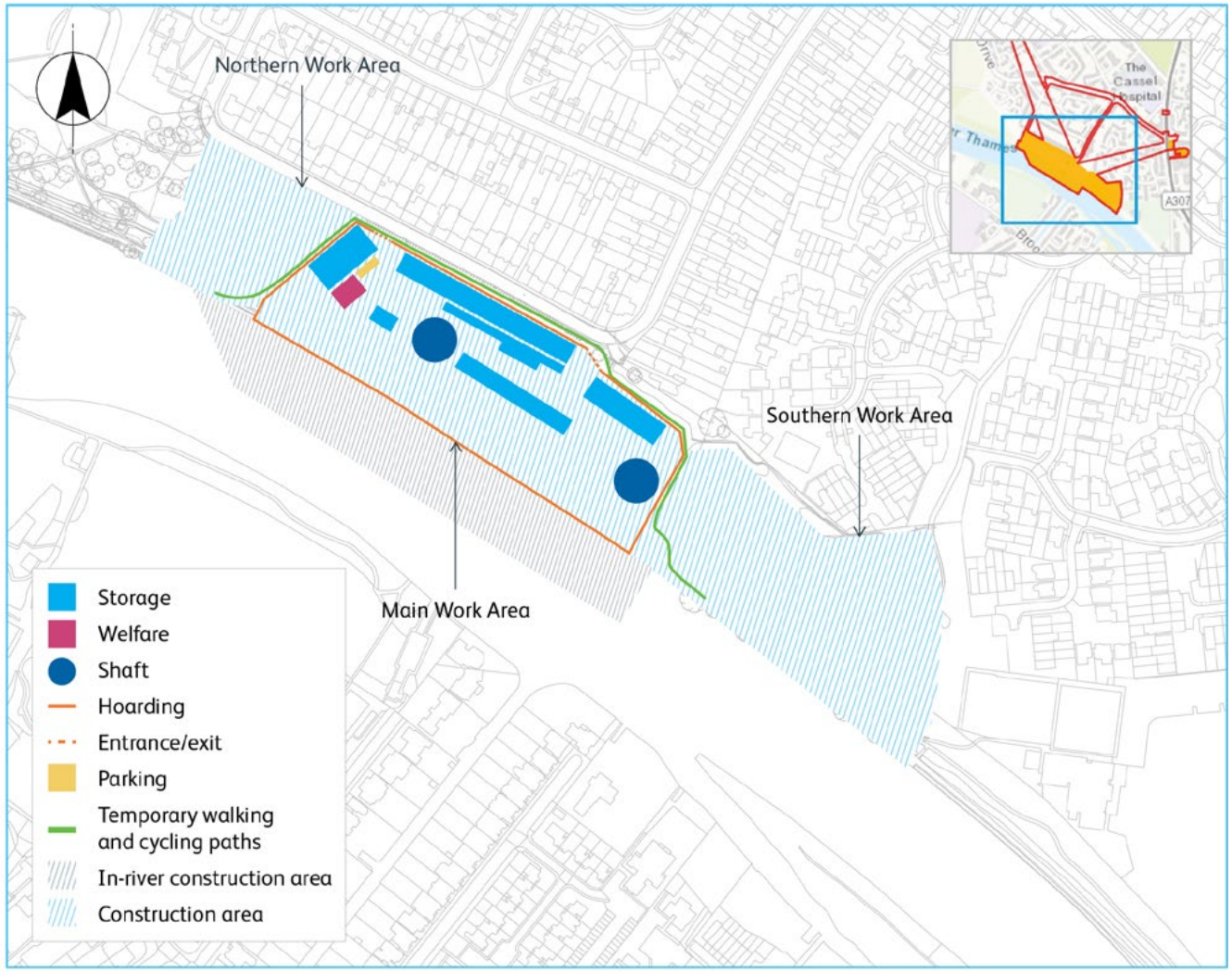


Figure 20: Indicative proposed Burnell Avenue construction site layout

The proposed Burnell Avenue site is located within the open space adjacent to Burnell Avenue, on the border of the London Borough of Richmon d upon Thames and the Royal Borough of Kingston upon Thames.

This site is needed to build:

- The reception shaft, which would be the end of the recycled water conveyance tunnel and allows removal of the TBM
- The outfall connection pipeline and equipment, which would connect the reception shaft and the outfall
- The outfall, which would release recycled water into the River Thames during droughts
- The intake, raw water connection shaft and the raw water conveyance pipeline, which would link the intake to the Thames Lee Tunnel (TLT)
- Control and power facilities which would manage operation of the intake and outfall.

The Burnell Avenue site would be divided into three work areas: the Northern Work Area, the Main Work Area and the Southern Work Area.

Works in the Northern and Southern Work Areas would involve permanent utility diversions and temporary PRoW diversions, with these works taking less time than works in the Main Work Area, where the rest of the Burnell Avenue site construction activities would take place.

During construction, we'd need to temporarily divert the Thames Path National Trail and National Cycle Network Route 4 / EuroVelo 2. We're proposing a shared diversion with segregated paths to keep pedestrians and cyclists safe. Once construction is complete, the diversions would be removed, and there would be permanent realignments of these routes.

Moving materials and equipment to and from site

We might need to make minor changes to roads, including temporarily removing some street furniture (such as bollards, road signs and benches) at several locations across Kingston to remove our TBM via the A3. We'd work with local authorities to implement these temporary changes closer to the time.

Working hours

Our standard working hours at Burnell Avenue would be from 8am to 6pm on weekdays and 8am to 1pm on Saturdays. This includes delivering materials to and removing waste from the site. Constructing the underground connection between the intake and the TLT would require 24/7 working.

We may also need to carry out some work outside standard working hours to connect our intake to the TLT and to connect our recycled water conveyance tunnel to the outfall. These will be set out in our CoCP included as part of our DCO application.

Workforce

We expect that up to 90 people would be needed at the Burnell Avenue site during peak construction phases.

Worksite set-up

We'd put up hoardings and fences, and install temporary buildings needed for welfare and administration, along with areas for parking and storage. We'd use the Northern and Southern Work Areas to divert utilities around the site, as well as diverting walking and cycling routes.

The Northern and Southern Work Areas would be restored for public access after these set-up works were complete.

We'd seek to minimise effects, but we'd need to remove some trees while installing protection on others to ensure they stay healthy during works.

Reception shaft and connection shaft

The reception shaft and connection shaft construction would take place within the Main Work Area, requiring excavation works and removal of excavated material by HGV.

Intake, outfall and TLT connection

To build our intake and outfall, we'd likely build two cofferdams, which are enclosed areas within the river connected to the riverbank. These would be drained of river water to create a safe, dry working area. Both outfall designs would likely be built using similar methods, with a cofferdam built next the riverbank to provide a safe and dry area for our workforce.

To build each cofferdam, we'd install sheet piles and bracing piles, and pump out the water into the river. We are investigating piling methods but would seek to use techniques that cause the least noise and vibration while providing safe and efficient operation.

The cofferdam to build either outfall would extend roughly 20 metres into the river, with both designs built largely from concrete. The pipework connecting the outfall to the recycled water conveyance tunnel would be hidden under the riverbank.

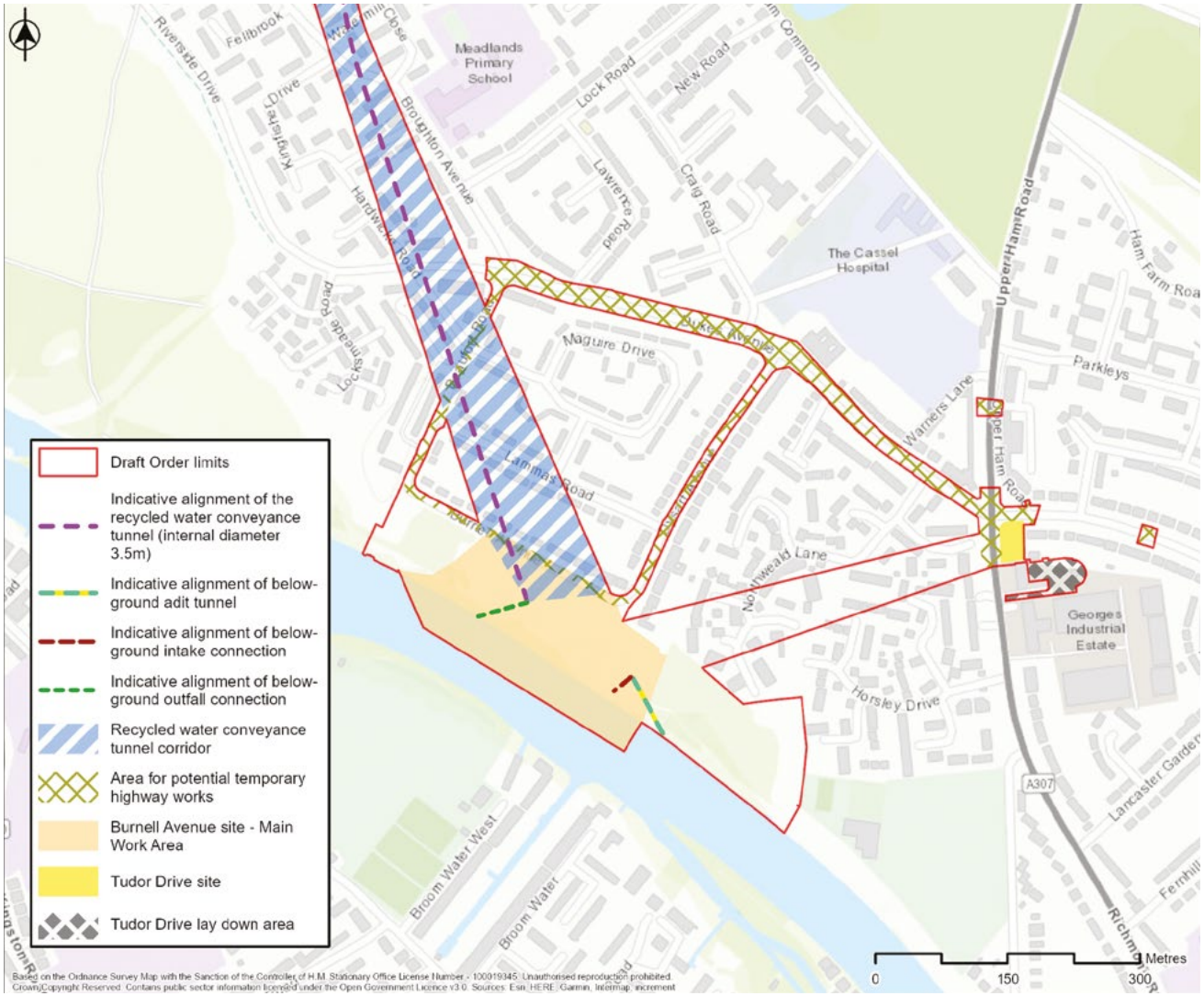
We'd build the structure for the near bankside in-river outfall below the water level, with a set of posts with ropes and buoys constructed around it to ensure the safety of river users. The bankside outfall would be largely built into the riverbank, partially visible above the water line.

To connect the intake to the TLT, we'd build a 10.5 metre internal diameter raw water connection shaft within the Burnell Avenue site. The shaft would be up to 40 metres deep, and would enable us to connect the intake to the TLT using one of the two options under consideration. For both Option 1, the Burnell Avenue adit (a short horizontal connecting tunnel), and Option 2, the Tudor Drive pipe-jack option, all the excavated material would be removed via the Burnell Avenue site.

More information about construction can be found in the draft Code of Construction Practice (Appendix 4.3 of the PEIR) on our consultation website at **www.thames-sro.co.uk/tdra/statcon2025**.

Question 15 of the feedback form asks for your views on the proposed construction approach at Burnell Avenue, including construction of the intake, outfall, associated shafts and the Burnell Avenue TLT connection option.

Option 1: TLT connection at Burnell Avenue



Our preferred option would be to connect the intake to the TLT by building a 70-metre-long, 3.5-metre internal diameter raw water conveyance pipeline (also known as an “adit”).

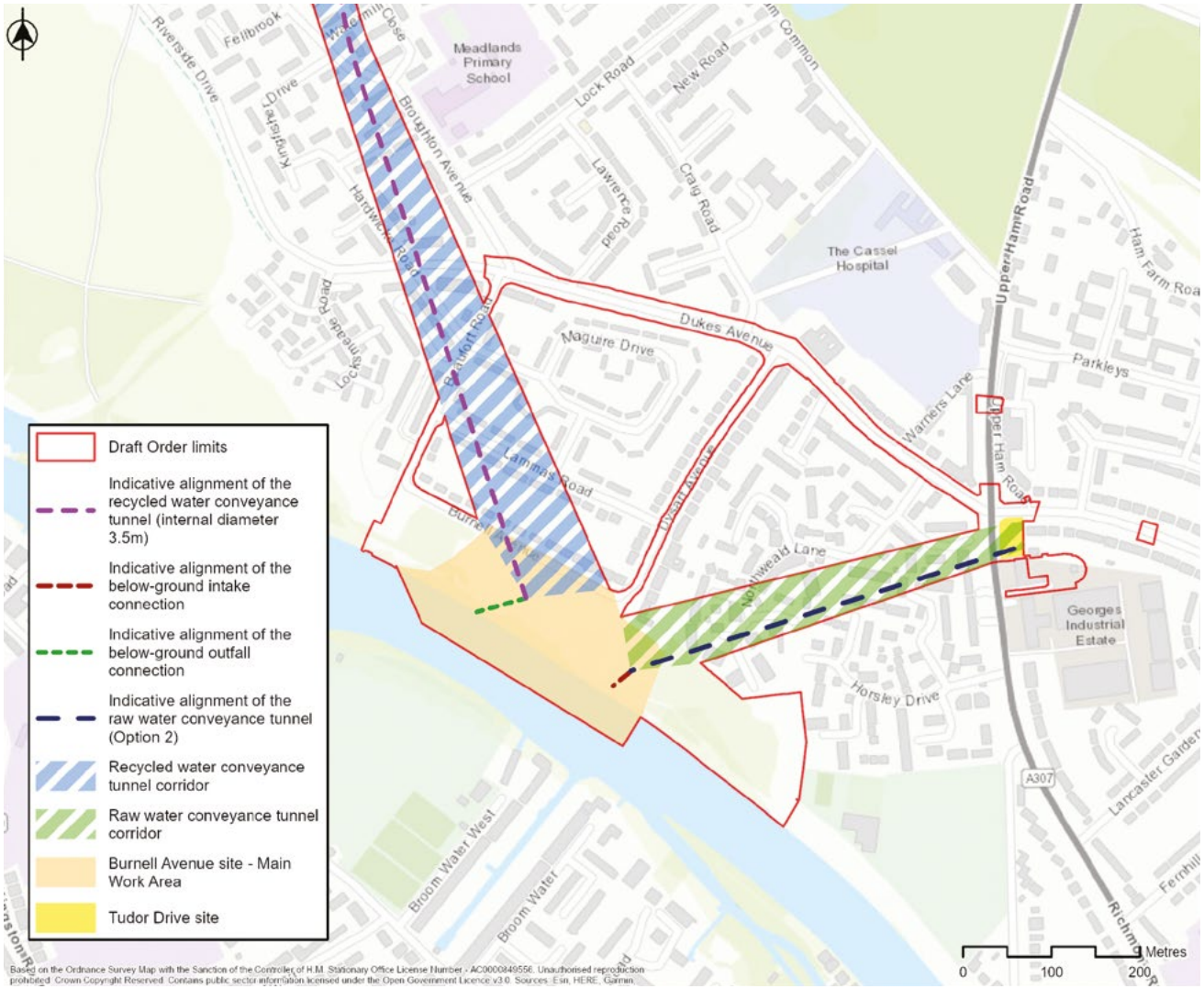
This would connect the raw water connection shaft, near the intake, to the TLT under the Southern Work Area. There would also be a short connecting pipe from the intake to the raw water connection shaft.

We’d excavate the adit from the base of the raw water connection shaft within the Main Work Area using an excavator (a conventional digger), removing the need for the construction of a shaft within the land south of Northweald Lane. We’d build the adit using a sprayed concrete lining.

This option differs from the proposal presented during non-statutory consultation in 2023. This would have required the removal of trees and vegetation in land south of Northweald Lane to accommodate the above-ground works required to build the shaft that would facilitate the connection to the TLT.

This option (Option 1) would reduce construction impacts at the Tudor Drive site. While the Tudor Drive site would still be needed to carry out strengthening words within the TLT, the works would be shorter and less complex than if the Tudor Drive TLT option (Option 2) were selected.

Option 2: TLT connection at Tudor Drive



Option 2 would require an approximately 500-metre-long and 2.2-metre internal diameter pipe-jacked pipe, connecting the intake to the TLT at Tudor Drive.

We're still investigating whether a new TLT connection shaft would be needed, or whether we can use the shaft that already exists at Tudor Drive. This existing shaft is currently used for accessing the TLT for maintenance purposes, and it may not be large enough for our purposes. We'd only build a new shaft at Tudor Drive if this option is selected and if investigations show a larger shaft is needed.

If a newly constructed shaft is needed, the materials we'd need to excavate to build the shaft would be removed from the Tudor Drive site by HGV. Material excavated from the pipe-jacked pipe would be removed via the Burnell Avenue site by HGV.

Worksite removal and restoration

After finishing building our intake and outfall structures, we'd remove any cofferdams from the river. If we can't remove the sheet piles, we'd cut them back below the riverbed to a depth agreed with the Environment Agency. We'd remove all other temporary buildings and equipment, and restore the land, including planting new trees and reinstating topsoil where practicable. The permanently realigned walking and cycling routes would be opened after this process is complete.

Construction at Tudor Drive

Figure 21: Indicative proposed Tudor Drive construction site layout

The Tudor Drive site would be located within land owned by Thames Water, the Royal Borough of Kingston upon Thames, and the London Fire Brigade at Kingston Fire Station, at the junction of Tudor Drive and the A307 Richmond Road.

We're engaging with the London Fire Brigade on our proposals, which would not affect the operation of the fire station. There is an existing maintenance shaft for the TLT within the boundaries of the site, which means it provides opportunities for efficient working for either TLT connection option.

Moving materials and equipment to and from site

We'd use HGVs to deliver materials and equipment to the site and to remove excavated materials. Construction vehicles would use Dukes Avenue/Tudor Drive and the A307 Richmond Road for access.

Working hours

Standard working hours at the Tudor Drive site would be from 8am to 6pm on weekdays and 8am to 1pm on Saturdays. This includes deliveries and removing waste from our site.

We may need some 24/7 working during periods when the TLT is shut down for regular maintenance or inspection, to carry out the strengthening works on the TLT or connect the raw water conveyance pipeline to the TLT. We'd need continuous working during these periods because the TLT is a vital piece of Greater London's water supply infrastructure and we'd need to complete our works during the planned shutdowns.

We'd work with both affected local authorities, Richmond and Kingston, to agree any working hours outside of the above requirements.

Workforce

We expect up to 30 people would be working at the Tudor Drive site during peak periods.

Worksite set-up

We may need to make changes to the footways and roads close to the fire station's entrance and exit to accommodate construction traffic, as well as make temporary changes at the junction of Tudor Drive and Richmond Road, such as footway diversions to keep pedestrians and workers safe. These changes would not affect the operation of the fire station.

We may also need to temporarily close Bus Stop C on Tudor Drive (serving southbound 65/N65 buses), while works are taking place at the site. We've investigated alternative bus stop sites, but have not found any suitable locations. The nearest alternative bus stops would be Stop B, roughly 150 metres north, and Stop D, which is roughly 500 metres to the south.

We'd need to clear the green space north of the fire station of trees and vegetation before starting work. Because of the site's size, we may also need to use additional storage areas and temporary buildings at our Burnell Avenue site, as well as within the Tudor Drive site. Construction traffic movements between the Burnell Avenue and Tudor Drive sites have been included in the worst-case HGV figures presented on page 28.

Set-up works would include accessing the TLT via the existing shaft to carry out strengthening works, which would be carried out during a planned TLT shutdown period.

Works at Tudor Drive

The site would be used in one of two ways, depending on which TLT connection option is selected (see pages 38 and 39 of this brochure).

Burnell Avenue TLT connection (Option 1)

If the Burnell Avenue TLT connection is selected (Option 1), then strengthening works would involve construction workers entering the TLT via the existing Tudor Drive access shaft and travelling several hundred metres within the TLT to the area near Northweald Lane, where the connection would be located. The workers would carry out the strengthening works to the TLT from the inside, preparing it for the new connection, before exiting via Tudor Drive.

In addition, during the works needed to connect the newly created adit to the TLT at Burnell Avenue, workers would once more access the inside of the TLT via the Tudor Drive site in order to break through the wall of the TLT to facilitate that connection.

Tudor Drive TLT connection (Option 2)

Option 2 involves building a 500-metre-long tunnel from the raw water connection shaft (near the intake at Burnell Avenue) to connect to the TLT at Tudor Drive.

Before we could connect the new tunnel to the TLT, we'd carry out works to strengthen the TLT from the inside at the proposed connection point. Construction workers would enter the TLT via the existing Tudor Drive access shaft to carry out these strengthening works, which for this option would be located near the access shaft.

We may be able to connect the new tunnel to the TLT within the existing Tudor Drive TLT maintenance shaft, but there is another scenario where we need to build a new shaft because the existing maintenance shaft isn't wide enough. In this case, we'd excavate a second shaft within the Tudor Drive site, which would need more extensive works and HGV movements (as shown in the worst-case scenario HGV movement tables on page 28 of this brochure).

In either scenario, we'd connect the tunnel to the TLT during a planned shutdown period, completing the underground connection from the intake.

Worksite removal and restoration

If we select Option 2, we'd remove the pipe-jack equipment from the Tudor Drive site. We'd then reinstate the site, leaving the permanent infrastructure in place, including the shaft and access hatches.

Following construction, the site would be restored to its existing use, including the grassland next to the fire station and the adjacent public green space with ornamental trees and shrubs. Other features to be reinstated include paving, walls and the brick arch adjacent to Tudor Drive.

Question 16 of the feedback form asks for your views on the proposed construction approach at Tudor Drive, including the Tudor Drive TLT connection option.

Project benefits and legacy

The project would deliver strategically important benefits for London and the South East by providing a secure and sustainable water supply. This includes:

Ensuring London's water supply meets the demands of climate change, population growth, and drier weather conditions

Ensuring that a drought-resilient water supply exists to support growth, new development, and housing in line with London Borough Local Plans

Safeguarding against economic loss and societal disruption from potential water use restrictions in London during droughts

Contributing to the UK's environmental objectives, including reducing pressure on sensitive habitats such as chalk streams

The investment we're making in new water infrastructure also creates opportunities for wider public value. At a local level, we're committed to leaving a positive legacy, and we've already begun engaging communities on how we could achieve this.

In summer 2024, we conducted a community survey where we asked people to tell us their priorities for the project's legacy ambitions. These are the priorities that were highlighted:

Environmental
For example, the creation or enhancement of sites for nature

Economic
For example, a local skills and apprenticeship programme

Community
For example, local recreational community projects

Education
For example, educational resources and funds for water-based activities

River recreation
For example, facilities for river-based leisure and sport

Leisure and amenity
For example, public art or benches on the River Thames

We're working with a range of stakeholders to explore how the project could support investment across the local area. This includes engaging our host local authorities on the plans and strategies that set the direction of green (parks and gardens) and blue (rivers and wetlands) infrastructure. We're also engaging charities that help our communities enjoy, protect and enhance rivers in London and beyond.

We've included details of some of the legacy opportunities we're exploring on the next page. As part of our statutory consultation we want to hear your thoughts on these priorities and gain insights from you about what's important.

Question 17 of the feedback form asks for your views on the project's legacy ambitions and invites information on opportunities for us to work with you on these.

Environmental Net Gain and Biodiversity Net Gain

It's important that the project makes a positive contribution by leaving the natural environment in a better overall state than before it is implemented – this is called providing Environmental Net Gain (ENG). ENG goes beyond the net gain approaches that concentrate on biodiversity, and includes providing benefits like recreation and improved water quality.

Biodiversity Net Gain (BNG) is a process whereby we seek to protect the most threatened or valuable habitats, and achieve measurable improvements in biodiversity. As part of building the project we're looking at opportunities to improve biodiversity, including:

- Creating wildflower meadows
- Planting new trees and hedgerows
- Creating new habitats for locally important wildlife.

In addition, during construction we'd put in place measures to protect the environment. The Managing environmental effects section of this brochure (page 44) explains how we've assessed our environmental impact and the steps we'll take to reduce it as much as possible.

We're currently developing our plans for delivering ENG and BNG, and these will form part of our DCO application.

Improving local spaces

We know local communities value the beauty and character of the local environment, particularly for walking, cycling and enjoying the River Thames.

As part of our design process, we're preparing a Preliminary Townscape and Environmental Master Plan (Figure 2.5 in the PEIR) for all our above-ground sites. This is being informed by our Design Vision and draft overarching Design Principles, which are explained in the Designing the project section of this brochure.

The Master Plan will look to integrate the new infrastructure into the townscape, for example at the Burnell Avenue site where we're exploring opportunities for sensitive earthworks and native tree and shrub planting along the riverbank.

We're also exploring how we could improve local paths, recreational spaces like picnic areas, or access to the River Thames leaving a positive legacy.

Employment and skills

The project will create new jobs during the construction phase, and we'll also work with our host local authorities and education providers to support their skills and employment programmes for young people in their areas.

We have a dedicated outreach team, committed to working with young people and education providers to raise awareness of the water challenge we face and the project.

We've already engaged with local Beaver, Cub and Scout groups to talk to them about the project, including taking part in activities where children learned about the importance of digging boreholes to understand ground conditions when building tunnels. We also demonstrated our Lego model of a Tunnel Boring Machine (TBM), which simulates how a real TBM works.

We're also working with Debate Mate to engage with, and hear from young people and are collaborating with Kingston University including supporting workshops for prospective students on challenges to our future water supplies.

We'll continue to develop our programme to work with young people, giving them a chance to develop their skills and help us shape how we approach future challenges.

Questions 18 and 19 of the feedback form ask for your views on opportu nities to enhance green spaces and enhance the riverbank in the vicinity of the project.

Managing environmental effects

In common with other major projects, we must carry out an Environmental Impact Assessment (EIA), to evaluate the potential environmental effects of TDRA.

The EIA is an important part of the planning process, ensuring decision-makers are aware of the project's potential environmental consequences, both negative and positive, before choosing whether to grant consent.

The EIA helps protect the environment and manage impacts on local communities by requiring us to consider and mitigate the significant negative effects our proposals may have. This involves carrying out assessments on a range of environmental aspects of the project – such as Air Quality, Noise and Vibration, and Materials and Waste. These aspects are assessed as part of the project's EIA, with these assessments summarised in this section.

The EIA takes place during the pre-application period (see the Development Consent Order (DCO) process section of this brochure) and is reported through three main documents: the Scoping Report, the Preliminary Environmental Information Report (PEIR), and the Environmental Statement (ES). The production of each of these documents marks an important milestone in the project's EIA. The last of these, the ES, is submitted as part of the project's DCO application.

Question 20 of the feedback form asks for your views on the predicted environmental effects of the project and the measures we're proposing to manage those effects on the environment and local communities.

Scoping Report and Scoping Opinion

The Scoping Report sets out which environmental aspects we think we need to assess to understand the project's likely significant effects. It explains how we plan to carry out the assessments and how we'll mitigate any significant impacts during the project's construction and operation.

We submitted our Scoping Report to PINS in October 2024 and, in November 2024, PINS responded (on behalf of the Secretary of State) with its Scoping Opinion, which sets out where they agreed or disagreed with how we proposed to carry out our assessments.

To produce its Scoping Opinion, PINS sought feedback from stakeholders such as local planning authorities, environmental bodies such as the Environment Agency and Natural England, and other stakeholders such as utility providers, emergency services, and Transport for London.

As part of our ES, we'll explain how we have taken the Scoping Opinion into account. You can read the project's Scoping Report and Scoping Opinion at **https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/WA010006**.

Preliminary Environmental Information Report (PEIR)

The next milestone in the EIA after producing the Scoping Report is the publication of the PEIR. We have prepared a PEIR and this forms part of our statutory consultation materials. The PEIR includes our preliminary assessment of the likely significant environmental effects of the project during construction and operation, based on the information available to us at this time.

Planning Inspectorate

The Planning Inspectorate (PINS) is an executive agency of the Ministry of Housing, Communities and Local Government. PINS is responsible for administering DCO applications on behalf of the government, appointing independent examiners to review those applications, and make recommendations to the appropriate Secretary of State as to whether an application should be granted consent or not. The Secretary of State decides whether consent is granted for any application, choosing to either follow the independent PINS recommendation or not.

For each of the aspects, we have summarised our preliminary environmental assessments, identifying where there are likely significant effects during construction or operation. More information about each of these aspects is in our PEIR and our PEIR Non-Technical Summary (NTS), both of which can be found on our consultation website at **www.thames-sro.co.uk/tdra/statcon2025.**

Environmental Statement

The final part of the EIA process is producing the project's ES. The ES will be published as part of our DCO application, which is expected to be submitted in summer 2026. The contents of the ES and the way the assessments are carried out are governed by law and good practice, and the ES will be written by experts in their fields.

Our ES will set out our completed assessments of the likely significant environmental effects of the project for each of the aspects, for both construction and operation. Where likely significant adverse effects have been identified, the ES will set out how those effects would be managed by appropriate mitigation, and whether those effects would be monitored after consent has been granted.

Water Resources and Flood Risk

This aspect looks at the potential impacts of the project on water quality and flood risk in above-ground areas that could be affected by the project's construction and operation. It also assesses potential impacts on groundwater, in particular effects on groundwater that might result from below-ground works such as shaft construction or tunnelling.

Construction

During construction, we don't expect there to be any significant effects on water quality, flood risk or groundwater once mitigation has been carried out.

Surface water quality, in the freshwater and tidal River Thames, would be managed throughout construction. Mitigation measures to reduce the release of sediment during in-river construction would ensure effects are not significant. Similarly, the control of water discharges during construction, in line with legislation and good practice, would mean that any effects wouldn't be significant.

Temporary hard surfaces laid down at construction sites have the potential to increase flood risk in nearby areas as water runs off the site. To manage this, we'd carry out hydraulic modelling of the sites before we start works, which would identify any mitigation measures necessary to manage run-off and prevent this increasing flood risk.

We may need to remove water from the shaft sites to maintain a dry working environment while we build them, which has the potential to temporarily impact local groundwater. To mitigate this, we'd carry out hydrogeological assessments to inform our DCO submission and before we start works to tell us about the potential volumes of water expected and its type, allowing us to put in place any necessary control measures to reduce the effects of construction on groundwater to not significant levels.

Operation

During operation, there would be no likely significant effects on water quality from releasing the recycled water at the proposed outfall during drought periods. This is because the water would have been treated to a suitable quality.

Water quality in the tidal Thames would improve during non-drought periods, because the water released from Mogden STW at Isleworth Ait would be higher quality than it's now, as it would include the 15 million litres per day maintenance flow of recycled water from the TTP.

Similarly, we don't expect any significant impacts on water quality, flood risk or groundwater. As part of our EIA, we'll carry out hydrogeological risk assessments to understand any potential impacts of the permanent infrastructure on groundwater and flood risk.

For example, implementation of the retaining wall at Mogden STW, which would help accommodate the TTP and ancillary equipment, has the potential to divert or restrict groundwater flows or increase flood risks nearby. Our assessment would inform the mitigation measures put in place, which would reduce the impacts to not significant levels.

Aquatic Ecology

This aspect assesses the project's impacts during construction and operation on aquatic ecosystems, which include plants and wildlife found in and around bodies of water, including the tidal and freshwater River Thames.

Construction

We don't predict any significant effects on aquatic plants or wildlife during the project's construction period.

During construction, we predict minor effects on macroinvertebrates (which include insects, worms, molluscs and crustaceans), as well as plants that grow in or near the water. This would be due to a loss of, or disturbance to, habitats when building our intake and outfall in and near the river.

We also predict minor effects on fish due to impacts on their habitat, sediment and from noise and vibration. Using good practice construction methods, such as minimising artificial light spill into the river and carrying out piling using less-invasive techniques where possible, we don't expect any additional mitigation measures to be needed to ensure the effects are not significant.

Operation

Once operational, our assessments predict that the permanent outfall and intake infrastructure in and near the river would have no significant effects on aquatic ecology. There would be both minor and negligible adverse effects on aquatic ecology as well as some negligible beneficial effects once the project is operational.

The project design includes mitigation measures, such as screens, to reduce the likelihood of fish being harmed by the structures, and enhancement measures such as improvements to riverbank habitats to support species. Similarly, our release of water into the river would adhere to strict water quality standards to ensure that it wouldn't result in significant effects on aquatic ecology. We're working closely with the Environment Agency to determine if any additional mitigation or enhancement measures would be required to reduce these effects to even lower levels.

Terrestrial Ecology

This aspect assesses the project's potential impacts during construction and operation on terrestrial ecosystems, which are those found on land – in particular, sites or species that are designated (protected by law) due to their natural significance.

Construction

During construction, we don't expect any significant effects on designated sites once the proposed mitigation measures, agreed with Natural England, have been put in place.

We'd follow standard good practice mitigation for terrestrial ecology during construction, including carrying out protected species and habitat surveys to understand the areas in which we'd be building the project. This would allow us to carry out good practice mitigation, such as timing works to minimise impacts on flora and fauna, and creating works exclusion zones to protect habitats and species.

We'd obtain the relevant protected species licences from Natural England, ensuring we'd put appropriate measures in place to avoid significant effects on those protected species.

Our terrestrial ecology assessments are ongoing. For example, we'll further assess the Richmond Park Special Area of Conservation to understand whether construction could have any potentially significant effects on stag beetles. If any potential effects are identified, then mitigation measures would be put in place to reduce these to not significant levels.

Operation

Our assessments show there wouldn't be any significant effects on terrestrial ecology once the project is in place.

Historic Environment

This aspect assesses the potential effects of the project's construction and operation on sites of archaeological value, as well as on designated historic assets such as conservation areas and listed buildings.

Construction

We don't predict that the project's construction would have significant impacts on historic assets, such as Ham House, although minor temporary effects on the building's setting are expected due to the nearby construction site.

Construction of the intermediate shaft site at Ham Playing Fields and the works at Burnell Avenue have the potential to impact below-ground archaeological remains. We'll carry out further desk-based assessments and geophysical surveys to understand whether any mitigation measures would be needed during construction to reduce these impacts to non-significant levels. Mitigation would include physically protecting sensitive assets where they're close to construction sites and having protocols in place for unexpected archaeological discoveries.

Operation

We've not identified any significant effects on the historic environment once the project is in place, although there would be minor effects on the setting of some heritage assets in the vicinity of the proposed intake and outfall, including the Riverside North Conservation Area.

Townscape and Visual

This aspect assesses the potential impacts of the project's construction and operation on the surrounding townscape, which includes the setting of nearby buildings and open spaces.

Construction

We predict there would be significant temporary effects on townscape character and on visual amenity during construction because of the impacts caused by t he construction works, including the removal of trees and shrubs. We're looking at opportunities to mitigate these impacts by keeping vegetation wherever practicable, but it's unlikely we'd be able to reduce these effects sufficiently to avoid them entirely.

Operation

We predict that there would be some significant permanent effects on the townscape character and visual amenity, largely associated with the proposed intake and outfall. To manage these effects, we're developing a Townscape and Environmental Master Plan, that will set out how we sensitively integrate our new infrastructure into the existing landscape and restore construction sites once construction is complete. This Master Plan will form part of our DCO application.

Ground Conditions and Contaminated Land

This aspect assesses the potential of the project to cause deterioration of ground conditions, as a result of contamination from historical landfills, infilled gravel pits or former industrial land. It also assesses the potential impact of leaks and spills of contaminants during construction, as well as the impact on existing soils.

Construction

There are no likely significant effects on ground conditions or contamination predicted as a result of the project's construction.

We'd put in place measures to prevent significant contamination as a result of our construction activities. All construction activities would be controlled using standard good practice methods, which would limit any risk to human health, groundwater and soils from movement of contaminants during excavation or through spills and leaks.

In addition, site-specific mitigation measures will be developed based on the results of our ongoing ground investigations into areas such as historical landfill and other potentially contaminated areas.

We'd ensure existing soils are protected during construction so that, wherever practicable, they could be reused either within the project for site restoration or elsewhere.

Operation

There are no likely significant effects on soils or contamination predicted once the project is operational due to the proposed design and operational controls which will be in place.

Materials and Waste

This aspect assesses the likely impacts of the project's construction and operation on consuming materials and producing waste.

Construction

Our assessments predict that there would be no likely significant effects with regards to materials or waste. The project would generate waste, but significant amounts of this would be reused or recycled. In line with the waste hierarchy, we'd avoid producing waste as much as possible, while waste that is generated would be reused or recycled wherever practicable, and only disposed of as a last resort. We'd follow the Greater London Authority's "Circular economy" approach to design and waste-reduction.

For example, we'd seek to reuse the excavated London Clay, preferably at local sites. We'd recycle other waste locally wherever practicable, including composting green waste, although some items would be transported to specialist facilities elsewhere, such as portable batteries.

For waste that can't be reused or recycled, we'd use local landfill (which has been assessed as having sufficient capacity), which would help reduce the impacts from transporting waste long distances.

Operation

During the operational phase, we don't predict any significant effects relating to materials and waste. This is because the project would need only small volumes of materials to operate, such as those needed to operate the TTP water recycling facility and to maintain the proposed intake and outfall. Similarly, very little waste would be generated by the permanent infrastructure.

Traffic and Transport

This aspect assesses the potential impacts of the project on traffic levels during the construction period and once the project is operational, with these being a result of the movement of materials and waste, and construction worker journeys.

Construction

During the construction period, we predict there would be temporary but not significant effects on some local roads, with an increase in traffic during construction working hours due to the movement of HGVs. There would also be interruptions to/disruption to existing walking and cycling routes diverted around the Burnell Avenue site and impacts from the movement of abnormal loads along local access routes. However, mitigation would be sufficient to reduce these impacts to not significant.

We'd manage these effects by designating access routes for construction vehicles, providing appropriate routes between construction sites and the Strategic Road Network (major roads, including motorways). We'd seek to distribute HGV traffic evenly throughout construction working hours to manage its effects. In addition, HGVs would be subject to safety checks and drivers to competence checks to improve road safety along routes. These, and other mitigation measures, will be set out in our Construction Traffic Management Plan, which will be produced prior to construction. We'll also encourage the use of sustainable traffic modes by the workforce, such as walking, cycling and public transport.

Operation

We don't predict any significant effects on traffic once the project is operational. This is because the traffic movements needed to maintain the permanent infrastructure would be very low, such as occasional deliveries to Mogden STW to supply the TTP, and a small number of journeys to inspect and maintain the other permanent infrastructure, such as the intake and outfall.

Air Quality

This aspect assesses the likely significant effects on air quality during construction and operation, as a result of construction vehicle emissions or operational maintenance vehicles, and dust from construction activities.

Construction

The vehicles and equipment required during the construction phase could increase exhaust emissions during the construction period. Detailed modelling will be carried out and presented in the Environmental Statement as part of our DCO application. It's considered unlikely that there would be significant effects as a result of construction vehicles and emissions due to the implementation of standard practices of mitigation measures in the Code of Construction Practice.

There would be a limited (and not significant) effect on air quality from dust as the appropriate dust management measures would be in place. Dust mitigation measures would include carefully locating and managing construction activities and materials likely to produce dust.

Operation

During operation, there are no predicted likely significant effects on air quality because there would be no dust-creating activities, and only a low volume of vehicle movements to deliver materials for the TTP or maintain the permanent infrastructure, such as the intake and outfall.

Noise and Vibration

This aspect assesses the predicted effects of the project's construction and operation on noise and vibration levels, including construction activities and traffic.

Construction

We predict that some of the construction activities needed to build the project would temporarily generate significant noise and vibration. We are exploring limiting those activities that have the greatest potential to create noise and vibration, such as piling (the installation of reinforced materials into the ground). We are also considering the use of noise-reducing measures to limit noise and vibration to the lowest levels possible.

In addition, it's expected that the noise impact on local roads due to construction traffic wouldn't be considered a likely significant effect.

Operation

Once the project is operational, there are not expected to be any significant effects on noise and vibration, with none of the permanent infrastructure creating additional noise or vibration compared with existing background levels. Similarly, there would be very few additional vehicle movements generating noise once the project is operational.

Socioeconomics, Community, Access and Recreation

This aspect assesses the predicted impacts of the project on local communities, including their access to community and recreational facilities, both during construction and once the project is operational. The assessment also includes any predicted economic effects on local people.

Construction

During construction, we predict significant adverse effects on community amenity at all sites, on recreation in the River Thames at Burnell Avenue and on the open space at Ham Playing Fields because land would be temporarily unavailable due to the implementation of the construction sites. There are nearby alternative sites that could be used for exercise, dog walking and the enjoyment of green space, including Ham Lands and Ham Common Woods. Mitigation measures would include the temporary diversion of existing Public Rights of Way along the riverside, to maintain walking and cycling routes.

Operation

Potential significant adverse effects have been identified for users of the river at Burnell Avenue, Ham Playing Fields and Burnell Avenue associated with the loss of space for recreation. There would be a significant positive effect on the region once the project is operational due to the increase in drought resilience, which would support the economy and facilitate housing growth.

Human Health

This aspect assesses the likely significant effects on the health of local people during the construction and operation of the project.

Construction

At the Burnell Avenue site, we predict that there would be a temporary reduction in the amount of green space available to local people due to the presence of the construction sites, and a temporary reduction in the quality of the available green space due to construction noise effects and the impacts on views of hoarding and equipment. These would potentially have a temporary significant effect on the mental and physical health of local people. This will be temporary, and consideration will be given to the appearance and quality of the hoarding to present a more aesthetically pleasing design to reduce these effects.

Operation

There are no predicted significant effects on human health once the project is operational, because of the relatively small amount of land required permanently to operate the project.

Carbon

This aspect estimates the amount of greenhouse gases (GHG) that would be emitted during the project's construction and operation, including those associated with vehicle movements, materials usage and waste disposal.

Construction

The project's construction wouldn't result in a significant increase in emissions of GHG in relation to the UK's carbon budgets.

There would be some increase in GHG as a result of the consumption of raw materials and their transportation to site, as well as the use of fuel, electricity and water during construction, and as a result of the transportation and treatment of waste.

However, the magnitude of GHG emissions wouldn't have a material impact on the ability of the government to meet its GHG reduction obligations and commitments. Mitigation measures are currently being developed to ensure GHG emissions associated with construction are as low as reasonably practicable. These include the use of low-carbon materials during construction and strategies to reduce fuel use for construction vehicles and equipment.

Operation

The project wouldn't result in a significant increase in GHG during its operational phase. This is because the amount of electricity and chemicals needed for it to function, along with the emissions associated with its maintenance, repair and replacement activities, are predicted to be very low.

The project is being designed to be compliant with the government's existing and emerging GHG policy and commitments, with emissions as low as reasonably practicable.

Climate Change

This aspect predicts how resilient the project would be to risks that are presented by climate change, including increased likelihood of floods, droughts and storms. The assessment also predicts whether the project would have any significant effects on the environment due to climate change.

Construction

There are no significant impacts on the project's construction predicted as a result of extreme weather. Climate-related risks during construction would be managed through weather resilience measures based on good practice and our site-specific knowledge. These measures would minimise the effects on the construction programme and the local environment in the event of extreme weather events.

Operation

We don't predict future climate-induced changes in weather conditions would have a significant impact on the project's operations. Nor do we predict that the project would have any significant negative effects on the local environment during its operational phase due to climate change.

We're embedding resilience and adaptability throughout our design to allow for changes in future temperatures, rainfall patterns, and storms.

Cumulative Effects

This assessment considers all the aspects with a view to predicting whether their combined effects would result in any additional significant effects on the environment or local communities, during either construction or operation. This aspect also looks at how significant the effects from the project would be when considered alongside the known impacts from other projects either being constructed or operated at the same time.

Construction

A review of the multiple effects at the project's construction sites found that there would be no additional likely significant cumulative effects, beyond those identified within the individual aspect chapters of the PEIR. We have considered overlapping construction timescales, scale, type and proximity of other projects with our project. We have developed a short list of projects where interactions with our project could occur. The scale and detail of any cumulative environmental effects with these other projects will be assessed as part of our application.

Operation

There are no likely significant effects predicted across any of the assessed aspects, nor are there any likely significant cumulative effects predicted. We don't currently anticipate any significant environmental effects associated with the operation of our project with any other proposed projects.

Information for people with land affected by the project

Question 21 of the feedback form asks for your views on the land we have identified could be required temporarily or permanently to build and operate the project.

The project's draft Order limits show the land that we currently think we'll need to deliver the project. This includes the land we may need temporarily - for example, to carry out construction activities - and the land we may need permanently to accommodate and maintain the new project infrastructure, including new tunnels and pipelines under the ground.

They're called 'Order limits' because that is how they would be known in an application for a Development Consent Order (DCO), such as we're planning to submit for this project in summer 2026. For more information on the DCO process, see page 56 of the consultation brochure.

Most of the land needed permanently would either be within the existing Mogden Sweage Treatment Works (STW) site or deep underground. Only a relatively small amount of above-ground land outside Mogden STW is needed permanently for the new infrastructure – for example, the proposed intake and outfall structures near Teddington Weir. In addition, we'd need to acquire permanent rights over a small amount of land to allow us and third parties, such as utility companies, to access and maintain any new or diverted assets.

You can view the project's draft Order limits online using our interactive map, or in our map books, all of which can be found at our consultation website at **www.thames-sro.co.uk/tdra/statcon2025**.

At this stage in the project's development, we haven't yet determined the exact alignments for the proposed new tunnel and pipelines that would be needed. For this reason, we've included a wider area in the draft Order limits than we expect to include in our DCO application. Once we've carried out further engagement and ground investigation work, it's likely that we'll be able to narrow the Order limits in many areas. As a result, we expect fewer properties to be included within the Order limits that will ultimately be submitted as part of our DCO application.

We'll publish our updated Order limits as part of our DCO application and we'll write to landowners at that point if their property is included within the DCO Order limits.

How we have identified the land we may need

As we've developed our proposals for the project, we've used HM Land Registry and desktop research to identify those who own, or have an interest in, the land that is potentially affected.

We've sent out Land Interest Questionnaires (LIQs) to those identified, asking for information about the nature of their interest in the land. The information we're receiving back is helping us to engage with potentially affected people.

If you have received a Section 42 letter (which is a formal notification) from our Land and Property team, it means land or property that you occupy, or have an interest in, has been identified as potentially being affected by the project in some way.

Land within the draft Order limits

Owners, occupiers, lessees, tenants and those with rights over land or property within the project's draft Order limits (the proposed project boundaries) are known as having 'Category 1' or 'Category 2' interests, as defined by the Planning Act 2008.

The Planning Act 2008 requires developers of nationally significant infrastructure projects, including TDRA, to identify and consult with people in these categories to ensure they have a fair opportunity to object.

If you've received a letter from us that says that land or property in which you have an interest may be impacted, it is likely to mean that your home is above underground land (subsoil) that might be needed for the proposed tunnel or pipeline that would transfer water to and from the River Thames.

We know that the idea of having a tunnel underneath your home could be worrying, which is why it's important to know that the risk of damage to your property would be extremely low. You can find out more about how we'd manage these risks on page 31 of this brochure.

Our current proposals avoid the need to acquire any residential properties for the construction and operation of the project.

Category 3 land interests and claims for compensation

The Planning Act 2008 also requires us to identify people with an interest in land outside of the project's draft Order limits who could possibly be affected.

These people are described as having a 'Category 3' interest, meaning that they might be able to claim compensation due to the value of their land interest being affected by the project either during construction or operation. For example, if their property value were affected by noise and vibration during the project's construction.

We've already issued LIQs (see previous page) to those we have identified as potentially having Category 3 land interests. Our assessment of which properties to include as Category 3 interests is based on the propensity for noise to travel to properties, which varies according to location.

Acquiring land and property for the project

Where we need to buy land beneath homes or property for the tunnel or pipeline, our preference is to do this through agreement. If we can't reach agreement, then we'd use compulsory acquisition powers that we'll seek in our application for Development Consent, under the Planning Act 2008. This would be a last resort, which we'd only pursue once we've used reasonable endeavours to reach agreement.

The Valuation Office Agency has published guidance to help people understand the compulsory purchase compensation framework, at **www.gov.uk/government/publications/the-land-compensation-manual**.

Local property prices

We don't expect the project to have any long-term impacts on property prices. For similar schemes in Greater London there can sometimes be a temporary effect on the property market while local estate agents, solicitors and buyers familiarise themselves with a project and its community integration. If you have concerns about potential effects, please contact a member of our Land and Property team using the details provided below.

Accessing land for surveys

As we continue to develop our designs for the project, we'll need to carry out further surveys and assessments, focusing on local habitats and ecology, waterways, archaeology and ground conditions. These are likely to continue beyond the submission of our DCO application, to inform future construction planning. When we need access to land and property, we'll seek agreement with the people or organisations with an interest in the land. If access can't be agreed, and we can't carry out equivalent surveys on nearby land, then we may seek powers to access land under the Housing and Planning Act 2016, although this is our least-preferred course of action.

Next steps for landowners and affected parties

We know a project of this size and complexity can cause concerns for those whose land or property is potentially affected. We're committed to making ourselves available to understand concerns and answer questions. For further information, or if you have queries related to land and property, consider contacting our dedicated Land and Property team using the information below.

Our Land and Property team will also be available to answer questions at our eight in-person public information events, with details of these available on page 61.

Your feedback is important to us, and we encourage you to respond to our consultation so we can better understand your views on the project and how it might affect you. Visit our website to fill in our online feedback form or to find out about other ways to provide your feedback.

Contact our Land and Property team

Those people with an interest in land who would like to find out more information, please contact our Land and Property team via **property.TDRA@thameswater.co.uk**. We would also encourage you to attend our in-person public information events (see page 61) where you can talk to members of the project's Land and Property team, including about the Land Interest Questionnaire process.

Development Consent Order process

In December 2023, we received a Section 35 Direction from the Secretary of State, confirming that TDRA should be treated as a project of national significance. This means we must seek powers to build the project through a Development Consent Order (DCO) application.

The Planning Act 2008 sets out the legal framework for applying for, examining and determining DCO applications. The timeline on the right hand page shows the six stages of a DCO application.

There are several ways to engage in the process, as set out in the timeline. The dedicated TDRA page on PINS website can be found at **https://national-infrastructure-consenting.planninginspectorate.gov.uk/projects/WA010006**.

Acceptance

Following submission of our DCO application, PINS has 28 days in which to formally accept the application. It will consider whether the proposal meets the standard required to be examined and whether sufficient information has been provided by the Applicant. A key consideration during the acceptance period is whether we, the Applicant, have consulted adequately. Our Consultation Report and any adequacy of consultation submissions from local authorities will inform PINS' decision whether to accept or not.

Pre-application

Before submitting our DCO application, we're required to carry out public consultations on our proposals. We held a non-statutory consultation in autumn 2023, and now we're carrying out our statutory consultation.

We've a duty to have regard to all consultation responses and to summarise these in a Consultation Report, to be submitted with our DCO application. We'll use this document to explain how feedback has been considered in the design of the project.

The Consultation Report will be submitted, alongside all other relevant documentation required to support our DCO application, in 2026. This application will be made to the Planning Inspectorate (PINS), which will examine the application on behalf of the Secretary of State.

3

Pre-examination

Once an application has been accepted, an Examining Inspector (or panel of Inspectors) will be appointed by PINS to be the Examining Authority. The application will be formally advertised, and copies of the application documents will be published on the PINS website. Relevant local authorities automatically become "Interested Parties". Members of the public, people with an interest in land, and organisations and interest groups can register as an Interested Party within a 28-day minimum registration period, which gives them the right to submit written representations and to request the right to speak at any hearing.

A Preliminary Meeting will take place to consider procedural matters as to how the application will be examined and an examination timetable will be set. There is no statutory timetable for this pre-examination stage, but it usually lasts around three months.

4

Examination

Examination starts the day after the close of the Preliminary Meeting and must be completed within six months. The Examining Authority will invite Interested Parties to submit their views, they will hold hearings, and they will carefully consider all the evidence submitted. Examination is primarily a written process that is focused on written representations, in contrast to a public inquiry, with hearings only being held on selected issues where the Examining Authority deems this necessary.

5

Recommendations and decision

The Examining Authority must prepare a report, including a recommendation on whether to grant or refuse development consent, within three months of the close of the Examination. The Secretary of State then has a further three-month period in which to consider the recommendation and make the final decision.

6

Post-decision

A six-week period follows the decision of the Secretary of State during which any decision may be challenged in the High Court by way of judicial review.

You can find more information about the DCO process on the Planning Inspectorate's website: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Have your say

We want to hear your views about the project. This section explains where to find all our consultation materials, details of our events, how to have your say, and what we'll do with your feedback.

Our consultation runs for 10 weeks, from **17 June to 11.59pm on 26 August 2025**. There are many ways you can get involved, find out more about the project and provide your feedback on the proposals.

Consultation materials

We've produced a range of consultation materials to help you find out more and have your say.

These are available on our consultation website at **www.thames-sro.co.uk/tdra/statcon2025**, at in-person public information events, and at the deposit locations within the community listed on page 62.

We'll post out printed copies of the brochure and feedback form free of charge (one set per household) on request. You can also request printed copies of all the consultation documents, although there may be a charge for this, up to a maximum of £200 (including VAT, postage and packing).

We'll consider requests for alternative formats of consultation materials such as translations into other languages, large print or Braille.

To request paper copies or versions in an alternative language, please contact our dedicated engagement team via email at **info.TDRA@thameswater.co.uk** or by leaving a message via our consultation freephone line: **0800 124 4877**.

Our consultation documents include:


Consultation brochure


Feedback form


Preliminary Environmental Information Report (PEIR)


PEIR Non-Technical Summary (NTS)


Draft Code of Construction Practice (Appendix 4.3 of the PEIR)


Draft overarching Design Principles


Map Book 1: Draft Order Limits and Land Use


Map Book 2: Tunnel Plans and Profile Drawings

Question 23 of the feedback form asks for your views on the consultation materials, events, publicity or any other aspect of the consultation.

Your feedback

We encourage you to have your say on the project by giving us your written feedback in one of the following ways:

- Fill in the online feedback form, which you can find at the consultation website at **www.thames-sro.co.uk/tdra/statcon2025**
- Email our dedicated consultation response email address at **TDRA@ipsos.com**
- Fill in one of our printed feedback forms and post it free of charge to **FREEPOST TDRA CONSULTATION**.
- Write to us free of charge at **FREEPOST TDRA CONSULTATION**.

Feedback forms are available to collect from our eight public information events, from various locations within the community (see listings on page 62), or by requesting that one is posted to you by the project team. Pre-addressed envelopes are available where there are printed feedback forms. No stamp is needed.

All responses must be received in writing by **11.59pm on Tuesday 26 August 2025**. Responses received after that date may not be considered. We cannot guarantee acceptance of consultation responses submitted via other channels.

Any personal information submitted to us during statutory consultation will be processed in line with our privacy policy, which can be viewed at **www.thameswater.co.uk/legal/privacy-notice.**

Next steps

Once the consultation has closed, we'll carefully analyse all the responses received during the consultation period.

We'll consider your feedback as we update our proposed design and further develop any mitigation measures and we'll provide further updates on the project ahead of our DCO submission.

As part of our DCO application, we'll publish a Consultation Report, explaining how your feedback has helped us to shape our proposals. This report will be available to the public following submission of our DCO application, which we expect to happen in 2026.
You can find out more in the Development Consent Order process section of this brochure.

In-person public information events

We're hosting a series of in-person public information events where you can find out more about the project and ask questions of the project team. You can register your interest in these in-person events by visiting **www.thames-sro.co.uk/tdra/statcon2025**. You don't have to register your attendance but it helps us to manage visitor numbers. Venues may be subject to change at late notice for reasons out of our control. We'll publicise any changes on the consultation website and via other channels.

Isleworth Public Hall,
South Street, Isleworth, TW7 7BG
Wednesday 25 June 2025, 2pm – 8pm

Oaklands School,
Gresham Road, Hounslow, TW3 4BX
Saturday 28 June 2025, 10am – 4pm

Allianz Stadium (Captain's Club room),
200 Whitton Road, Twickenham, TW2 7BA
Monday 30 June 2025, 2pm – 8pm

Doubletree Hilton Hotel (Sopwith Suite),
1 Skerne Road, Kingston upon Thames, KT2 5FJ
Thursday 3 July 2025, 2pm – 8pm

York House (Clarendon Hall),
Hall Road, Twickenham, TW1 3DT
Monday 7 July 2025, 2pm – 8pm

St Richard's Church,
Ashburnham Road, Ham, TW10 7NL
Saturday 12 July 2025, 10am – 4pm

The Lensbury (Wimbledon Room),
Broom Road, Teddington, TW11 9NU
Thursday 17 July 2025, 2pm – 8pm

Kingston Academy, Richmond Road,
Kingston upon Thames, KT2 5PE
Saturday 19 July 2025, 10am – 4pm

Online public information events

We're also hosting two online events, which will include a presentation from the project team summarising the proposals, the consultation process and how to respond. Attendees will also have an opportunity to ask questions to the project team.

You can register for these events at **www.thames-sro.co.uk/tdra/statcon2025**.

Online information event 1
Tuesday 8 July 2025, Midday – 1pm

Online information event 2
Wednesday 16 July 2025, 7pm – 8pm

Deposit locations and information points

You can view all the consultation documents listed at the deposit location venues presented below. Consultation brochures and feedback forms are available to collect from the information points presented on page 63.

Deposit location and information points venues may be subject to change at late notice for reasons out of our control. We'll publicise any changes on the consultation website and via other channels.

Deposit locations

Location	Opening Times
Isleworth Leisure Centre and Library, Twickenham Road, Isleworth, TW7 7EU	Monday and Thursday: 9.30am – 8pm, Tuesday and Saturday: 9.30am – 5.30pm, Wednesday, Friday, and Sunday, Bank Holidays: closed
Twickenham Library, Garfield Road, Twickenham, TW1 3JT	Monday: 9.30am – 7pm, Tuesday, Thursday and Friday: 9.30am – 6pm, Wednesday: 10am – 7pm, Saturday: 9.30am – 4pm, Sunday: closed
Ham Library, Ham Street, Richmond, TW10 7HR	Monday, Tuesday and Friday: 9.30am – 6pm, Wednesday: 10am – 7pm, Saturday: 9.30am – 4pm, Thursday and Sunday: closed
Teddington Library, Waldegrave Road, Teddington, TW11 8NY	Monday: 9.30am – 7pm, Tuesday, Thursday and Friday: 9.30am – 6pm, Wednesday: 10am – 7pm, Saturday: 9.30am – 4pm, Sunday: 1pm – 5pm, Bank Holidays: closed
Tudor Drive Library, 192 Tudor Drive, Kingston upon Thames, KT2 5QH	Monday, Tuesday, Thursday and Friday: 10am – 6pm, Wednesday and Sunday: closed, Saturday (alternate weeks): 10am – 1pm and 2pm – 5pm

Information points

Location	Opening Times
ETNA Community Centre, 13 Rosslyn Road, Twickenham, TW1 2AR	9am – 10pm daily
Hampton Wick Library, Bennet Close, Hampton Wick, KT1 4AT	Monday, Tuesday, Thursday and Sunday: closed, Wednesday and Friday: 10am – 6pm, Saturday: 9.30am – 12.30pm and 1.30pm – 4pm
Kingston Library, Fairfield Road, Kingston upon Thames, KT1 2PS	Monday, Tuesday and Friday: 10am – 6pm, Wednesday and Sunday: closed, Thursday: 10am – 8pm, Saturday: 10am – 5pm
Richmond Lending Library, Little Green, Richmond upon Thames, TW9 1QL	Monday: 9.30am – 7pm, Tuesday, Thursday and Friday: 9.30am – 6pm, Wednesday: 10am – 7pm, Saturday: 9.30am – 4pm, Sunday: 1pm – 5pm
Richmond Old Town Hall , Whittaker Avenue, Richmond upon Thames, TW9 1TP	Monday: 9.30am – 7pm, Tuesday, Thursday and Friday: 9.30am – 6pm, Wednesday: 10am – 7pm, Saturday: 9.30am – 4pm, Sunday: closed
Whitton Library, 141 Nelson Road, Twickenham, TW2 7BB	Monday, Tuesday, Thursday and Friday: 9.30am – 6pm, Wednesday: 10am – 7pm, Saturday: 9.30am – 4pm, Sunday: closed
York House (reception), Hall Road, Twickenham, TW1 3DT	Monday – Friday: 9am – 5pm, Saturday and Sunday: closed


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