

Hampshire Water Transfer and Water Recycling Project

Consultation Brochure
Public consultation 2022



from
**Southern
Water** 

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Foreword from Lawrence Gosden, our CEO



Welcome to the latest stage in our Water for Life - Hampshire programme: a consultation on our Hampshire Water Transfer and Water Recycling Project.

This exciting programme will ensure we have plenty of sustainable water sources for customers and businesses in Hampshire. Importantly, it will also protect the county's iconic chalk streams that we value so highly.

We have always relied on the environment for water. In Hampshire we have taken that water from underground aquifers and from our major rivers the Test and Itchen. As our climate changes and our population grows, we have to find different ways of supplying water to customers and, critically, in ways that also protect the environment.

We do not operate alone in Hampshire and our strong partnership with Portsmouth Water underpins our Water for Life - Hampshire programme. The new reservoir at Havant Thicket will provide a major new source of water and we've been working with Portsmouth Water to develop new approaches that enable us to top up the new reservoir so even more water is available during a drought.

By reducing our reliance on rivers, we'll be able to take less from the environment during a drought, when nature needs it most. This ethos of added value is central to the vision and commitment we've outlined in Water for Life - Hampshire and our mission to always act responsibly and safeguard the environment now and for the future.

Being a responsible guardian of the environment also means using water wisely – we're working hard to reduce leakage by 15% by 2025, 40% by 2040 and 50% by 2050. We also want to enable our customers to use less water too – our Target 100 water efficiency programme is our commitment to help customers reduce their personal consumption to an average of 100 litres each day.

Listening to our customers and our stakeholders is really important to us. By understanding your feedback we can ensure that our plans, whether they be local or region-wide, develop in ways that are sensitive and supportive of the communities we serve.

This is your opportunity to help us design a water supply network that's fit for the future – we look forward to hearing from you.

Lawrence Gosden, CEO, Southern Water

What we do

About Southern Water

We supply water and wastewater services to over four million customers in the South East. Our operations cover Hampshire, Kent, Isle of Wight and East and West Sussex, traversing over 700 miles of coastline, national parks, forests and Areas of Outstanding Natural Beauty.



Working together to manage the region's water resources

Southern Water and Portsmouth Water have a long history of sharing water resources across our networks and this innovative project is the latest development in an enduring partnership.



The enhanced use of the Havant Thicket Reservoir outlined in this document is separate to the previously approved plans based on using surplus water from the Bedhampton springs. It represents a step-change in the resilience that the reservoir could provide to the county of Hampshire through the use of recycled water.

Whilst the technology we will use is relatively new to the UK, it is common in other parts of the world such as Singapore and California so it is tried and tested elsewhere.

It's essential that we all use water wisely, as customers, businesses and water companies, to ensure we protect and enhance the environment. The reservoir in its current configuration will help protect Hampshire's world-renowned chalk streams and provide an exciting, green leisure facility but it's important that you have your say on these enhanced plans that have the potential to go much further than this.

Bob Taylor, CEO, Portsmouth Water

1. Introduction

The South East of England is designated by the Environment Agency as an area of 'serious water stress'. This means that demand for water can outstrip supply – especially during a drought. In Hampshire in particular, a growing population, changing climate and sensitive environment means there is not enough water for people and nature when the weather is dry. We need to find a new sustainable water resource for the region or face the looming threat of severe water restrictions in times of drought.

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Much of the county's water comes from the River Test and the River Itchen – world famous chalk stream rivers that are home to an abundance of wildlife. These habitats are ecologically important and rare - often described as "England's rainforests". To protect them, the amount of water we can take from them during a drought has been significantly reduced. This means we need to find new sources of water to maintain our supplies for customers while protecting these sensitive habitats.

Our Water for Life - Hampshire programme sets out a range of measures that are needed to make up this shortfall in water. We are, of course, working hard to reduce leakage and improve water efficiency. However, the shortfall of 192 million litres of water a day is so significant that a large new source of water is also needed. We've looked to the sea as a potential answer but our 2021 consultation on the proposal for a desalination plant to turn seawater into drinking water at Fawley, in the New Forest, coupled with our own investigations, showed it was not the right solution for this area.

When we consulted on the desalination plans last year, we also introduced alternatives. One of these was to use an innovative treatment process called water recycling. This advanced treatment technique is already widely used around the world to turn treated wastewater into purified water that can be used as source water to be treated for drinking water – reducing the amount needed to be taken from the environment.

As desalination fell away as a viable option, we continued to work closely with Portsmouth Water to develop one of the alternatives - a proposal to use recycled water to top up the Havant Thicket Reservoir which has recently received planning permission. The reservoir is being funded by Southern Water and developed together with Portsmouth Water. Maintaining the levels in the spring-fed reservoir with recycled water would allow us to take more water from the reservoir during a drought and, along with the other measures we are pursuing, continue to supply Hampshire's growing population without adversely impacting its precious chalk stream rivers.

This proposal is separate to the current agreed plans for Havant Thicket Reservoir. We have named it the Hampshire Water Transfer and Water Recycling Project (the Project) and it is the subject of this consultation.

About the Project

Our Project would use a full-advanced treatment process to turn treated wastewater into purified recycled water at a new water recycling plant south of Havant. The recycled water would then be transferred via a new pipeline to supplement the spring-fed water that will be stored in the planned Havant Thicket Reservoir. Another new pipeline would be constructed to transfer water from the reservoir to our Otterbourne Water Supply Works, some 40 kilometres to the northwest, to be treated to strict drinking water standards ready for supply to homes and businesses.

The Project is a drought resilience scheme – it will ensure that we can maintain essential water supplies when the weather is dry. It could provide some 90 million litres of water a day into our Hampshire supply network during a drought, which we must plan for.

The Project will only therefore be fully utilised in a drought – the rest of the time it will operate at a minimal 'sweetening flow' of approximately 7.5 million litres of water a day to maintain water flows through the plant and flows through the pipelines. During drought conditions, when river levels are low and we cannot rely on them for our water supply, the operation of the Project would be increased to draw more water out of the reservoir, whilst topping up the reservoir with recycled water. Throughout a drought, the Project would play a major role in making up any shortfall in water supply across our Hampshire supply area.

The Project has the potential to recycle more water for the benefit of the wider area should the amount of water that can be taken from the environment be reduced further. We are planning for this possibility.

You can read more detail about the Project in Section 3 of this brochure.

Purpose of this consultation

We will be applying for a Development Consent Order for the Project, which is a type of consent given by the Secretary of State for projects of national significance.

As part of the process of applying for a Development Consent Order, we want to consult with a wide variety of people such as landowners, local residents and businesses, environmental organisations, parish councils, local authorities and other statutory bodies who might be affected by or interested in the Project.

This is why we are seeking your views on our emerging proposals at this early stage by undertaking an initial consultation. Our consultation starts on **5 July** and ends on **16 August 2022**. We will consult again in 2023 when our proposals become more developed and detailed.

You can find out more on the process, including how you can get involved at Section 4 of this brochure.

What we are consulting on

We want to know what you think about:

- water recycling as a new sustainable water resource for the Hampshire area and the process we went through to select it;
- the location for the proposed water recycling plant in Havant and the process we went through to select it;
- the preferred corridor we have identified for the pipelines needed to transfer water between Budds Farm Wastewater Treatment Works, the water recycling plant, Havant Thicket Reservoir and our Otterbourne Water Supply Works, including the process we went through to select it and the sites and zones for the above ground plant.

We will be asking you questions throughout this brochure - look out for the coloured circles. You can use the feedback form available online or in print version to give us your views or email us at HampshireWTWRP@SouthernWater.co.uk

What we are not consulting on

Havant Thicket Reservoir Scheme

Portsmouth Water obtained planning approval for Havant Thicket Reservoir from both East Hampshire District Council and Havant Borough Council in October 2021. Although funded by Southern Water, the reservoir will be delivered by Portsmouth Water and is due to be operational in 2029. We are not consulting on the development of Havant Thicket Reservoir itself as part of this consultation – that is a separate project to our proposals.

We are working closely with Portsmouth Water to consider how the reservoir can incorporate, at an early stage, the minor works needed to safeguard a connection to our Project if and when we receive the necessary approvals from the Secretary of State. This will ensure the development and operation of the reservoir is not delayed by having to retrofit the minor connection works at a much later stage. We are not consulting on these minor connection works as part of this consultation.

Draft Water Resources Management Plan 2024

Like all water companies, we must prepare and update a Water Resources Management Plan, which is renewed every five years and sets out how we will meet our water supply duties for at least the next 25 years. Consultation on our draft Water Resources Management Plan 2024 is also planned for July 2022 and will focus on the wider water resources proposals for Southern Water's supply areas. Our Project is a key part of the draft plan, however, the wider water resources proposals in the draft plan do not form part of this consultation.

You can find out more about our other consultations by visiting www.southernwater.co.uk/futureplans

Navigating this brochure

This brochure is arranged in the following sections:

Section 1 - foreword, what we do and this introduction

Section 2 - background to the water resources challenge in Hampshire and how the Project has evolved since 2021

Section 3 - the different components of the Project

Section 4 - seeking permission to deliver our Project

Section 5 - what will happen next

Useful materials

We have put together a number of consultation documents to help you understand our proposals at this early stage of the Project and how these will be developed and consulted on further. Our consultation documents consist of:

- This consultation brochure;
- A document which summarises how we have developed the Project to date, known as the Scheme Development Summary;
- A book of maps showing all of the corridor sections and zones of the above ground plant;
- Frequently Asked Questions; and
- A feedback form, so you can provide us with your views.

2. The story so far

This section highlights the water resources challenge in Hampshire and how we're planning for it. It also sets out our response to feedback from our Spring 2021 public consultation and the subsequent work we carried out to inform our decision to progress water transfer and water recycling as an alternative to desalination.

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The water resources challenge in Hampshire

Hampshire's water shortfall is huge. Finding an additional 192 million litres of water a day from a source that is not a river or aquifer is a significant challenge but one we are tackling head-on. The shortfall is so large that a range of measures are needed to address it. The Hampshire Water Transfer and Water Recycling Project is the largest component of these measures – providing 90 million litres of the water needed.

It is our duty as a water company to maintain supplies for our customers and it is imperative that, as custodians of the environment, we protect the county's precious chalk streams too. If we do not take action now, we face the increasing threat of severe water restrictions in a drought. Our plan is ambitious but practical. It will transform the way we source, treat and supply water across our Hampshire supply area for generations to come.

Our current Water Resources Management Plan 2019 sets out the water supply deficit in our Hampshire supply area. The plan highlighted the need for an additional 192 million litres of water per day, equivalent to 75 Olympic swimming pools. We signed an agreement with the Environment Agency, made under Section 20 of the Water Resources Act 1991, that commits us to addressing this deficit at the earliest opportunity. The primary objective of this agreement is to protect our precious chalk streams in Hampshire by reducing the amount of water we are allowed to take from them in a drought.

Our previous consultation in 2021

In our current Water Resources Management Plan 2019 we identified desalination, the process used to turn seawater into drinking water, as the preferred solution to addressing a large proportion of Hampshire's water shortfall.

Our previous public consultation in early 2021 consulted on a proposal to build a desalination plant on the Solent, located at Fawley in the New Forest. The plant would turn seawater into drinking water before transferring it via a 25 kilometre long pipeline to our Testwood Water Supply Works. This proposal could have provided up to 75 million litres of water per day in a drought. We also introduced alternative water transfer and water recycling options alongside other measures including reducing leakage and improving water efficiency.

We asked people for their views on the proposed desalination plant at Fawley and its associated pipelines. We also asked for their views on the alternative options including the use of water recycling to use recycled treated wastewater as a new water source combined with a new pipeline to transfer more water from the planned Havant Thicket Reservoir for supply to the Hampshire area.

We received 180 responses to the consultation. Desalination was not well supported by those who responded, with only 27% agreeing it was an acceptable solution to the water resources challenge in Hampshire, while 60% of respondents considered that water recycling would be an acceptable solution in the event that desalination was not deliverable. The main issue raised was around the potential environmental impact of releasing the desalination byproduct of hypersaline water back into the Solent, with a total of 24% of respondents raising this concern.

Key issues raised about desalination:

- The location of the plant within the New Forest National Park and proximity to environmentally sensitive locations
- The impact on the marine environment around the Solent from hypersaline water (water with a salt content higher than seawater being released as part of the desalination process and the potential impacts on ecology, bathing water quality and recreational activity)
- The high energy input required to desalinate and treat the water, which could lead to a greater carbon footprint
- The drinking water quality produced as a result of the desalination process

Respondents were generally supportive of water transfer and water recycling as alternatives to desalination. These alternatives were perceived to have fewer significant environmental impacts, to be more efficient and reduce energy usage. Respondents were clear though that more details on the environmental impacts and how water recycling works is needed to better inform their views.

We set out in pages 10 and 11 a summary of the key feedback received and our response to that feedback.

Further information on the feedback raised in the consultation can be found in our 2021 Consultation Feedback Report available on our Water for Life - Hampshire website. (link to <https://www.southernwater.co.uk/our-story/water-for-life-hampshire>)

Your feedback to our 2021 consultation and our response

Feedback relevant to desalination option

● Theme	● Feedback	● Our response to the feedback
Desalination – environment impacts	Objection to location of the desalination plant due to potential impact on the environment and the New Forest National Park in particular.	Following the 2021 consultation the options still under consideration were assessed as part of the options appraisal process, which included assessment of a range of environmental criteria. This is described in more detail in Section 2 of this brochure. Desalination at Fawley was identified as the least preferable of these options as it was not considered to be deliverable in the proposed location. We therefore decided to not progress any further work on this option or any other desalination options as the solution for this programme. As our preferred solution is no longer desalination, the concerns raised around the impacts of the desalination plant, whilst acknowledged, are no longer relevant to the development of the Project.
Desalination – environment	More information was requested to better understand any impacts the proposals would have on the environment.	The information and details presented at the 2021 consultation reflected the level of information available on the desalination options at that point in the scheme development process. Part of the aim of the consultation was to gather feedback from stakeholders, landowners, communities and customers on the elements of the proposals at an early point in the process to help inform the development and design of the desalination proposals. As our preferred solution is no longer desalination, the concerns raised around availability of environmental information for this option are no longer relevant to the development of the Project going forward.
Desalination – impact of abstraction and desalination level release	Concerns relating to the impact on water bodies where abstraction and release would take place.	Our preferred solution is no longer desalination so the potential impact of abstraction and release is not relevant. Therefore, whilst acknowledged, concerns raised around the potential impacts on water bodies, marine wildlife and habitats that relate to desalination, are no longer relevant to the development of the Project going forward. As part of our scheme development, Environmental Impact Assessment and other environmental assessments for the Project, we will be undertaking detailed modelling to determine the potential impacts of the Project's release on the marine environment, including water quality and habitats and species. More detail on this will be available at our statutory consultation, planned for 2023.
Desalination: impact on properties, businesses and local communities	Concern that local businesses would be affected by the proposals.	The options appraisal process following the 2021 consultation considered the socio-economic impacts of desalination. This included the potential for impact on marine recreation, commercial fisheries and marine licensing areas. As stated above, we are no longer progressing any further work on desalination options for this Project. Therefore, the concerns raised around the impacts of the desalination plant, whilst acknowledged, are no longer relevant to the development of the Project going forward.
Desalination: cost	Queries raised in relation to how much the desalination plant would cost and where the money would come from.	Now that desalination is not being progressed, concerns raised around the costs of the desalination plant, whilst acknowledged, are no longer relevant to the development of the Project. However, once the design of the Project, subject to this consultation, is further progressed, we will be able to fully assess the likely costs of the Project. Like all Southern Water costs, funding for the Project will be subject to approval by the water services regulation authority, Ofwat.

Feedback relevant to water transfer and water recycling

● Theme	● Feedback	● Our response to the feedback
Need for new water resources	Queries regarding whether additional water resources are necessary as other measures such as fixing leaks could be used.	We are one of the best performing water companies for leakage, however, due to the scale of the identified long term deficit, and the timescales in which we need to resolve it, we need to deliver a large new water source for the area capable of delivering at the earliest opportunity in addition to a range of other measures including improved leakage targets.

<p>Water recycling: Environmental impacts</p>	<p>Requests further details on potential environmental impacts.</p>	<p>The 2021 consultation materials did not include any assessment work to confirm potential environmental impacts of the alternative water recycling options at that stage.</p> <p>Since the consultation, we have been gathering more information through surveys and engagement with landowners as well as statutory and non-statutory bodies to identify the potential environmental and other impacts of the Project. A number of ecology surveys are already underway and our survey programme will continue through 2022 and 2023. As part of our statutory consultation, planned for 2023, we will publish a Preliminary Environmental Information Report which will report preliminary information about the environmental impacts of the Project.</p> <p>We will then submit an Environmental Statement to report on the findings of the Environmental Impact Assessment as part of our Development Consent Order application.</p> <p>See Section 4 of the brochure for further information on the environmental assessment process.</p>
<p>Water recycling: impact of abstraction and release</p>	<p>Concerns about Option B.1 to release recycled water into the Lower Itchen and impact of abstraction on chalk rivers.</p>	<p>Option B.1 proposed a water recycling plant producing recycled water for release into the Lower Itchen. This was the alternative option to the desalination plant in Fawley that was included in our Water Resources Management Plan 2019. However, we stopped progressing it as a potential alternative to the desalination plant, due to environmental concerns about the impact of the recycled water release on the integrity of the River Itchen Special Area of Conservation and the scheme's ability to meet the water resource deficit.</p>
<p>Water transfer: principle</p>	<p>Concerns about whether water transfer offered a long-term solution during a drought.</p>	<p>The options appraisal process undertaken following the 2021 consultation included an assessment of the resilience of our proposals to meet long-term future needs. Water transfer alternatives were considered, in relative terms, less capable on their own of meeting the water supply deficit than other options under consideration so are not being progressed at this stage (other than in combination with water recycling).</p>
<p>Water transfer: environment</p>	<p>Concerns in relation to the long-term sustainability of local rivers which supply the River Ems.</p>	<p>The options appraisal process undertaken following the 2021 consultation ensured that all the options were evaluated against criteria that included consideration of impacts to biodiversity and nature conservation and impacts to watercourses. As part of our scheme development, we will continue to assess environmental impacts on watercourses in the area, as appropriate, as our plans progress.</p>
<p>Construction</p>	<p>Concerns related to construction and operation of all proposals.</p>	<p>We considered through the options appraisal process potential impacts on communities. This included impacts on the road network, community facilities, public rights of way, noise, vibration and air quality. Further work to understand, assess and mitigate these impacts will be undertaken as part of the ongoing scheme development and environmental assessment processes. As part of our Development Consent Order application, we will include relevant management plans to manage and mitigate construction impacts and secure environmental controls.</p>
<p>Climate change</p>	<p>Concerns that all proposals would impact on carbon emissions and not align with national / regional targets.</p>	<p>Careful consideration of energy requirements and carbon emissions during the design and planning stages of the Project will help us manage, avoid and reduce emissions, where feasible (having regard to technical, environmental and other factors), during the construction and operational phases. These include consideration of emissions arising from energy and transport required to construct the project, as well as emissions arising from the treatment of recycled water (termed process emissions). We, and other water companies in the UK, have also committed to become carbon neutral by 2030. This promise was made under the industry body Water UK's Net Zero commitment and is part of our planning and solution development for Water for Life - Hampshire.</p>
<p>Water Quality</p>	<p>Queries around whether water produced by desalination (as well as the alternatives) would be up to drinking water standards.</p>	<p>All statutory water undertakers are regulated to ensure that water from their supply works meets the required drinking water standards, and therefore, the Project will need to meet these standards.</p>

Options appraisal process

Following our 2021 public consultation, we carried out an extensive options appraisal process to confirm whether our desalination proposal was the right solution to develop further in the context of the other options available. Our options appraisal process included a thorough evaluation of the various options against a number of planning, environmental, socio-economic and cost criteria, as well as legal and policy obligations and wider strategic objectives.

The options appraisal helped us better understand the benefits and impacts of the various options. For the desalination proposal, it confirmed some of the concerns raised from the public consultation that the proposal would likely have adverse impacts on the marine environment and on the New Forest National Park, both from its construction and operation.

Out of all of the options considered, desalination at Fawley emerged from the options appraisal process as the least preferable option. The likely impacts of the plant and its associated pipelines meant that the proposal was not considered to be deliverable in this location, particularly in light of the better alternatives that were available.

At the same time, the options appraisal process confirmed a combined option involving both water transfer and water recycling solutions, previously known as Option B.4 (i.e. the Project), as the most preferable option. This option performed well across the range of criteria considered and the addition of water recycling provided important adaptability to address a larger proportion of the water supply deficit than the water transfer option could achieve on its own.

A similar combined solution, previously known as Option B.5, utilising a new lake for water storage rather than the Havant Thicket Reservoir, and involving a larger water recycling plant, emerged as the second most preferable solution. This option provides a 'back-up' option in case our preferred solution cannot be delivered. This is not currently being progressed through the consent process.

We engaged with our regulators and other statutory bodies as part of the process and wrote to them in September 2021 confirming that we would not be progressing our plans for desalination any further in this location. We then wrote to them again in December 2021 confirming that the combined water transfer and water recycling option had been selected as our new preferred solution and that this would now be developed and progressed through the consent process.

More information on the detail of our options appraisal process, including the criteria used for the evaluation and why the desalination proposal was not progressed, can be found in Section 3 of the Scheme Development Summary document.

Information on the water recycling technology can be found on pages 16 and 17.

Do you support water transfer and water recycling as the proposed solution to the challenge of securing water supplies for the future in Hampshire?

What do you think about the options appraisal process we went through to select water transfer and water recycling as the proposed solution?

i Helpful information about the Scheme Development Summary document

The Scheme Development Summary document provides a detailed overview of the process we went through to identify a preferred strategic solution to address the water supply challenges in Hampshire, known as the options appraisal process. The options appraisal process considered the desalination, water transfer and water recycling options we presented at the 2021 consultation, with the aim of selecting a proposed option for delivery and a back-up option.

The options appraisal process involved an evaluation of a wide range of factors, including:

- A planning and consenting evaluation which assessed the options against criteria developed from the relevant national planning and environmental policy.
- A multi-criteria decision analysis which considered the options against a number of economic and social factors.

- An assessment against legal and strategic objectives defined by Southern Water.

Section 3 of the Scheme Development Summary provides more information on each stage of the options appraisal process and its outcomes and conclusions.

The Scheme Development Summary also details the process we went through to identify the following for each option:

- Sites for key infrastructure, including the desalination plant or the water recycling plant
- Pipeline routes to transfer water between these sites.

The longer term water supply needs of the wider region

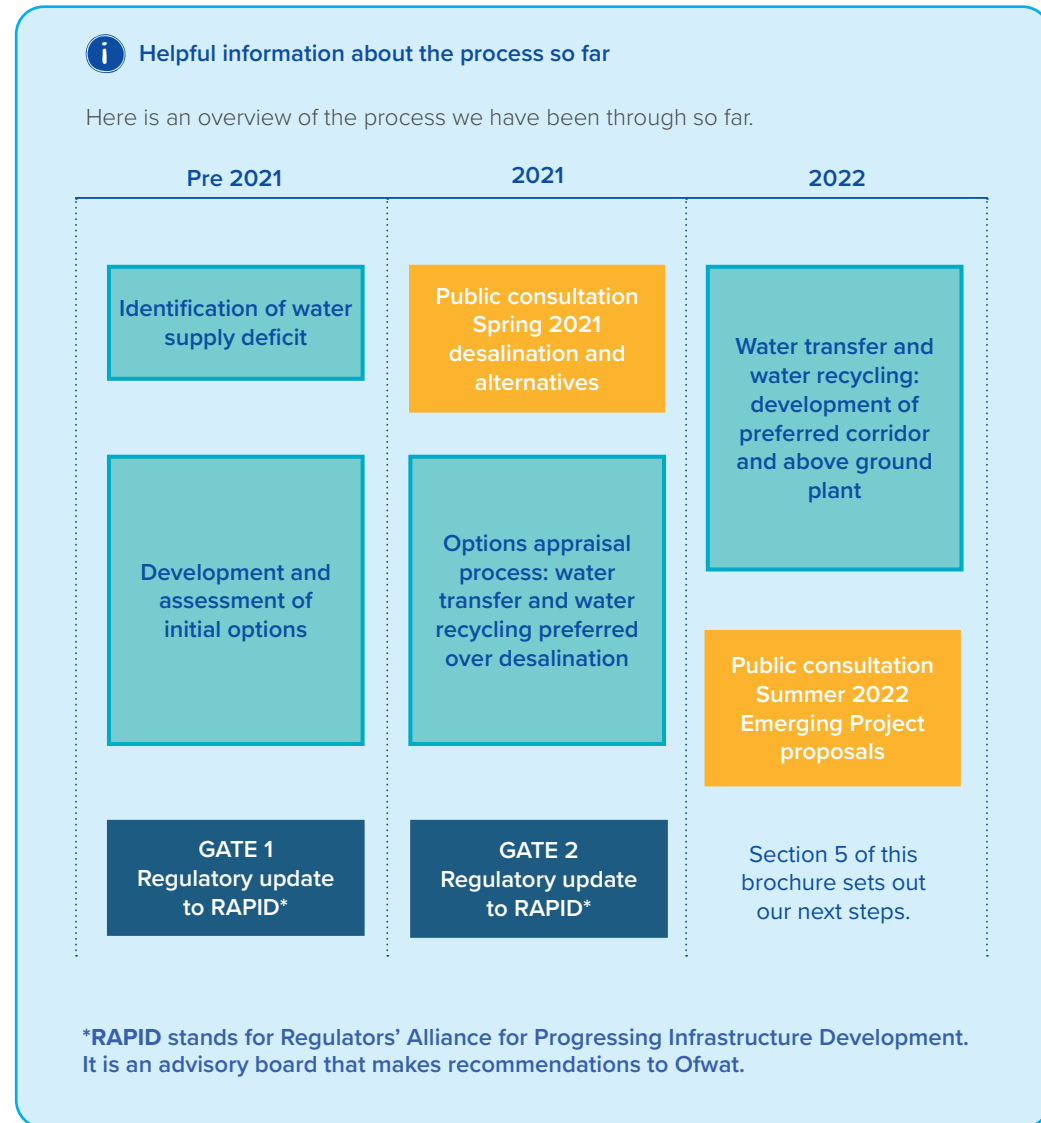
In parallel with the work to develop this Project, we have also been working with stakeholders to consider the water supply issues for the next water resources planning period. This work will inform the preparation of our next Water Resources Management Plan 2024. It is important that we take into account the wider regional strategy as set out in the draft Water Resources South East emerging regional plan published in January 2022. This confirms the need for this Project as a sustainable and resilient water supply solution in Hampshire.

We know there is an urgent need to tackle the water supply shortfall in our Hampshire area from our Water Resources Management Plan 2019. However, the emerging regional plan and emerging Water Resource Management Plans for both Southern Water and Portsmouth Water could indicate a greater deficit, particularly given the need to plan for more extreme droughts, further reductions in the amount of water being taken from the environment and a growing population.

This is why we are building in flexibility for a larger water recycling plant that can adapt to meet these evolving future needs, in particular, if Portsmouth Water faces similar abstraction reductions in the amount of water it can take from the environment. Putting more recycled water into the reservoir could ensure more water is also available to Portsmouth Water's supply area in times of drought too.

More technical work is underway to inform all of these emerging plans, with the draft regional plan expected in autumn 2022. The urgency to address the water supply challenge in our Hampshire supply area requires the Project to be delivered at the earliest opportunity. This is why we have started the consent process in advance of publication of the final regional plan and our own Water Resources Management Plan 2024, both expected in 2023.

We will continue to work with our regulators and stakeholders to ensure consistency between our proposals for the Hampshire area and the longer-term strategy for the South East. We fully expect these plans to be published ahead of us submitting our application for development consent.





3. The Project in detail

This section provides information on the different components of the Project for which we will seek development consent.

We are at an early stage of the process in developing our proposals. Your views on this consultation will help influence the next stages of that process.

from
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Water** 

Overview

Components of the Project we are developing are:

- The development of a new water recycling plant, capable of producing, at the peak of a drought, at least 15 million litres per day of recycled water, on land close to Budds Farm Wastewater Treatment Works in Havant;
- A network of pipelines including:
 - Two underground pipelines approximately 0.5 kilometres long to connect Budds Farm Wastewater Treatment Works and the water recycling plant. The first will transfer a minimum of 19 million litres per day of treated wastewater from the wastewater treatment works to the water recycling plant. The second will transfer at least four million litres per day of reject water from the water recycling process back to the wastewater treatment works prior to release to sea via the existing long-sea outfall at Eastney
 - An underground pipeline approximately 3.5 kilometres long to transfer at least 15 million litres per day of recycled water at the peak of a drought, from the water recycling plant to Havant Thicket Reservoir
 - An underground pipeline approximately 40 kilometres long to transfer approximately 90 million litres of water per day at the peak of a drought, from Havant Thicket Reservoir to Otterbourne Water Supply Works via a high lift pumping station located at the water recycling plant
- Other associated above ground infrastructure comprising the high lift pumping station, intermediate pumping stations and break pressure tanks located along the pipeline route.

At this stage, we know that a water recycling plant capable of producing at least 15 million litres per day of recycled water is needed, but up to 60 million litres per day could potentially be required. If our longer term planning work indicates that a larger water recycling plant is needed, we will share more details of this at our next public consultation.



Not to scale, for indicative purposes only



Here we explain how the water recycling technology works and the terminology that is used

i Helpful information about water recycling

What is water recycling?

Currently, the water that comes out of your taps is taken from the environment and treated to a high standard so that it is safe for you to drink. After you've used it, we collect and treat the wastewater and return it to the environment once more. The cycle then repeats.

When water is in the environment, natural processes such as filtration through soil and dilution with other water sources reduce impurities. We then continue treatment to produce water that is safe to drink. Water recycling technology speeds this up and improves the natural process.

Water recycling plants use advanced treatment techniques to convert treated wastewater into highly purified source water. Special membranes are used to remove salts and a range of other impurities. In fact, so much is removed from the water that some essential minerals such as calcium and magnesium have to be added back in to achieve the water quality customers are used to.

Water terminology

Source water: water that is used as a source for drinking water.

Drinking water: water that has been treated to strict regulatory standards, ready for supply to domestic and non-domestic customers.

Wastewater: a combination of water from kitchens, bathrooms, sinks and taps (in domestic and non-domestic properties) and rainwater from roads and roofs, that is transported to, and cleaned at, a wastewater treatment works.

Treated wastewater: wastewater that has been treated to strict regulatory standards and is typically released to rivers or the sea.

Recycled water: purified water that has been produced by taking treated wastewater and removing remaining impurities using advanced treatment techniques.

Reject water: water containing impurities removed from the treated wastewater.

A guide to the stages of water recycling

Water recycling uses advanced treatment techniques to turn highly treated wastewater, that is usually pumped away into rivers and the sea, into purified recycled water.

Membrane Process

Treated wastewater, already extensively cleaned at a wastewater treatment works, is pumped through two filtering processes in the Water Recycling Plant. The first, micro-filtration, removes remaining impurities that could block the membranes used at the second stage of treatment – reverse osmosis. Here, dissolved salts and impurities are removed by pushing the water at high pressure through a membrane of tiny holes more than 50,000 times smaller than the width of a human hair. Dissolved impurities such as bacteria and pharmaceuticals are also removed.

Advanced Oxidation Process

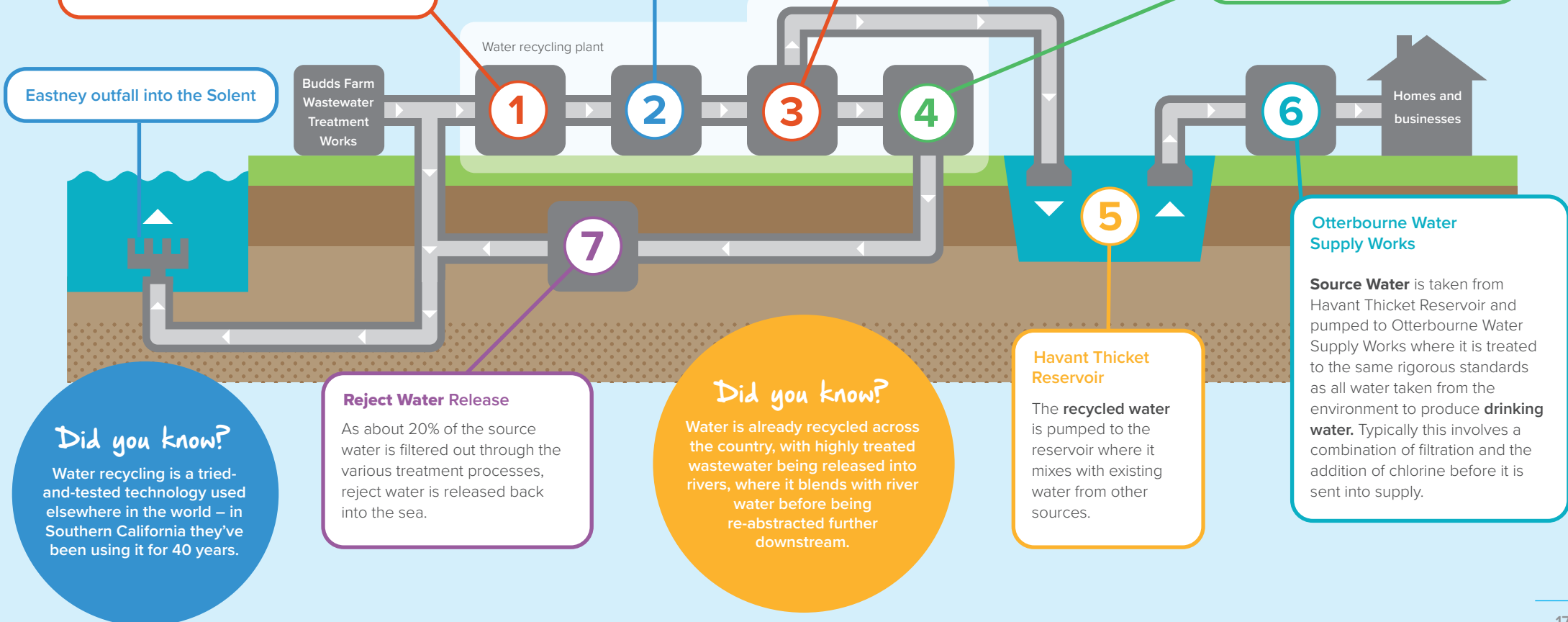
Reverse osmosis is extremely effective at removing impurities. But, as an extra layer of protection, ultraviolet light (just like that found in sunlight) is applied along with a small dose of a chemical called hydrogen peroxide. Both of these treatments are used around the world in water recycling. Ultraviolet light is widely used in other drinking water treatment processes as it helps reduce the amount of chlorine that needs to be added at later stages of treatment.

Treated Water Conditioning

To make the water drinkable, minerals such as calcium and magnesium salts (that have been removed during the earlier stages of treatment) are added back in. As in traditional treatment methods, some chlorine may be added to the water to ensure it meets strict water quality standards.

Waste Handling

Water and particles removed by each of the previous stages of treatment are taken away to be cleaned. The liquid is filtered to produce cleaned wastewater, known as reject water, which can be released back into the sea at Step 7. The process produces a concentrated solid matter which is removed and most commonly returned to the wastewater treatment works.



Eastney outfall into the Solent

Budds Farm Wastewater Treatment Works

Water recycling plant

Homes and businesses

Otterbourne Water Supply Works

Havant Thicket Reservoir

The **recycled water** is pumped to the reservoir where it mixes with existing water from other sources.

Source Water is taken from Havant Thicket Reservoir and pumped to Otterbourne Water Supply Works where it is treated to the same rigorous standards as all water taken from the environment to produce **drinking water**. Typically this involves a combination of filtration and the addition of chlorine before it is sent into supply.

Did you know?

Water recycling is a tried-and-tested technology used elsewhere in the world – in Southern California they've been using it for 40 years.

Reject Water Release

As about 20% of the source water is filtered out through the various treatment processes, reject water is released back into the sea.

Did you know?

Water is already recycled across the country, with highly treated wastewater being released into rivers, where it blends with river water before being re-abstracted further downstream.

Water recycling plant

The water recycling plant would be designed to receive, at the peak of a drought, a minimum flow of 19 million litres per day of treated wastewater from Budds Farm Wastewater Treatment Works in order to produce at least 15 million litres per day of purified recycled water. If a larger water recycling plant is needed, to potentially produce up to 60 million litres of water per day, then the plant would be designed to this capacity. The pipeline bringing in the treated wastewater will be sized to accommodate a larger flow into the water recycling plant.

The water recycling plant uses advanced treatment processes, explained on pages 16 and 17, to convert treated wastewater into purified recycled water. Among other technologies in the process, special membranes are used to remove dissolved salts and a large range of other impurities from the treated wastewater.

We will then transfer the recycled water to Havant Thicket Reservoir where it would mix with the spring water already stored in the reservoir. A high lift pumping station to transfer the recycled water from Havant Thicket Reservoir to Otterbourne Water Supply Works would be part of the new water recycling plant.

Design requirements

As water recycling plants rely on using treated wastewater from wastewater treatment works, they ideally need to be located as close as possible to the wastewater treatment works. Not only would this reduce the length of pipelines needed between the water recycling plant and the wastewater treatment works, it would also reduce the cost and carbon footprint associated with pumping the wastewater over greater distances.

The water recycling plant would consist of one large building, which contains the majority of the process-related equipment and the associated chemicals. Additionally, there are a number of tanks and structures which will be located

externally, along with an administration building and roads for vehicular access. For a water recycling plant capable of producing 15 million litres of recycled water per day, an area of approximately 2.5 hectares (25,000m²) will be required.

To inform our process to find a suitable site, we identified that an area of six hectares (60,000m²) would be needed to ensure there is sufficient additional space for the high lift pumping station, tunnel shafts for the connecting pipelines, large construction compound and landscaping. This also provides space to accommodate a larger water recycling plant potentially capable of producing up to 60 million litres per day of recycled water, should the longer term planning work show this is required.

Site selection

We undertook a site selection process to identify the best performing site to locate the new water recycling plant. Initially, we considered siting the water recycling plant at Budds Farm Wastewater Treatment Works as we already own the land and this would minimise the length of connecting pipelines needed between the wastewater treatment works and the water recycling plant. However, the Budds Farm Wastewater Treatment Works site is not large enough to accommodate the design requirements for even a smaller water recycling plant capable of producing at least 15 million litres of recycled water per day so we considered alternative locations outside of Budds Farm Wastewater Treatment Works.

We first looked for sites within a radius of 500 metres of the Budds Farm Wastewater Treatment Works. Given that available land within 500 metres of the Budds Farm Wastewater Treatment Works is severely limited, this search area was then expanded to 1500 metres. We identified sites within this search area that would minimise impacts on residential areas, community facilities and key infrastructure.

We identified nine sites and assessed these against a range of planning and environmental criteria.

From the nine sites considered, two sites emerged as best performing against the assessment criteria. The sites are shown on the plan on page 19.

- Site 71 is developed with warehousing and other businesses. Part of the site is designated as a mineral safeguarded site, which could constrain further redevelopment of sections of the site.
- Site 72 is a former landfill site and consists of grassland, vegetation and gravelled areas. Planning permission was recently granted on the site for industrial, storage and distribution development.

Both sites are bounded by the A27 to the north and to the south by Harts Farm Way from where vehicular access would be gained.

We assessed these two sites in more detail to identify a preferred site. Given that Site 71 is already developed and occupied by various businesses, we concluded that Site 72 is a better site to locate the new water recycling plant as it can be developed more readily.

Please refer to Section 4 of the Scheme Development Summary for more information about our site selection process.

What do you think about the process we went through to arrive at the proposed site for the new water recycling plant?

Proposed sites for the water recycling plant

Do you support our proposal to build a water recycling plant on Site 72 south of Havant?



The pipeline network

We will need to install three sections of pipeline:

- between Budds Farm Wastewater Treatment Works and the new water recycling plant we will need two pipelines: one to transfer treated wastewater from Budds Farm Wastewater Treatment Works to the proposed water recycling plant and the other to transfer reject water from the water recycling process back to Budds Farm Wastewater Treatment Works.
- to transfer recycled water from the water recycling plant to Havant Thicket Reservoir
- to transfer source water from Havant Thicket Reservoir to Otterbourne Water Supply Works.

The underground pipelines between Budds Farm Wastewater Treatment Works and the water recycling plant

Design requirements for these pipelines

We will require two underground pipelines to connect Budds Farm Wastewater Treatment Works and the water recycling plant. One is required to transfer the treated wastewater required for the water recycling plant from Budds Farm Wastewater Treatment Works (which would be up to 450 millimetres in diameter). The other is required to transfer the reject water and any impurities produced by the recycling process back from the water recycling plant to Budds Farm (which would be up to 350 millimetres in diameter) for release via the existing Eastney long sea outfall.

We will need a new pumping station within the Budds Farm Wastewater Treatment Works to transfer the treated wastewater to the water recycling plant.

No physical works are needed within the offshore marine area.

Route selection

For the selection process for both pipelines we worked on the assumption that Site 72 would be the proposed location of the water recycling plant, so the connections would need to be located between the Budds Farm Wastewater Treatment Works and Site 72.

In doing so, the pipelines would have to cross the Hermitage Stream which is directly upstream of internationally and nationally designated sites within Langstone Harbour. To avoid, reduce or mitigate any impacts during construction, we would need to employ a trenchless construction method underneath the stream. We have calculated that the shortest length of the pipelines required would be approximately 500 metres.

We have considered an open cut construction along the local road network. However, this would involve the pipelines to be longer and cause greater disruption and construction impacts in the area. We would still need to cross the Hermitage Stream whichever installation method is adopted. Taking the shortest and most direct route would minimise these impacts, and also reduce the cost and carbon emissions generated during the construction and operation of the pipelines.

The process for selecting a direct trenchless route for these pipelines has been greatly simplified by the lack of viable options available. In this instance, it has not therefore been necessary to follow the same process for the other two sections of pipeline which are considered further in this section.



Langstone Harbour

Do you have any views on the pipelines between Budds Farm Wastewater Treatment Works and the water recycling plant?

i Helpful information about installing pipelines

Installing an underground pipeline

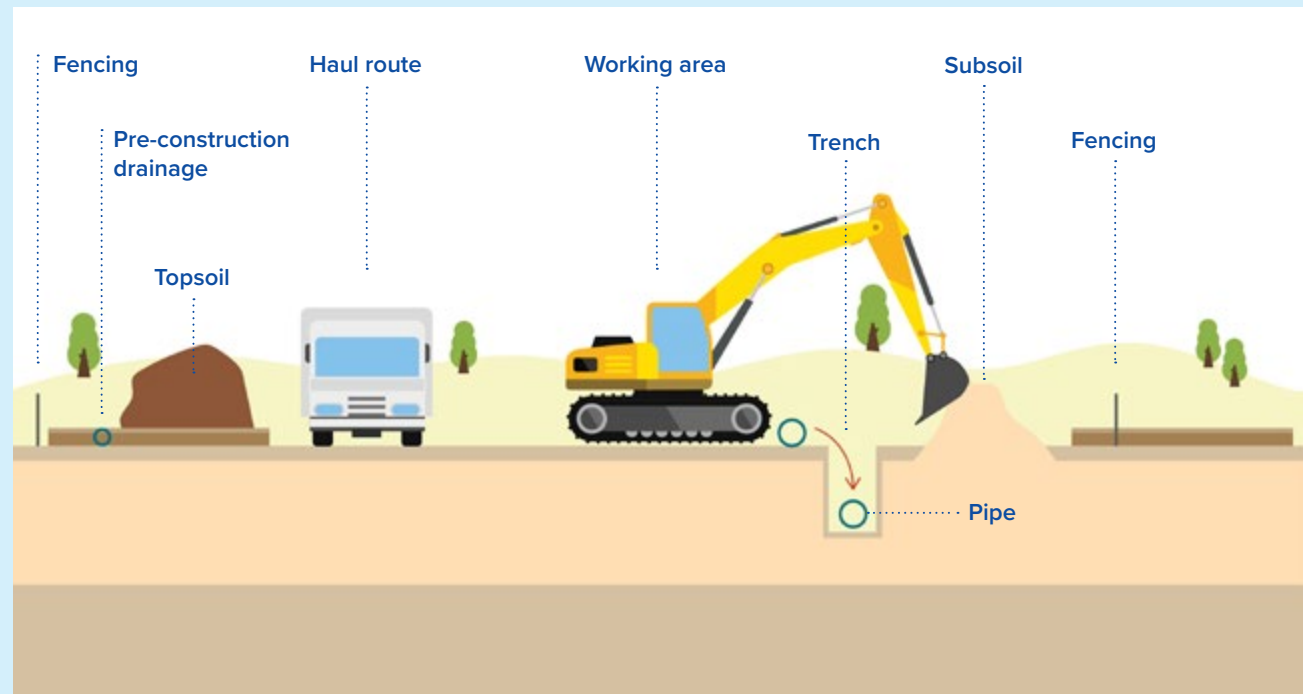
A large part of the Project involves laying pipelines under the ground. Here are some examples of different installation methods we could use.

Are there any areas where you feel construction works will be particularly challenging or disruptive?

Trenched (open-cut) method

For installation of the majority of the pipeline route, we will likely use the conventional method of open cut excavation. This essentially involves digging a trench, laying the pipe in the trench, and then backfilling the trench with soil.

A typical working area is approximately 40 metres wide which allows sufficient space for digging the trench, storing the pipe alongside the trench before installation, and storing soil from the excavated trench during installation.



All images are not to scale, for indicative purposes only.

i Helpful information about installing pipelines

Trenchless methods

For some sections of the pipeline route there will be critical crossings that will not be generally suited to open cut excavation. Examples of these could be roads, railways, waterways, sensitive environmental areas and other areas where construction could be restricted. Below are some examples of trenchless techniques that could be used.

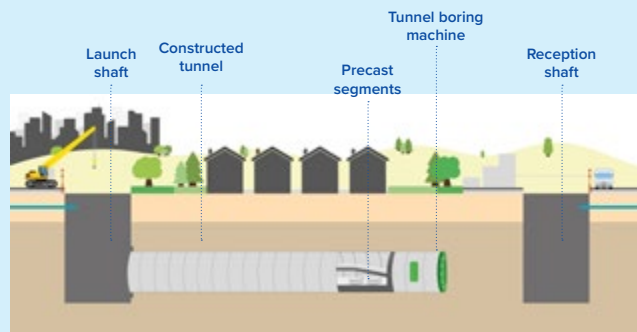
Tunnelling

Where tunnels are used, typically a tunnel boring machine would be employed, with shafts dug at each end of the tunnel: a launch shaft from where the tunnel boring machine would start and a reception shaft where the tunnel boring machine would emerge and finish.

As shown in the image below, once the machine is launched, the tunnel construction cycle will begin one tunnel lining ring at a time. On completion of the tunnel the tunnel boring machine will be moved into the reception shaft, dismantled and removed, leaving the fully constructed tunnel ready for the pipelines to be installed and connected. Intermediate shafts may be required depending on the length of the tunnel or changes in geology.

We will undertake a site selection process to identify the best site for the launch and reception shafts, and any intermediate shafts if required, and present this at our next consultation.

Typical tunnel boring machine representation

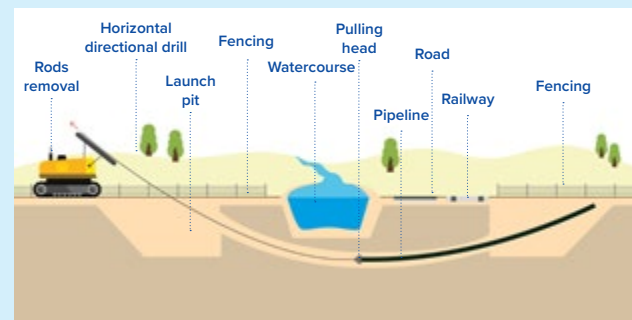


Horizontal directional drilling

Horizontal directional drilling involves the use of a directional drilling machine, and associated attachments, to accurately drill along the chosen bore path and lay the path for the pipe, as shown in the image below.

Two working areas are established on either side of the feature to be crossed with a pit or shaft created at each end of the pipeline route. The directional drilling machine is guided by the operator to follow the desired route and is advanced through the ground until the machine reaches the reception shaft at the far end of the route. A pipe is pulled through the hole without disturbing the surface.

Typical horizontal directional drilling representation



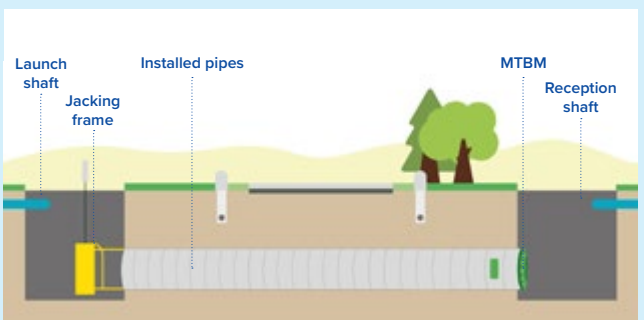
Microtunnelling (pipe jacking)

Microtunnelling is a trenchless pipeline installation technique that utilises microtunnel boring machines which are usually remote controlled from the surface, to install pipes underground.

As shown in the image below, the microtunnel boring machine is advanced through the ground using specially manufactured jacking pipes which are pushed into the ground using hydraulic pistons. The pistons push the pipe and microtunnel boring machine forward at a controlled rate to ensure effective and safe progress of the machine as it cuts the soil.

The microtunnel boring machine is guided by a steering system which allows the operator to follow the desired route by using steering pistons located just behind the cutterhead. As each pipe advances through the ground one pipe length at a time, the pistons are withdrawn to allow the next pipe section to be added to the pipe string. This process continues until the machine reaches the reception shaft at the far end of the route.

Typical microtunnel (pipe jacking) representation



The underground pipeline between the water recycling plant and Havant Thicket Reservoir

Design requirements for this pipeline

We will need a pipeline of up to 750 millimetres in diameter to transfer the purified recycled water from the water recycling plant to Havant Thicket Reservoir approximately 3.5 kilometres to the north.

The broad geographical location of the corridor for this section (referred to as corridor section O) is defined by the location of the water recycling plant and Havant Thicket Reservoir. Options were considered to open cut through the local road network or to construct a tunnel for the pipeline.

The underground pipeline between Havant Thicket Reservoir and Otterbourne Water Supply Works

Design requirements for this pipeline

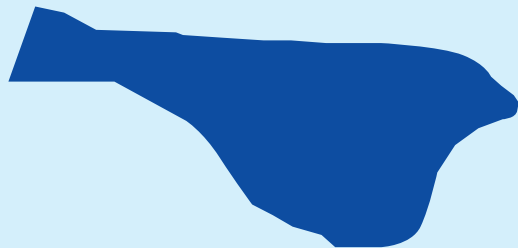
We will need a pipeline of approximately 40 kilometres and up to 1200 millimetres in diameter to transfer water from Havant Thicket Reservoir to Otterbourne Water Supply Works.

Next we set out how we have developed the corridors for these pipelines. Before you read on it may be useful to know the difference between a corridor and a pipeline route.

i Helpful information about corridors and routes

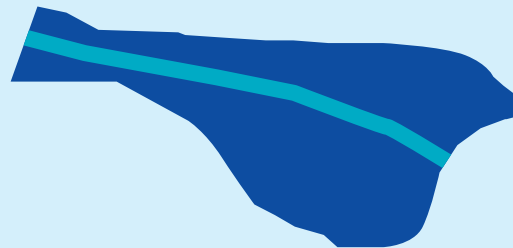
Corridor

Corridors are carefully identified areas of land within which the pipeline could be routed. The corridors are developed by analysing various opportunities and constraints, including the need to avoid environmentally sensitive areas, historic features and residential and community land uses where possible. For this Project our corridors vary in width depending on these opportunities and constraints.



Route

A pipeline route is a more specific single path along which the pipeline would be laid. In this consultation we have shown an indicative pipeline route within the preferred corridor.



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Pipeline corridor development

Here, we explain how we developed possible corridors for the new pipelines between the new water recycling plant and Havant Thicket Reservoir, and Havant Thicket Reservoir and Otterbourne Water Supply Works. Further details on the process for corridor development can be found in Section 4 of the Scheme Development Summary.

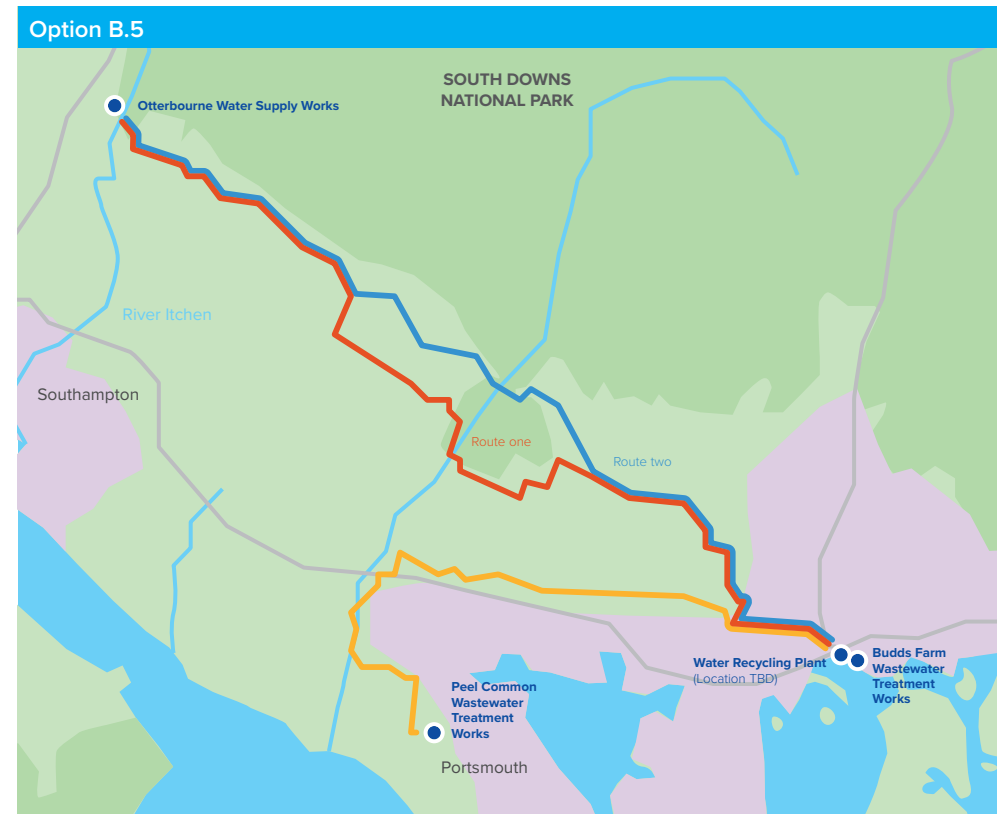
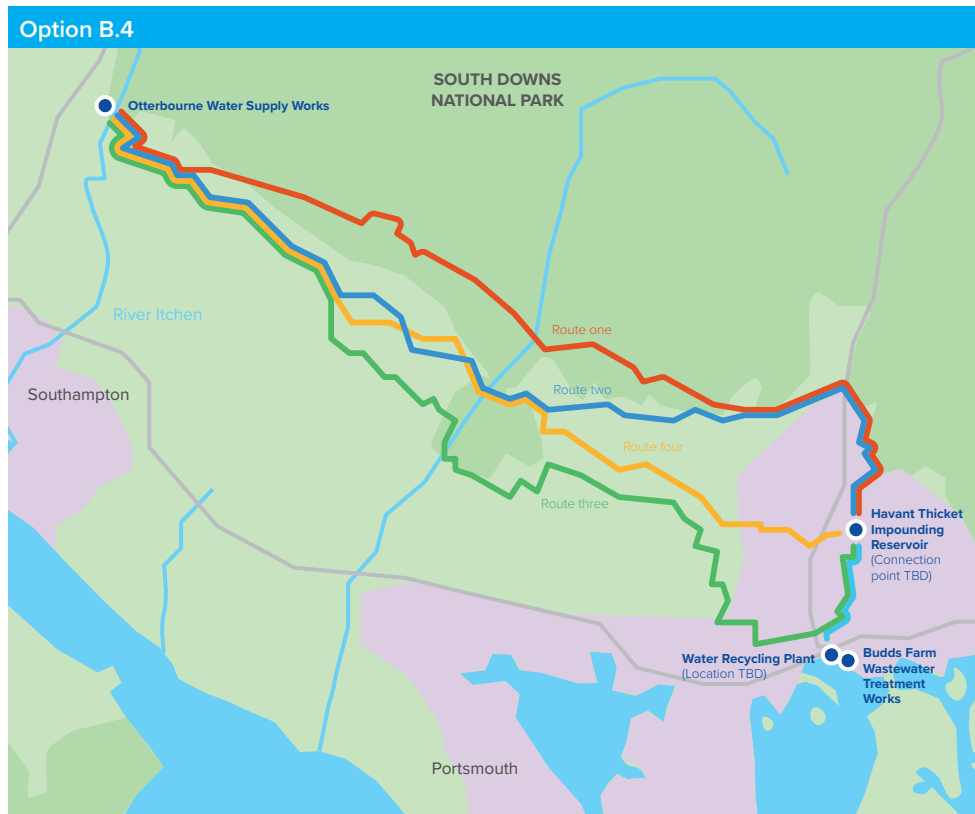
Where our pipelines corridors came from

We started by looking at the work carried out to inform our previous consultation in 2021 which identified a number of possible pipeline routes associated with the combined water transfer and water recycling options - Option B.4 and Option B.5.

The most northerly pipeline routes for Option B.4 (red and blue in the plan) would have had a significantly greater impact on the South Downs National Park than the other pipeline routes. Both pipeline routes would also have potentially impacted ancient woodland where they lie in

close proximity to the northern edge of Staunton Country Park. As a result, only the yellow and green pipeline routes were taken forward for further consideration at this stage. These were largely identical to the red and blue pipeline routes identified for Option B.5. Additionally, the northern section of the yellow pipeline route for Option B.5 was also taken forward as a potentially viable alternative to get part of the way to Otterbourne.

For more information on how Options B.4 and B.5 were developed since the 2021 consultation please see the Scheme Development Summary.



How we generated the corridors

The original pipeline routes, presented at the 2021 consultation, were developed taking into account many factors that will influence the final specific routing. These included, as far as possible, residential properties, community facilities, ancient woodland, heritage sites (e.g. scheduled monuments and listed buildings), protected landscapes (e.g. national parks) and internationally and nationally designated ecological sites.

Following the options appraisal process, which selected Option B.4 as our proposed solution (i.e the Project we are now consulting on) we developed all of these possible pipeline routes into wider pipeline corridors. Whilst this might seem like a backward step, it was crucial we fully considered the extents to which the routes could be sited within the influencing factors.

Assessing the corridors

We split each pipeline corridor into sections and worked closely with our technical teams to assess the performance of each corridor section in detail against carefully selected evaluation criteria. These criteria included a range of planning, environmental, construction, transport and land use considerations and were developed in consultation with local stakeholders.

Please refer to Section 4 of the Scheme Development Summary for further details of the evaluation criteria.

The various pipeline corridor sections which were identified and assessed are shown on the plan on page 26 and details provided in pages 27 to 40. From our assessment work, a preferred corridor between Havant Thicket Reservoir and the water recycling plant and Havant Thicket Reservoir and Otterbourne Water Supply Works emerged which performed better overall against the evaluation criteria than the other corridor sections. The preferred corridor is highlighted on the plan on page 26. Subject to the feedback we receive from this consultation, we are currently not intending to progress the other corridor sections. We will not need all of the land in the corridor for the pipeline route.

At this early stage, we have shown an indicative pipeline route within our corridor which we are referring to as the “best engineering solution” pipeline route. This has been selected based on the topography (levels) of the land, construction constraints and all of the information that has been gathered to date by our technical teams.

Once we have selected a proposed corridor, we will investigate the detailed routing of the pipeline within this corridor and develop the route further, taking into account engineering and environmental factors as well as the feedback we receive from this consultation and our engagement with stakeholders.

We will work closely with local authorities and environmental bodies and listen to the views of local communities to ensure that any concerns are heard.

In the next section we set out the corridor sections between the Havant Thicket Reservoir and Otterbourne Water Supply Works that we have identified and evaluated. We provide an explanation as to why corridor sections are preferred or are not currently being progressed.

First, we present the preferred corridor, followed by the corridor sections that are not currently being progressed.

Further information can be found in Section 4 of the Scheme Development Summary and the Book of Maps.

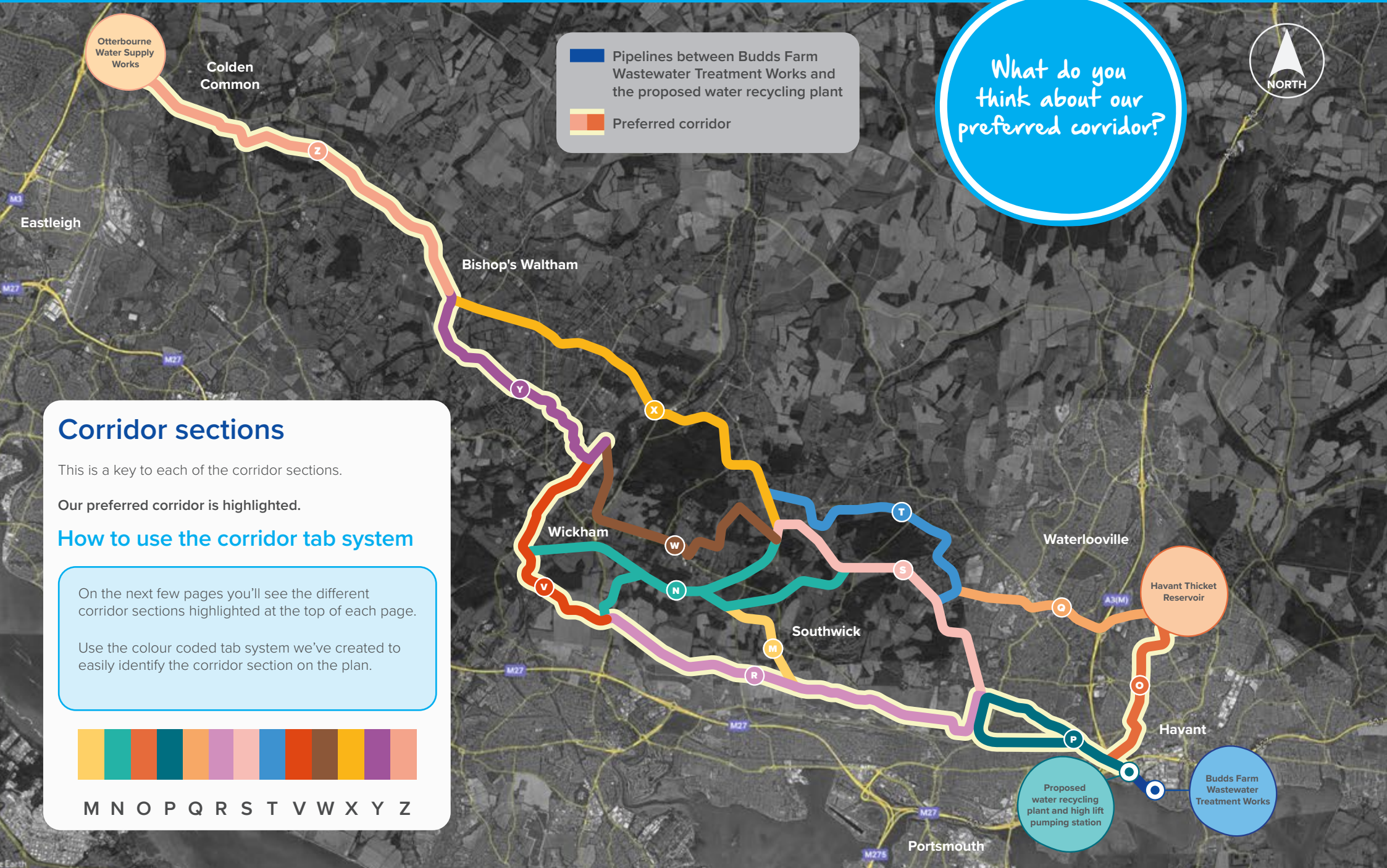


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What do you think about the process we went through to arrive at the pipeline corridor sections?

What factors are important to you that we should consider when looking at the detailed routing of the pipeline within the preferred corridor?

Corridor sections



Corridor sections

This is a key to each of the corridor sections.

Our preferred corridor is highlighted.

How to use the corridor tab system

On the next few pages you'll see the different corridor sections highlighted at the top of each page.

Use the colour coded tab system we've created to easily identify the corridor section on the plan.



M N O P Q R S T V W X Y Z

Corridor Section O

Section description

This corridor section is a narrow route which starts from the water recycling plant south of Havant and heads north through Havant. It crosses the A27, the Hermitage Stream, a railway line, the B2149 and Bidbury and Bedhampton Park. The section crosses areas at risk of flooding west of the Leigh Park area associated with the Hermitage Stream. At the northern end, it crosses into Staunton Country Park and Grade II* Listed Leigh Park and connects into Havant Thicket Reservoir.

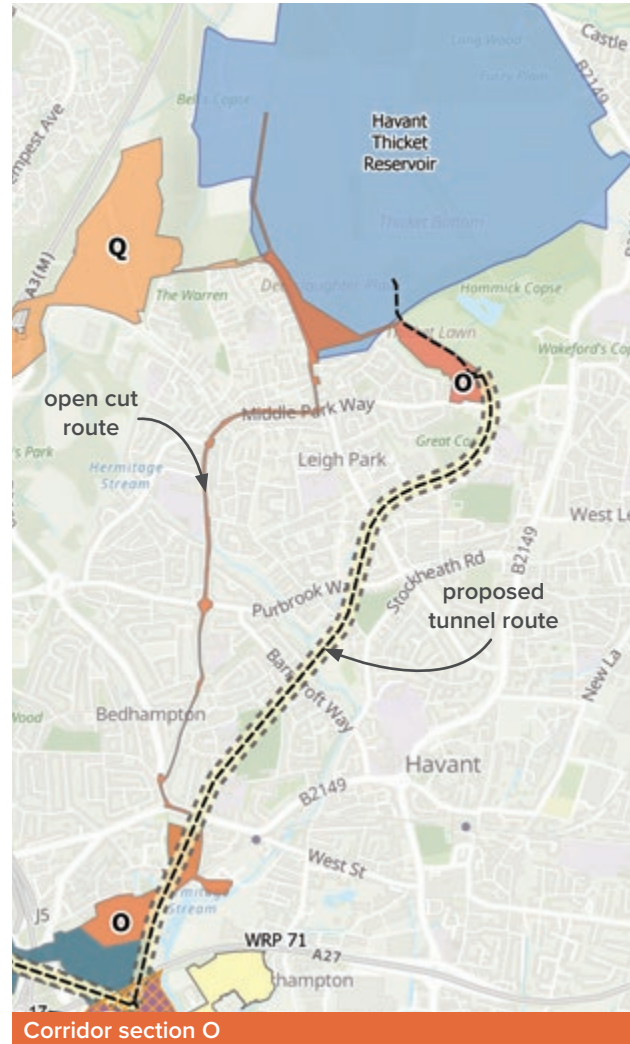
Assessment outcomes

As well as accommodating the pipeline transferring recycled water from the water recycling plant to Havant Thicket Reservoir (which would be up to 750 millimetres in diameter), this corridor section could also accommodate the pipeline starting the transfer of water from Havant Thicket Reservoir to Otterbourne Water Supply Works (which would be up to 1200 millimetres in diameter) to minimise construction impacts.

Co-locating both pipelines along the same route would make open cut construction of the pipeline challenging. The open cut route for the pipeline would be located within the road network in Havant, along Bedhampton Road, Park Lane and Middle Park Way. Co-locating the pipelines in an open cut trench would result in the need for a trench approximately four metres wide and therefore would result in potential road closures. As well as impacts to the road network, there is also potential for impacts to residential properties in Havant through noise, vibration and dust generated by open cut construction.

We are unable to co-locate the two pipelines within the pipeline corridor that will be used for the approved Portsmouth Water pipeline due to a lack of space and incompatible timings.

Please refer to the Book of Maps for details of Portsmouth Water's pipeline area.



Tunnelling the route (with two pipelines in the same tunnel) will reduce the level of construction activity at surface level and avoid surface crossings of the Hermitage Stream which has the potential to affect internationally designated habitats downstream within Langstone Harbour. Tunnelling also reduces the risks associated with undertaking construction activities in areas at risk of flooding.

Our tunnel would be approximately 15 metres deep, depending on the ground profile, and we acknowledge there is the potential for vibration impacts during construction. One of our key aims is to avoid any impacts of our proposals that cannot be avoided through further surveys and investigations, consultation and engagement, iterative design and robust impact assessments. This will enable us to identify appropriate measures to mitigate impacts. For more information refer to Section 4 of this brochure for our approach to environmental impact assessments.

We will need to connect the northern end of the corridor section with Havant Thicket Reservoir which will be built within Staunton Country Park and Leigh Park, which is a listed park and garden. The reception shaft for the tunnel boring machine will be located near the connection point and we will need to install a small section of the pipeline using the open cut excavation method through the park as we will not be able to locate the shaft close enough to the reservoir.

We propose to locate the launch shaft of the tunnel on the site of the water recycling plant site to reduce the land required. The material generated by tunnel excavation will need to be removed from the tunnel launch shaft via the local road network.

Further information on the options we evaluated within corridor section O can be found in Section 4 of the Scheme Development Summary.

Our preferred corridor includes corridor section O with a tunnelled route that contains two pipelines and an open cut section through Leigh Park.

Corridor Section P

Section description

This corridor section starts south of Havant and runs from east to west, before heading northwest, crossing the A27, A3 (M), the West Coastway railway line, Drayton and Farlington, prior to then ascending Portsdown Hill.

Assessment outcomes

We considered a tunnelled route in this corridor section as this would reduce the level of construction activity at surface level and would also significantly reduce the potential air quality, noise, vibration, socio-economic, transport and landscape impacts along the length of the tunnel compared to the open cut route. Wayfarers Walk and Solent Way long distance paths and National Cycle Route 222 would be impacted if an open cut method was adopted. Further information on decision making between the open cut and tunnelled route in corridor section P can be found in Section 4 of the Scheme Development Summary.

Within this corridor section we propose two options for a tunnelled route.

- **The northern tunnel route option (P1) follows a route south of Crookhorn and would avoid Fort Purbrook. It has the potential to impact groundwater during construction as sections of this tunnel would be located within Source Protection Zone 1c which protects groundwater quality in the Havant area.**
- **The southern tunnel route option (P2) follows Portsdown Hill Road and runs adjacent to Fort Purbrook. There is potential for the tunnel to encounter tunnels under the fort associated with previous military uses of the fort.**



Our tunnel would be approximately 30 metres deep depending on ground profile although we acknowledge there is the potential for vibration impacts during construction. One of our key aims is to avoid any impacts of our proposals and then identify and manage any impacts of our proposals that cannot be avoided through further surveys and investigations, consultation and engagement, iterative design and robust impact assessments. This will enable us to identify appropriate measures to mitigate impacts. For more information refer to Section 4 of this brochure for our approach to environmental impact assessments.

Material would also need to be removed from the tunnel construction compounds predominantly focused at the tunnel launch site at the southeast of the corridor in Havant.

A tunnel launch and reception site would be needed for the tunnelled option. Locating the launch shaft of the tunnel on the water recycling plant site would reduce the land required. The location of a reception shaft for either tunnel route would need to consider any areas at risk of flooding, landscape impacts and other sensitive receptors.

Our preferred corridor includes corridor section P.

Corridor Section R

Section description

This corridor section is routed west of Widney and ends at the A32. The south of the corridor section follows the ridge of Portsdown Hill, and the north of the corridor section routes further down the ridge towards the base of the River Wallington valley.

From the start of this section of corridor R, which follows on from corridor section P, it crosses the B2177 and into an open landscape characterised by farmland. The most notable feature to be crossed is the River Wallington which is in an area where flood risk is high.

As the corridor section follows the ridge of Portsdown Hill and is predominantly within farmland, the south of corridor section is within an elevated and exposed landscape. Parts of the corridor section are designated as the Portsdown Hill and Forest of Bere areas of Special Landscape Quality.

Directly south of the corridor are a number of heritage assets, three Palmerston Forts which line the ridge of Portsdown Hill, the Nelson's Monument and a World War II Anti-Aircraft Gun Site. These sites are classified as Scheduled Monuments and Grade I and II* listed buildings respectively, which provides them protection against harm from development.

Parts of the south of the corridor section are owned by the Ministry of Defence and therefore gaining consent to construct the pipeline in this area could be more challenging.

The north of the corridor is further away from the ridge of Portsdown Hill and therefore the landscape is not as exposed. This area is in closer proximity to locally designated environmental sites and areas of ancient woodland.

The southeast of the corridor section covers land that is designated as open space. There is space within this corridor section to avoid impacting on this land.

We show on the map below the zone for a break pressure tank we are progressing in corridor section R. Please refer to page 42 for more information on the requirements for break pressure tanks.

The corridor would intersect long distance walking routes (Allen King Way, Pilgrims Trail and Wayfarer's Walk) which have broad views of the surrounding area.

A small part west of the corridor section intersects with part of the approved Welborne Garden Village development. The pipeline would need to be sited to avoid impacting development in this area.

Assessment outcomes

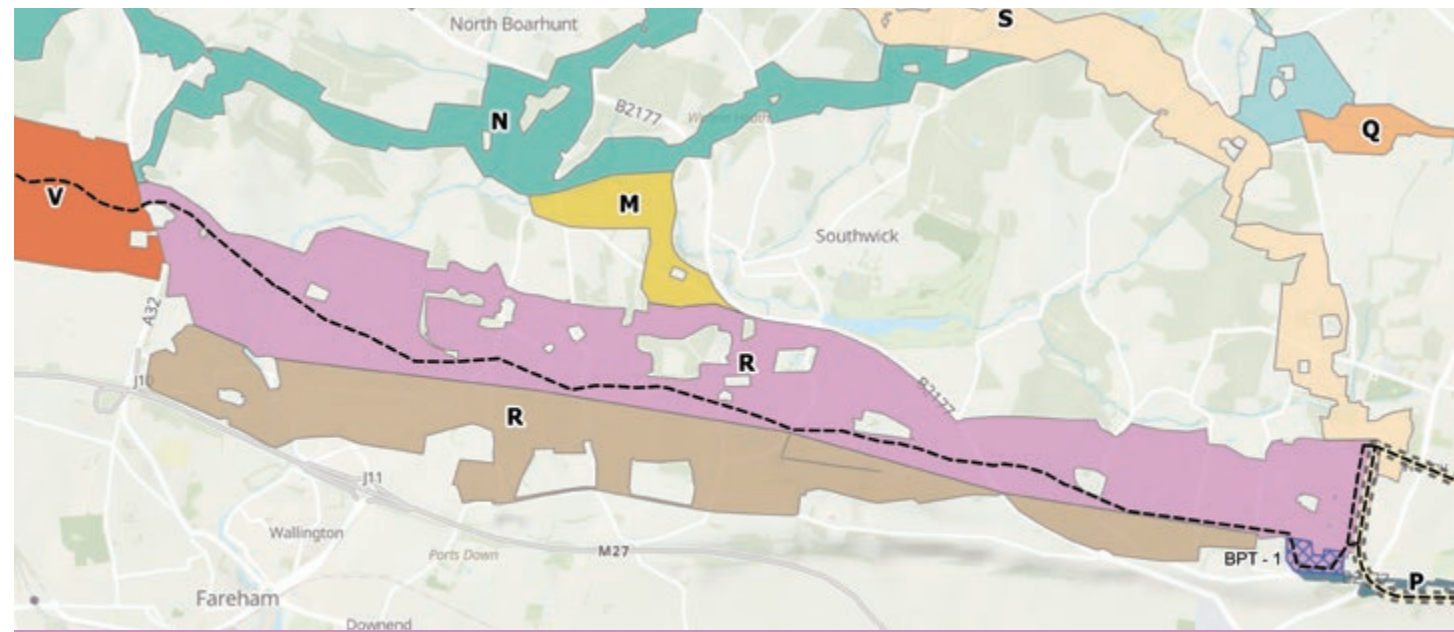
There are consenting risks associated with constructing the pipeline close to the heritage assets directly south of the corridor section, potentially impacting their setting, and with potential impacts to the landscape character of the area during construction on the ridge of Portsdown Hill.

These risks led to the conclusion that this corridor section should be trimmed so that the southern part was not progressed. This means that the nearest heritage asset to the south of the corridor section would be approximately 150 metres at its closest point.

Trimming the south of the corridor section (shaded brown below) means that the northern section is being progressed as part of the preferred corridor. As mentioned above, the north of the corridor is close to locally designated sites and ancient woodland. The exact location of the pipeline to be determined through further route refinement would be sited to avoid impacts on these areas where possible.

A potential pipeline route through corridor section R is likely to reduce the amount of above ground plant required, however further design review is required to determine this.

Our preferred corridor includes corridor section R.



Corridor section R

Corridor Section V

Section description

This corridor section begins west of Wickham Road, north of Fareham and passes west of Wickham.

The corridor section begins by crossing Wickham Road (A32) and follows Knowle Road through the site of the approved Welborne Garden Village development. It heads northwest towards the north edge of Knowle, and crosses National Cycle Network Route 224 on Mayles Lane. It crosses the River Meon and an area of high flood risk around the river, before moving towards Titchfield Lane and crossing the southwest edge of Wickham Park Golf Club. From here, the corridor section heads northeast to cross Winchester Road (A334) and Pricketts Hill to connect to corridor section Y.

The corridor section is within a locally designated valued landscape.

The corridor section intersects the Chichester to Bitterne Roman Road and, as a result, there is higher potential to encounter archaeological remains during construction of the pipeline in this area.

We show on the map the zones for two intermediate pumping stations we are progressing in corridor section V. Please refer to page 42 for more information on the requirements for intermediate pumping stations.

Assessment outcomes

This route is located in a sensitive landscape adjacent to the Portsdown Hill and Fareham Special Landscape Quality areas. There is potential for ecological and hydrological impacts associated with crossing of the River Meon which we consider can be mitigated.

The indicative pipeline route follows Titchfield Lane, however, installation could potentially require a closure of part of Titchfield Lane and impact the west side of Wickham Park Golf Club. To reduce the extent of construction works we could route the pipeline to the west of Titchfield Lane which would cross ancient woodland or the route could be sited to the east of Titchfield Lane which would have more impacts on the golf club.

The route to the west of Titchfield Lane could potentially impact ancient woodland which would not meet the objectives set by planning and environmental policy.

Further site selection and engagement with landowners including Wickham Park Golf Club will be undertaken to identify the best route through this area.

We will work with the developer of the Welbourne Garden Village to understand how a pipeline route can be best located alongside the development.

Our preferred corridor includes corridor section V.



Corridor section V

Corridor Section Y

Section description

This corridor section heads northwest across rural land and crosses Blackhorse Lane and the B2177 (Winchester Road). It continues northwest, crosses Sandy Lane, Curdridge Lane, and Botley Road (B3035) from where it heads north and crosses the River Hamble and the Pilgrims' Trail long distance route to reach corridor section Z south of Bishop's Waltham.

Assessment outcomes

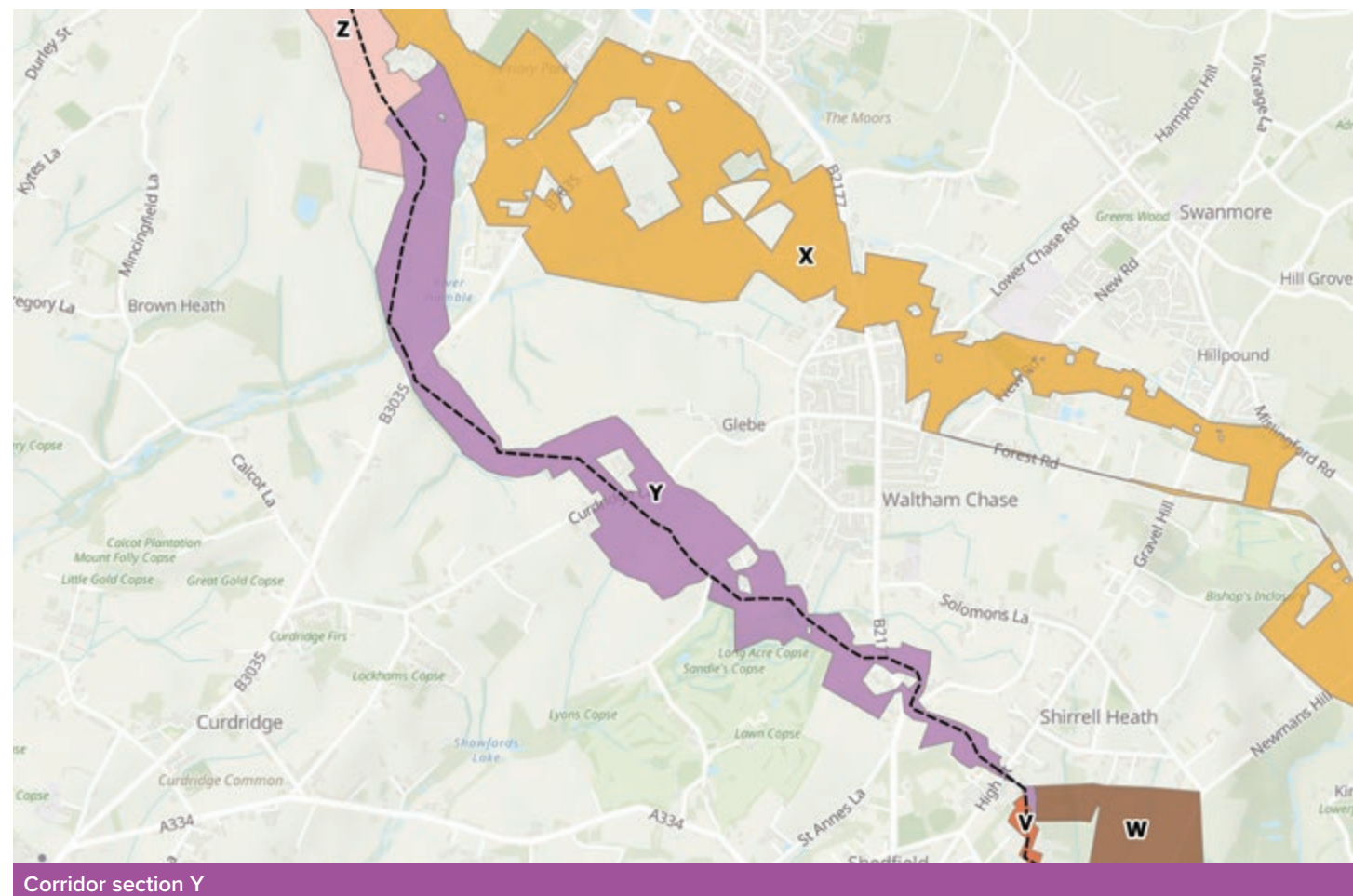
Significant constraints in this corridor section relate to proximity to residential properties. The corridor passes close to a number of properties where there is potential for impacts through noise, vibration and dust from construction works. Further work will be undertaken throughout the development of the Project to avoid and minimise these impacts.

We are likely to use trenchless construction methods to avoid following an access road next to properties east of High Street. This would avoid impacting on access to properties and posing disruption to the High Street in Shirrell Heath that could occur if we employ an open cut excavation method here.

Further west, where the corridor crosses Blackhorse Lane and Winchester Road (B2177), our indicative pipeline route passes east of The Forge Inn, providing a buffer from properties on Blackhorse Lane and avoiding passing close to properties west of Winchester Road. There is an alternative option that crosses Blackhorse Lane, passes south of The Forge Inn and through a gap between properties west of Winchester Road. This option is closer to properties and construction works have the potential to have a greater impact.

Trenchless construction will be utilised when crossing the River Hamble to avoid direct impacts to the watercourse.

Our preferred corridor includes corridor section Y.



Corridor Section Z

Section description

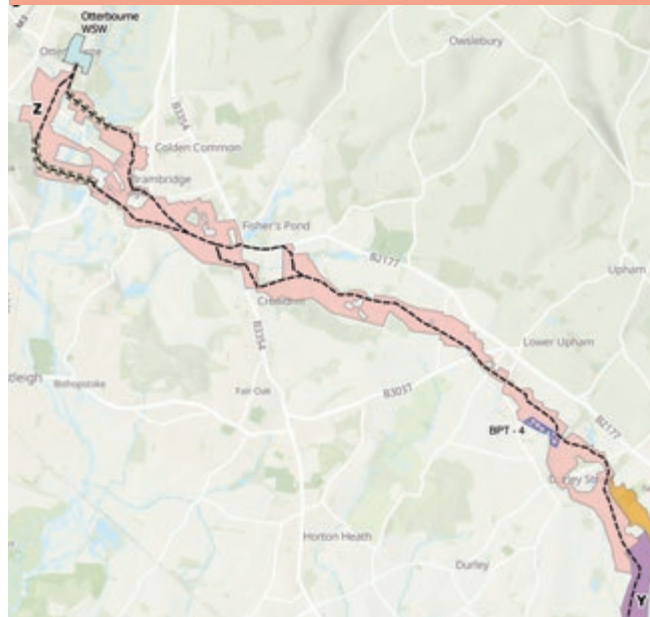
The corridor section begins south of Newtown and continues north to cross Winters Hill. It heads northwest to cross Scivier's Lane, Alma Lane, Mortimers Lane (B3037) and Stroudwood Lane southwest of Lower Upham. It continues northwest, south of the village of Colden Common, crosses Highbridge Road (B3335), the River Itchen, the Itchen Way path and the South West Main Line railway until it reaches Otterbourne Water Supply Works.

We show on the map the zone for a break pressure tank (BPT-4) we are progressing in corridor section Z. Please refer to page 42 for more information on the requirements for break pressure tanks.

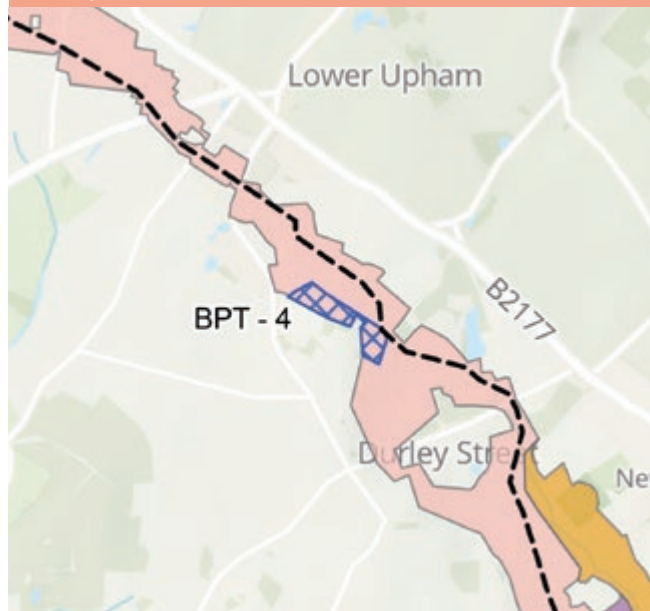
Assessment outcomes

The corridor section begins south of Newtown. The indicative pipeline route runs close to overhead power lines and tracks the route of a tributary of the River Hamble. Sufficient clearance from overhead power lines would be required and impacts to the watercourse would need to be mitigated. There is an alternative option further west to the east of Durley Street which would avoid the overhead power lines and the proximity to the tributary of the River Hamble. This option would bring the pipeline closer to properties in Durley Street. From Winters Hill, the corridor section passes southwest of Kimbers Copse and heads north west to cross Alma Lane, Scivier's Lane Mortimers Lane (B3037) and Stroudwood Lane south west of Lower Upham. It continues northwest until it reaches a point east of Crowdhill. There are two potential routes at this point in the corridor section:

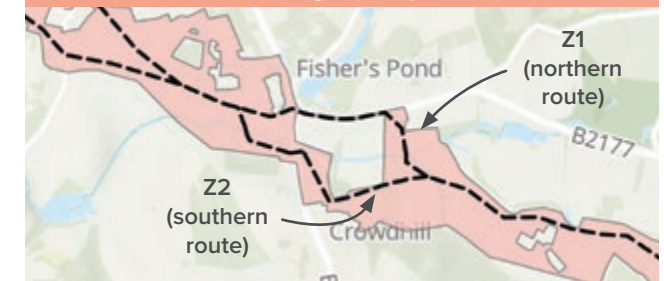
Corridor section Z



Break pressure tank 4 within corridor section Z



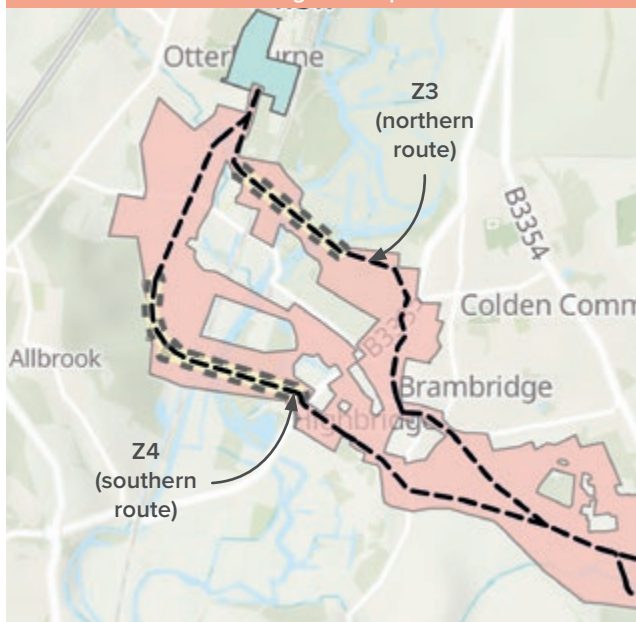
Corridor section Z showing route options Z1 and Z2



- The northern route (Z1) crosses Bow Lake and routes along Portsmouth Road (B2177) to the junction between Portsmouth Road, Main Road and Winchester Road (B3354). A culvert crosses Main Road and therefore open cut construction cannot be used, so we are likely to cross Main Road using trenchless methods. This could result in a road closure at a busy junction. This route additionally intersects with groundwater source protection zone 2c which protects groundwater abstraction at Otterbourne.
- The southern route (Z2) passes north of Crowdhill through a historic landfill where there is potential to disturb and expose buried material. It runs adjacent to the Park Pale at Marwell Scheduled Monument where construction work has the potential to impact the setting of this heritage asset. The route crosses Winchester Road (B3354) and joins up with the northern route.

Please indicate whether you prefer the northern route (Z1) or the southern route (Z2)

Corridor section Z showing route options Z3 and Z4



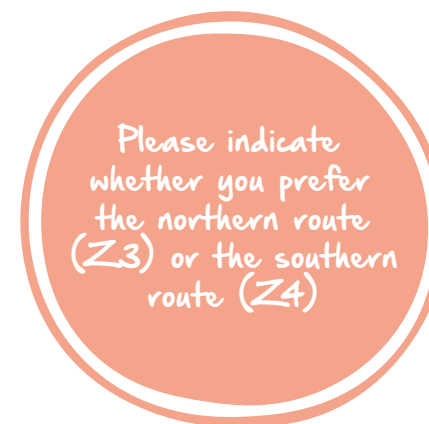
Before reaching Otterbourne, the corridor section has to cross the River Itchen. The river is an internationally and nationally designated ecological site and therefore it is heavily protected by planning and environmental criteria. For this reason, we have decided to tunnel under the river, as well as the Itchen Way path and the South West Main Line railway. There are two potential routes for crossing the River Itchen.

- The northern route (Z3) passes through the South Downs National Park. National policy gives National Parks the highest status of protection in relation to landscape and scenic beauty and requires us to look at the scope for developing the Project outside of the National Park in the first instance. As construction work associated with constructing the tunnel will take place within the National Park, there is potential for temporary adverse impacts to its special landscape qualities. Crossing of Highbridge Road (B3335) is required. The corridor is approximately 200 metres from the Moated Site at Otterbourne Manor scheduled monument. There is potential to avoid or minimise impacts resulting from construction works given the distance of the corridor from this asset.
- The southern route (Z4) is located outside of the South Downs National Park. The route passes close to ancient woodland at Otterbourne Park Wood. It also passes adjacent to the Moated Site at Otterbourne Manor scheduled monument, where there is potential for impacts to the setting of this asset during construction of the pipeline. The southern route has to cross an upstream tributary of the River Itchen, which is considered to be linked to the River Itchen ecological sites. Trenchless construction would be utilised here, however there remains the potential for water quality impacts as a result of construction activity in the flood plain of the tributary. The eastern section of this route is within areas of high flood risk so we will need to assess further where we locate the tunnel launch shaft to ensure this is not located in a high risk flood zone. Crossing of the Highbridge Road (B3335) is required. There are two historic landfills west of Highbridge Road and south of Kiln Lane. Construction within these areas has the potential to expose and disturb buried material so appropriate environmental controls would be required to mitigate any risk.

The most significant constraints within this corridor section relate to the potential for construction within, or in close proximity to the South Downs National Park, proximity to scheduled monuments and proximity to the River Itchen and its tributaries.

We will look to reduce construction impacts as far as possible within Durley Street, and on the Main Road (B3354) near Fisher's Pond. As the pipeline corridor approaches Otterbourne, there is optionality for crossing the River Itchen.

Our preferred corridor includes corridor section Z.



Corridor sections we are not currently progressing

The following section of the brochure sets out the other corridor sections that we have considered and evaluated as part of the process of developing the Project. We are not currently progressing these corridor sections as they performed less well than the preferred corridor sections when undertaking the scheme development evaluation.

More detail on the constraints of these corridors can be found in Section 4 of the Scheme Development Summary.

Corridor Section Q

Section description

The corridor section begins west of Havant Thicket Reservoir and heads west towards Waterlooville, crosses the A3(M), the B2150, various watercourses such as Hermitage Stream, Potwell Tributary, Old Park Stream and Park Lane Stream and intersects a new housing development at Berewood on the west of Waterlooville and joins corridor section T.

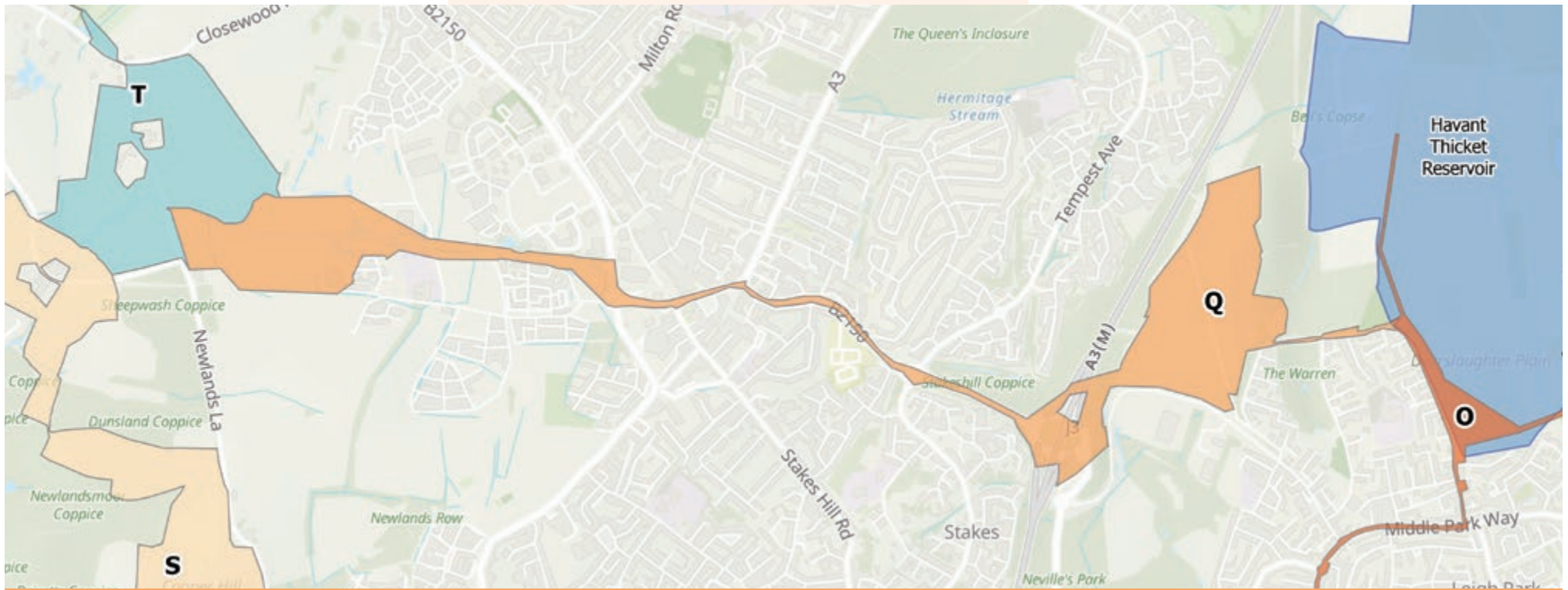
Assessment outcomes

This corridor section consists of an open cut trench route. Tunnelling is not viable as there is not a suitable location for siting the intermediate shaft that is required for the operation of the tunnel boring machine within Waterlooville.

An open cut route would have significant construction constraints as a result of having to cross various underpasses and overpasses along the road network in Waterlooville and the limited space available for construction, given the corridor section runs through a densely built-up area.

This corridor section is not currently being progressed and does not form part of the preferred corridor as construction using the open cut excavation method would cause significant disruption and impacts within Waterlooville.

Corridor sections that are not currently being progressed



Corridor section Q

Corridor Section S

Section description

The corridor section begins west of Widley and heads north towards Purbrook Heath and northwest towards Hipley.

There is a major pinch point between two areas of ancient woodland (Dunsland Coppice and Wards Coppice) south of Furzeley Corner. The corridor section goes on to cross a solar farm on the Southwick Estate at Belney Lane and ends to the west of Hipley.

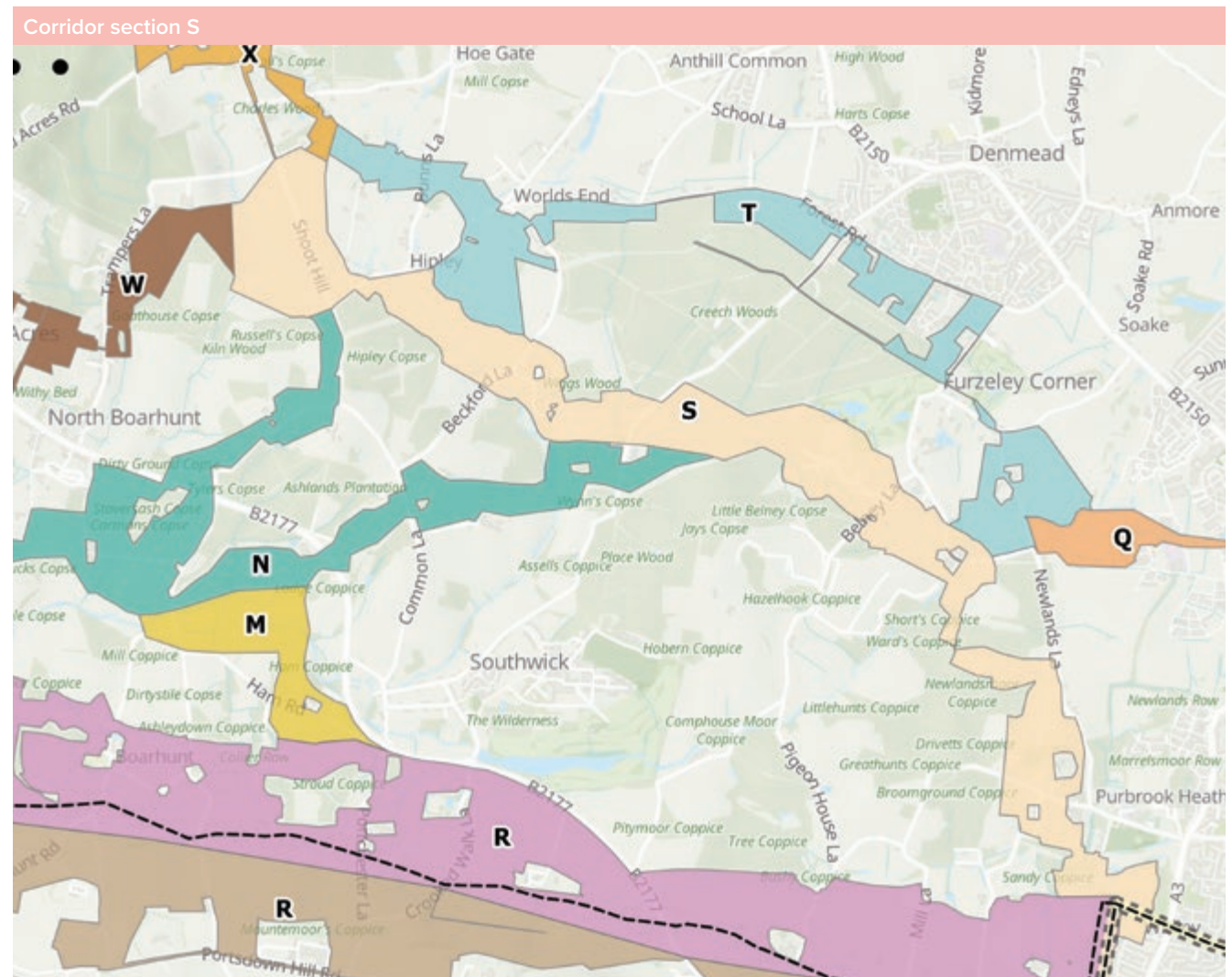
Assessment outcomes

The most significant constraint with the corridor section is the pinch point between two areas of ancient woodland. There would not be sufficient space to provide adequate buffers from the ancient woodland through open cut construction. There would be potential for impacts to the ancient woodland which would be against the objectives of planning and environmental policy. Therefore this section of the route would need to be tunnelled to avoid direct and indirect impacts. A tunnel would require permanent structures associated with shafts and access roads in this location. As there are no alternative options within this corridor to avoid the ancient woodland, or avoid the need to tunnel under the ancient woodland, this has contributed to this corridor not being progressed.

Another consideration was the solar farm which extends across the width of the corridor section. This poses a constraint as there is no potential to avoid this intersection given the ancient woodland to the south and Creech Wood which is used for recreational purposes to the north. Routing the pipeline through this corridor section would require removal of the affected solar panels, and we would need to agree with the developer how to manage the interaction between the projects.

This section is not currently being progressed and does not form part of the preferred corridor as a result of the lack of suitable alternatives for avoiding ancient woodland and potential impacts on the solar farm.

Corridor sections that are not currently being progressed





Corridor Section T

Section description

The corridor section begins at a point southeast of Furzeley Corner. It heads northwest along Forest Road and crosses Bunkers Hill. The central section of the corridor section passes Creech Woods and heads towards Worlds End. The River Wallington is crossed in multiple locations by this corridor section.

Assessment outcomes

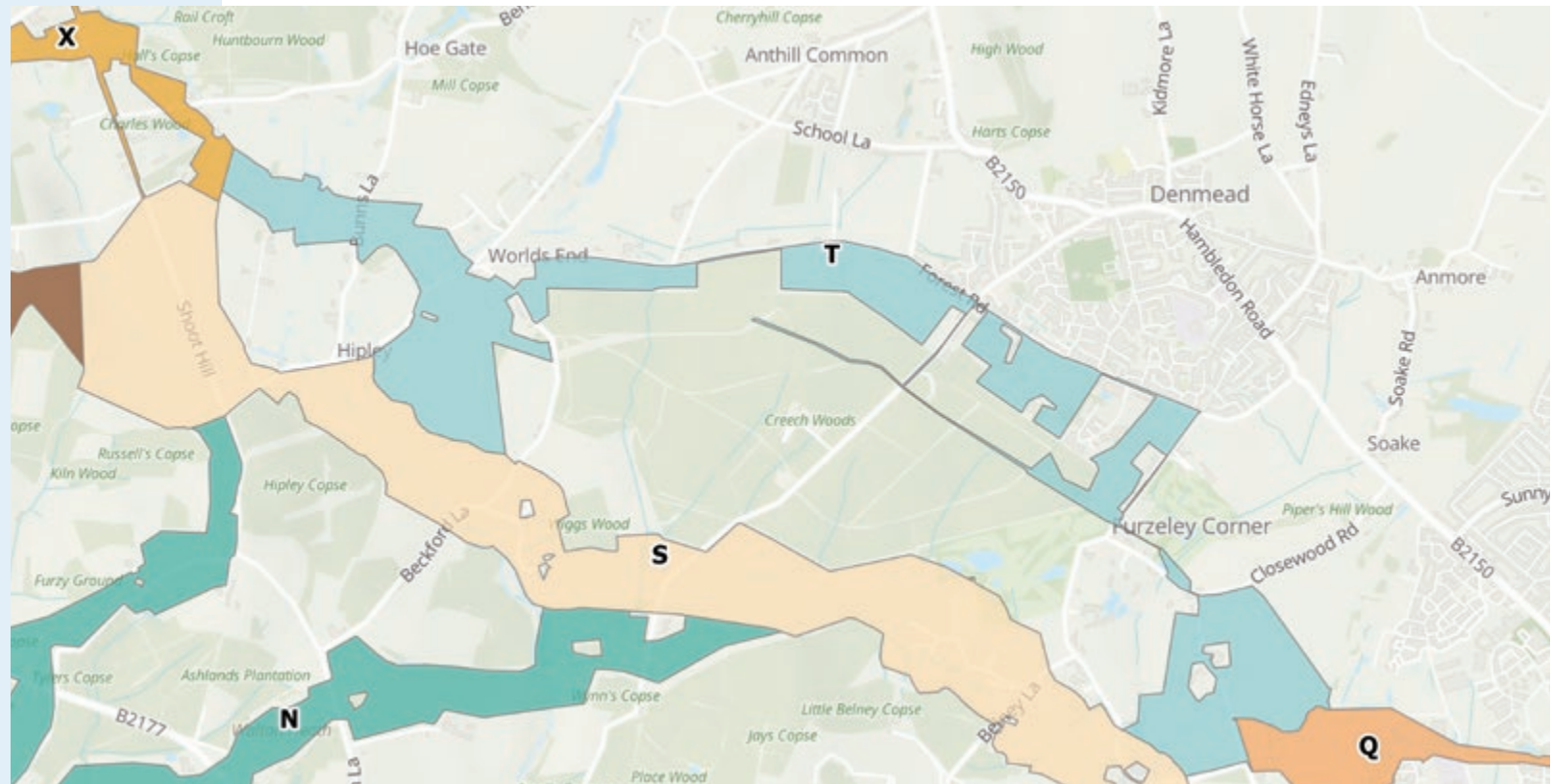
Extended sections of the pipeline within this corridor section would have to be laid using the open cut construction method within the existing road network on Furzeley Road and Forest Road adjacent to properties within Denmead. This would result in likely noise, vibration and air quality impacts, as well as disruption to transport routes and access to properties. Given the rural location and low strategic importance of the road network in this location, tunnelling is not considered to be an appropriate solution in this location.

An option to route south of Forest Road within Creech Woods is not viable as a result of the loss of woodland that would be required to construct the pipeline.

The corridor is adjacent to two areas of Source Protection Zone 1 at World's End. These are protected areas where water is abstracted from the ground. Construction within this area has the potential to impact water quality.

The corridor cuts through the area where the two sides of Furzeley Golf Course meet at Furzeley Road. There would be potential impacts to the golf course.

This section is not currently being progressed and does not form part of the preferred corridor as there are more suitable corridor sections within the preferred corridor that do not impact on the road network or residential properties as much as this corridor section.



Corridor section T

Corridor sections that are not currently being progressed

Corridor Section M

Scheme Description

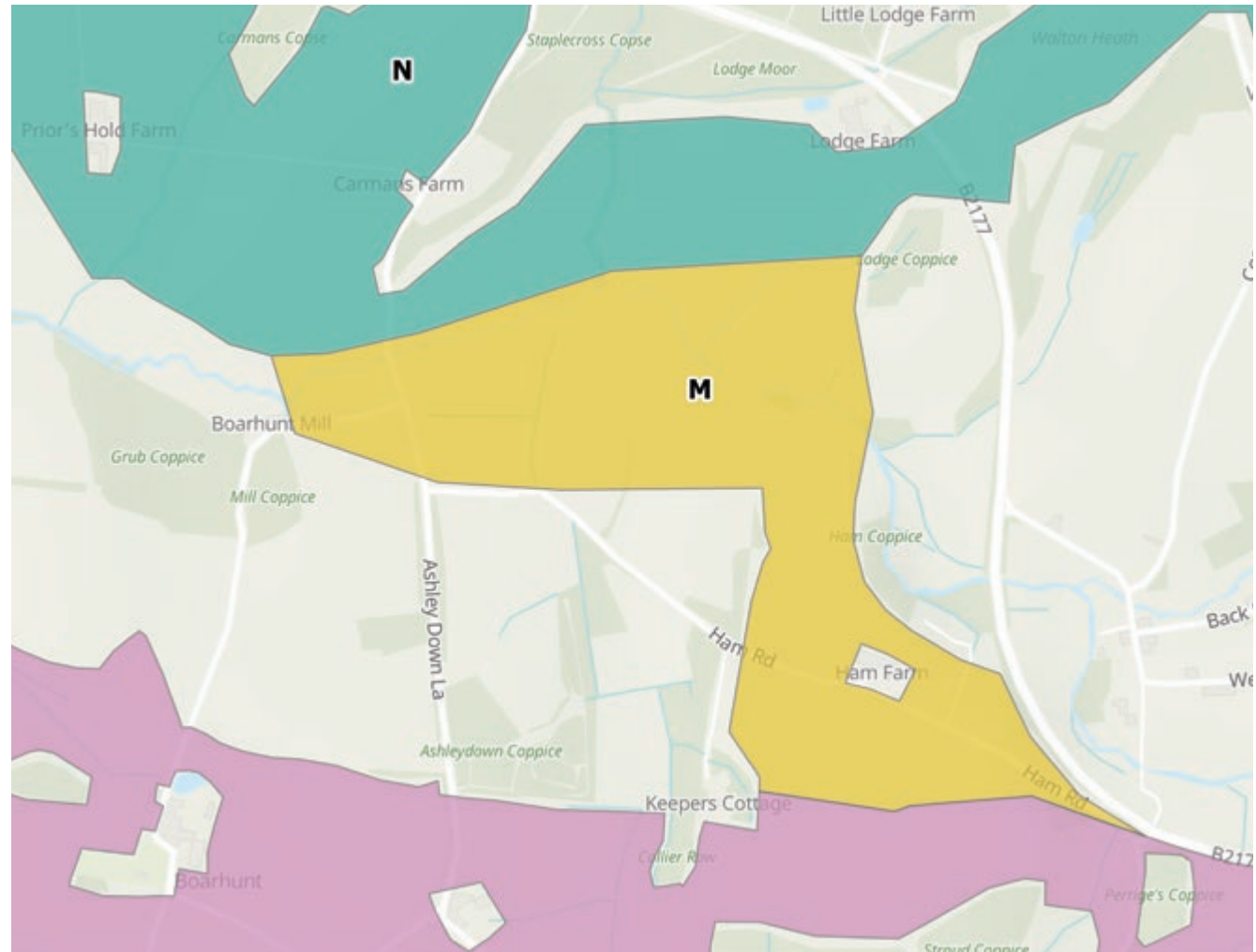
The corridor section starts at Stroud Coppice, heads northwest towards Boarhunt Mill and crosses the River Wallington to join with corridor section N.

Assessment outcomes

This corridor section was developed as a connection between corridor section N and R to route further north to reduce interfaces with heritage assets in the south of corridor section R.

There are few significant constraints within this corridor aside from being in an area at high risk of flooding as it descends into the valley of the River Wallington. This means that the corridor will have to cross into and along a large area where the risk of flooding is high. National policy dictates that the sequential test should be applied when selecting our route. There are currently other corridor sections that do not pass through high flood risk areas to the extent of corridor section M, and these should be progressed ahead of this corridor section.

This section is not currently being progressed and does not form part of the preferred corridor as there are other options that do not cross through high risk flood areas as much as this corridor section.



Corridor section M

Corridor Section N

Scheme Description

The corridor section follows one of two routes, crosses the B2177 east of North Boarhunt and Wickham Common and reaches corridor section V along one of two routes.

Assessment outcomes

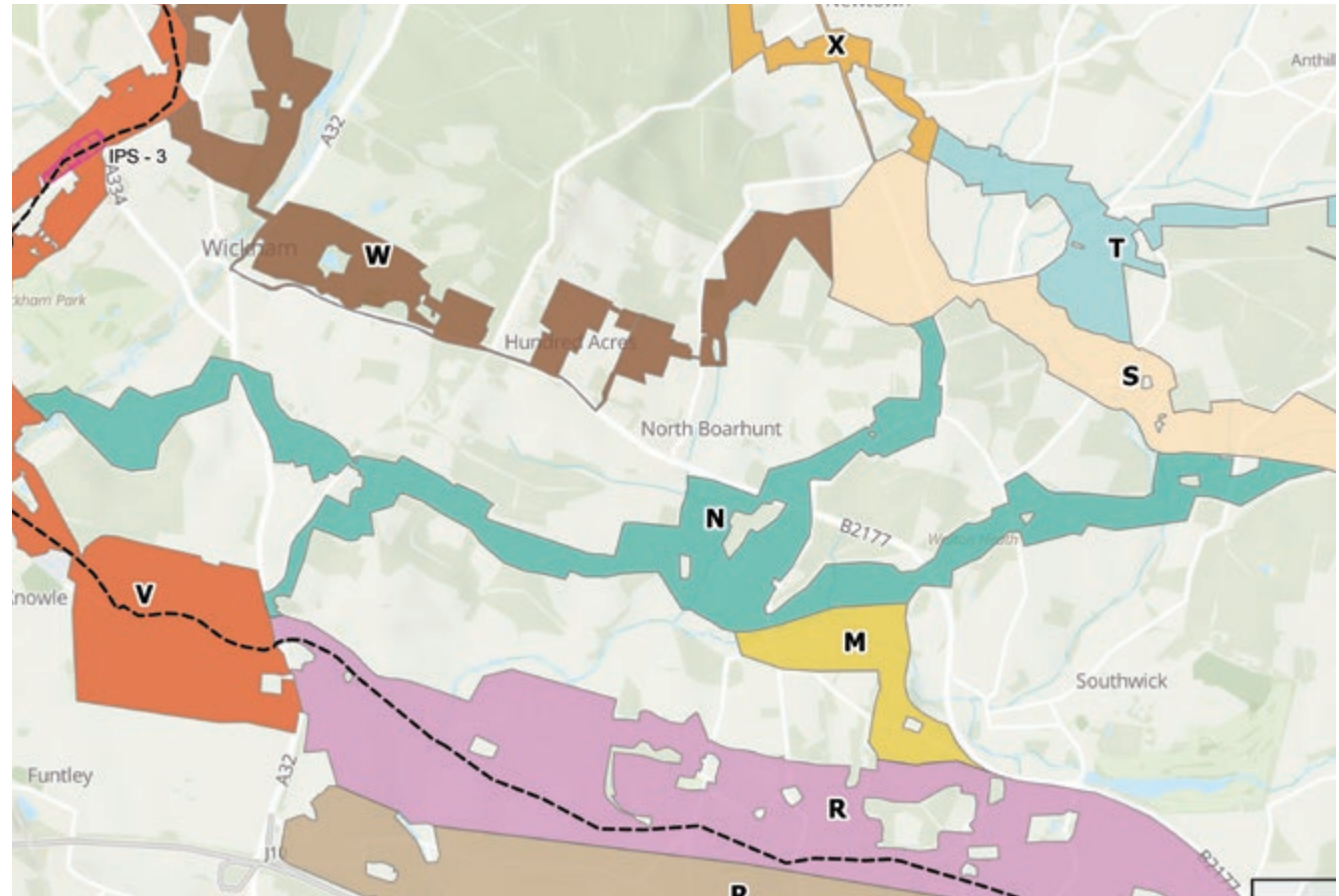
This corridor section was developed as an alternative to corridor section W to avoid the South Downs National Park.

There are limited constraints within this corridor, aside the crossing of the River Wallington and the potential for sediment supply during construction.

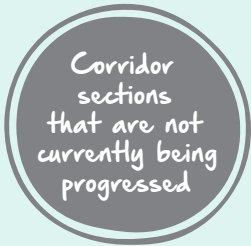
The northeast of the corridor section passes through a number of locally designated ecological sites. Construction of the pipeline in these areas could result in loss of habitat within these sites. The corridor section is also in close proximity to areas of ancient woodland however impacts can be avoided through future pipeline siting.

The corridor section crosses the B2177 east of North Boarhunt. There is potential for disruption to this route.

The progression of this corridor is dependent on the progression of corridor section M or S which are both currently not being progressed. Therefore this section is also not currently being progressed and does not form part of the preferred corridor.



Corridor section N





Corridor Section W

Scheme Description

This corridor section follows on from the end of corridor section S and follows Southwick Road (B2177) towards Wickham where it crosses the A32 and the River Meon and heads north to reach corridor section Y.

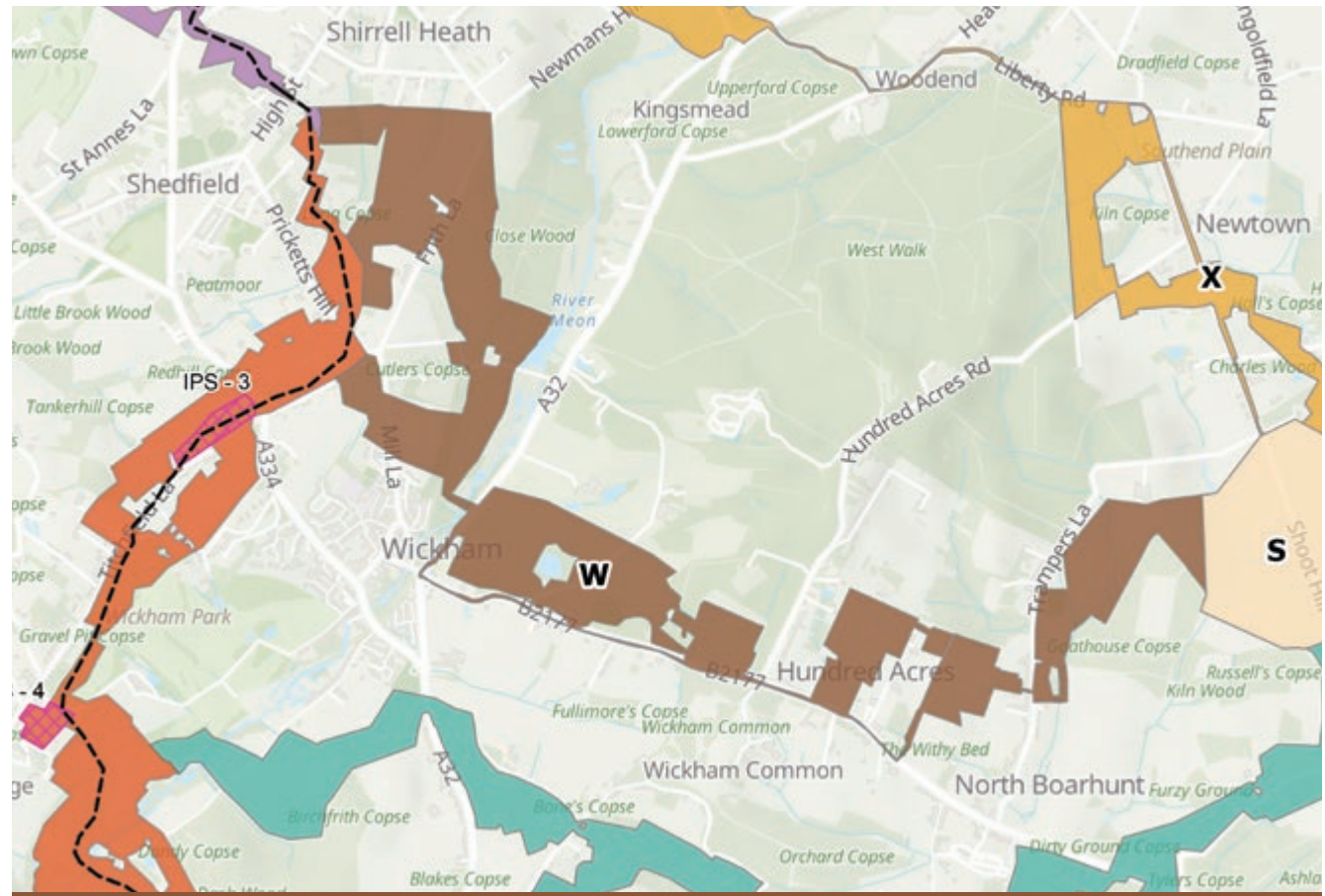
Assessment outcomes

Large sections of the corridor are within the South Downs National Park. National policy gives National Parks the highest status of protection in relation to landscape and scenic beauty, and requires us to look at the scope for developing the Project outside of the National Park in the first instance. There are other corridor sections that do not intersect with the South Downs National Park and therefore these should be progressed ahead of this corridor section.

There is potential for extended sections of the pipeline to be laid within Southwick Road (B2177), which poses the potential for disruption within this route. The corridor would also need to cross the A32.

This corridor is in close proximity to residential properties in North Boarhunt and Hundred Acres, where there is the potential for noise, vibration and air quality impacts during construction.

As there are other alternative corridor sections which are outside of the South Downs National Park, this section is not currently being progressed and does not form part of the preferred corridor.



Corridor section W





Corridor Section X

Section description

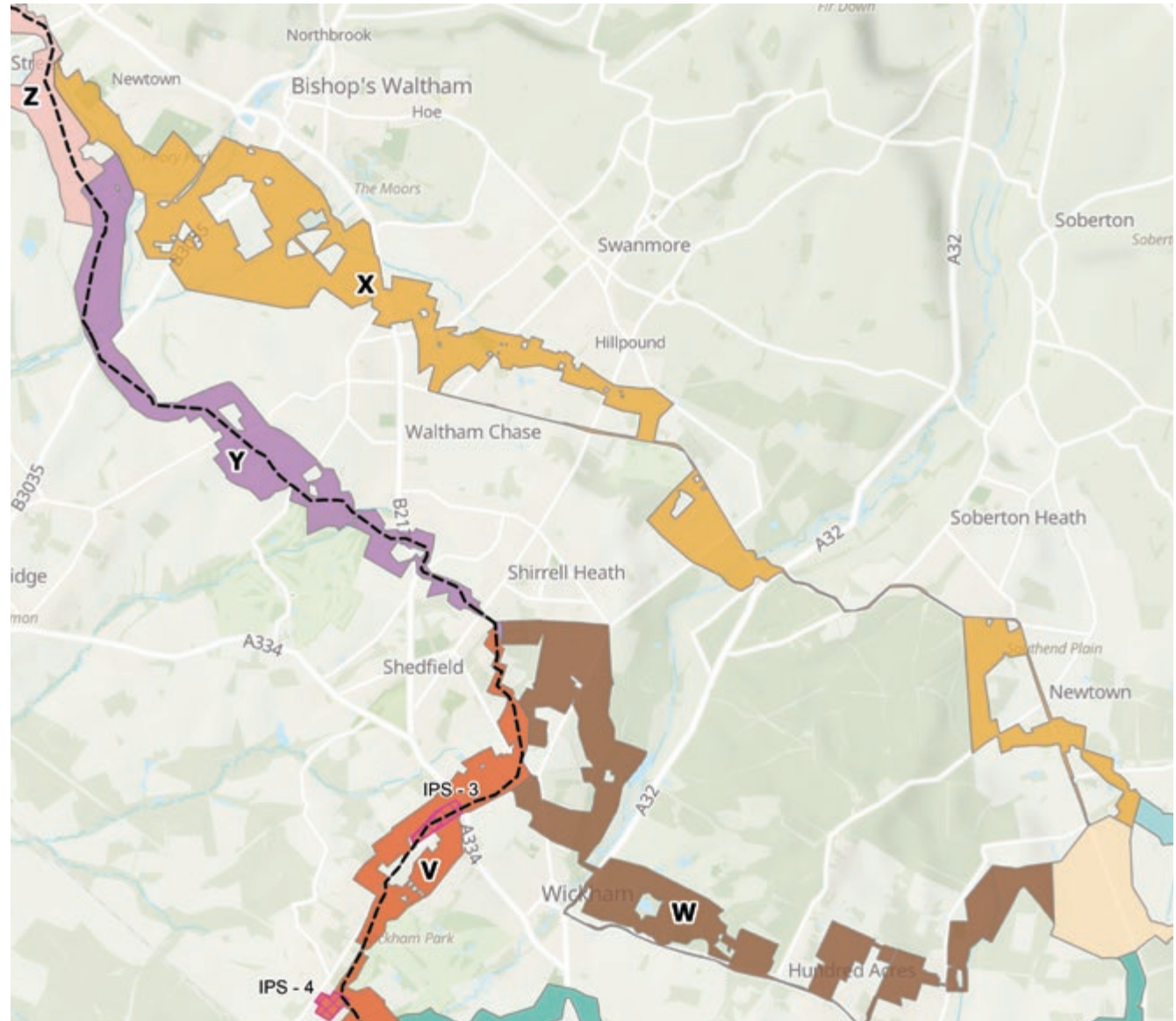
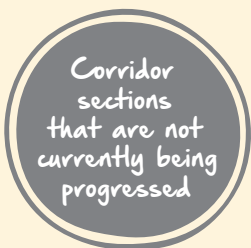
The corridor section begins at Newtown and heads northwest following the route of Church Road. It continues northwest, following Liberty Road, Heath Road and Budden's Lane, and then crosses the A32 east of Mislingford, a disused railway line, and the River Meon. The corridor section continues north of Waltham Chase and reaches corridor section Z south of Bishop's Waltham.

Assessment outcome

Sections of the corridor are within the South Downs National Park. National policy gives National Parks the highest status of protection in relation to landscape and scenic beauty, and requires us to look at the scope for developing the Project outside of the National Park in the first instance. There are other corridor sections that do not intersect with the South Downs National Park and therefore these should be progressed ahead of this corridor section.

Additionally, there are significant construction challenges within this corridor section. Extended parts of the corridor are routed along Liberty Road, Heath Road and Budden's Lane which would result in disruption to these routes during construction. Additionally, there are significant elevation differences west of Budden's Lane when crossing a disused railway line, the River Meon and the A32.

As there are other alternative corridor sections which are outside of the South Downs National Park, this section is not currently being progressed and does not form part of the preferred corridor.



Corridor section X

Above ground plant

At a number of points along the pipeline we will need to install plant such as break pressure tanks and intermediate pumping stations above ground and air valves and washout points below ground.

The purpose of these is to ensure that the water flows in the pipeline as it navigates the topography along the pipeline route. This helps reduce the maximum pressure within the pipeline and the overall energy consumption as well as ensuring that any surge, created by rapid variances in flow, is managed.

Once we have identified a single pipeline route, the exact locations of above ground plant will be shown at the next stage of consultation. At this stage, we have only identified broad zones where we think the plant could be located.

Site Selection

The site selection process was informed by the pipeline corridors, hydraulic analysis and a number of engineering criteria which provided locations for the above ground plant. These locations were expanded into wider zones where the plant could be sited at future stages of the development of the project. This provides further flexibility to locate the above ground plant responding to specific constraints of these zones.

We then undertook a refinement process in order to find the best zones for the plant. This included employing a methodology developed by our technical teams to identify zones that performed the best against environmental and planning policy, whilst balancing this against the constructability of the plant in that location.

More detail on the process of site selection for above ground plant can be found in Section 4 of the Scheme Development Summary.

As the scheme development work progresses, we may need to identify additional areas for above ground plant.

High lift pumping station

The high lift pumping station is the first pumping station required along the pipeline route to support the transfer of water from Havant Thicket Reservoir to Otterbourne Water Supply Works.

Design requirements

A search area for the high lift pumping station was identified to meet the criteria of four kilometres from Havant Thicket Reservoir, 500 metres from the pipeline corridors and within ground equal or less than 30 metres above sea level, to match the level of the reservoir for pump efficiency. The reason that the high lift pumping station can be located relatively far away from the reservoir is because of the topography, in that the reservoir is located at a higher level so water flows naturally towards the high lift pumping station.

Site Selection

Following the definition of the search area above, zones were identified within this that minimised impacts on residential areas, community facilities and key infrastructure. This resulted in the identification of 34 zones.

We evaluated the zones against a number of environmental and planning criteria to identify the best performing zone.

This evaluation resulted in 10 zones that were assessed in more detail. A full summary of this can be found in Section 8 of the Scheme Development Summary. Many of the zones that were not selected are located on land with dense woodland, have already been developed, or are located within land that is to be developed as part of strategic employment developments. This resulted in the identification of a zone, which is the same as the proposed site for the new water recycling plant, known as Site 72, as the optimum location to locate the high lift pumping station.

As well as being identified as the best performing site through the site selection process, Site 72 also provides the opportunity to co-locate the high lift pumping station with the water recycling plant, which reduces the number of areas we need to locate new plant, minimising impacts during construction.

A plan showing the proposed locations of the high lift pumping station, intermediate pumping stations and break pressure tanks is shown on page 43.

What do you think about the process we went through to arrive at the proposed site for the high lift pumping station?

Do you support our proposal to build a high lift pumping station in the proposed location?

Intermediate Pumping Stations

Once the water leaves the high lift pumping station it will require additional pumping during the water transfer process. This is done to reduce the maximum pressure in the transfer pipeline and overcome topographical high points.

Design Requirements

Zones for the intermediate pumping stations were determined by their proximity to the pipeline corridor and by hydraulic modelling, which identifies where a pumping station would be needed as a result of the topography of the pipeline corridor or the pressure within it.

We identified that a site of approximately 0.62 hectares (6,200 m²) is required to accommodate an intermediate pumping station.

Along the preferred corridor, the number of intermediate pumping stations that will be required is dependent on the final route chosen and the pressure within the pipeline.

Site selection

To identify the best zones for the intermediate pumping stations that are required to accompany the pipeline, our technical teams evaluated the various options against planning and environmental criteria. This followed the same process as the evaluation of corridor sections. More information on the methodology for the site selection of intermediate pumping stations can be found in Section 4 of the Scheme Development Summary.

Following our evaluation, we propose to progress the following zones through further development of the Project:

- Intermediate Pumping Station 3 located in corridor section V
- Intermediate Pumping Station 4 located in corridor section V

We are currently not progressing these zones:

- Intermediate Pumping Station 1 located in corridor section W
- Intermediate Pumping Station 2 located in corridor section X
- Intermediate Pumping Station 5 located in corridor section Y

More details on the outcomes of the site selection for the intermediate pumping stations can be found in Section 4 of the Scheme Development Summary.

Break Pressure Tanks

Break pressure tanks are located at high points on the route. Water is pumped up hill into the tank and then flows downhill from the tank through gravity. This reduces the amount of energy required if the entire route was pumped. As break pressure tanks help to reduce the overall maximum pressure within the system, this reduces rapid changes in water pressure within the pipeline, which are associated with sudden changes in flow rate.

The break pressure tanks are currently proposed to be partially buried to blend into the surrounding landscape.

Design requirements

Zones for the break pressure tanks were determined by their proximity to the pipeline corridor and by hydraulic modelling, which identifies where a break pressure tank would be needed as a result of the topography of the pipeline corridor.

We identified that a site of approximately 0.45 hectares (4,500 m²) is required to accommodate a break pressure tank.

Site selection

To identify the best zones for the break pressure tanks that are required to accompany the pipeline, our technical teams evaluated the various options against planning and environmental criteria. This followed the same process as the evaluation of corridor sections. More information on the methodology for the site selection of break pressure tanks can be found in Section 4 of the Scheme Development Summary.

Following our evaluation, we propose to progress the following zones through further development of the Project:

- Break Pressure Tank 1 in corridor section R
- Break Pressure Tank 4 in corridor section Z

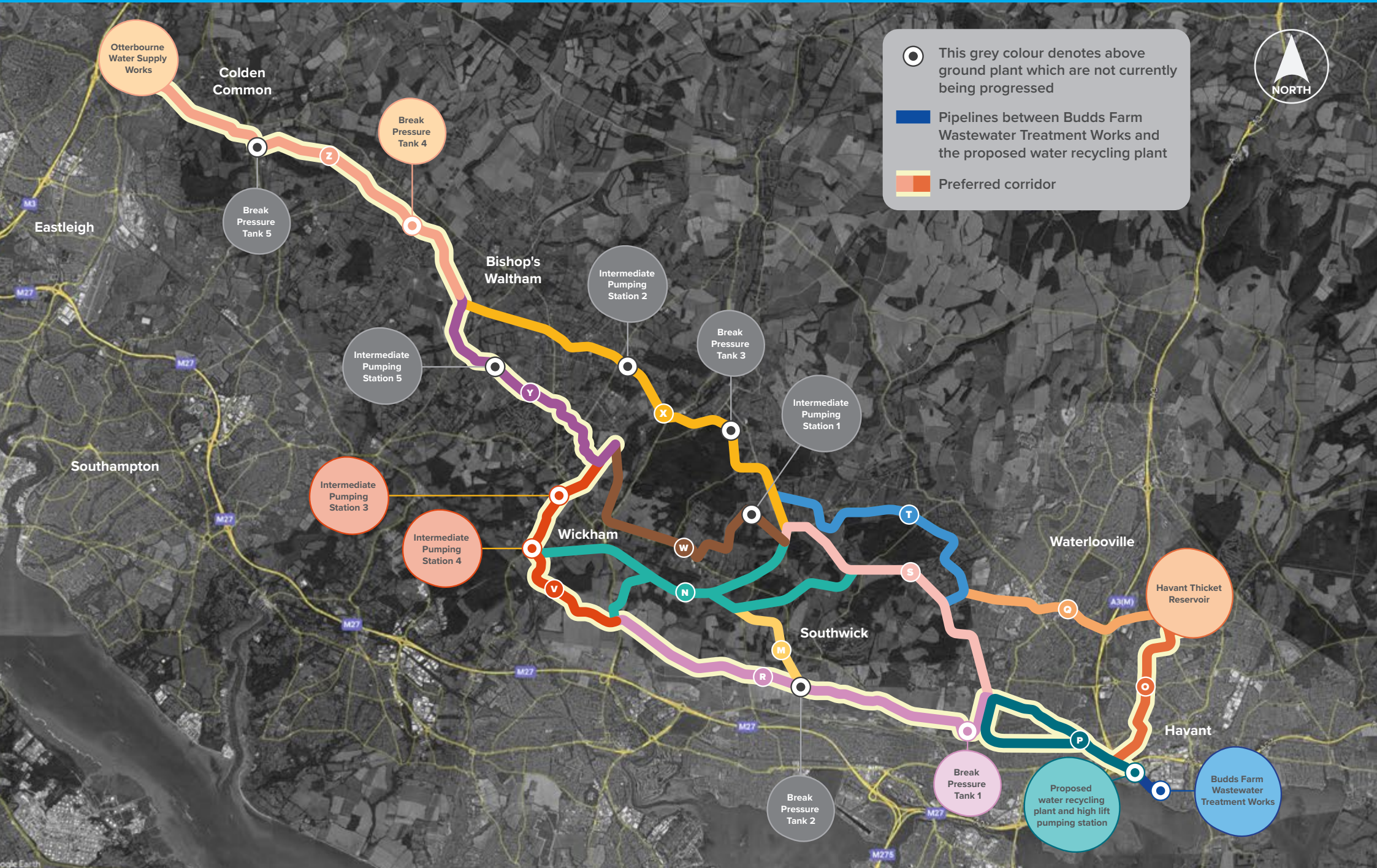
We are currently not being progressing these zones:

- Break Pressure Tank 2 in corridor section R
- Break Pressure Tank 3 in corridor section X
- Break Pressure Tank 5 in corridor section Z

More details on the outcomes of the site selection for the break pressure tanks can be found in Section 4 of the Scheme Development Summary.

What do you think about the process we went through to arrive at the potential zones for the above ground plant?

Plan showing potential zones for above ground plant



4. Seeking permission to deliver our Project

This section provides more information about how we propose to secure consent for the Project and how the Environmental Impact Assessment and consultation processes will inform the development and implementation of the Project.

National Policy Statements

This Project has been designated as a project of national significance. It will be considered through the major infrastructure consent process set out in the Planning Act 2008 having regard to relevant National Policy Statements.

Government policy in respect of major infrastructure projects is set out in a series of 'National Policy Statements'. The National Policy Statement for Water Resources Infrastructure remains in draft and is yet to be formally adopted, however, is a relevant and material consideration in decisions on such projects.

For our Project, the draft National Policy Statement identifies an immediate need to increase resilience of the water sector and maintain sufficient water in our watercourses, lakes and wetlands to protect the environment.

Whilst policies in National Policy Statements take priority in decision making on relevant projects, local policy can also be important particularly where it helps to identify local planning designations and priorities.

Applying for a Development Consent Order

As a development of national significance, we will seek approval in the form of a Development Consent Order and submit an application to the Planning Inspectorate. Under this process, the application would be considered by an appointed Examining Authority with the final decision made by the Secretary of State.

The process for preparing and determining a development consent application follows a series of steps as set out on the next page. You can find out more by visiting <https://infrastructure.planninginspectorate.gov.uk/application-process/the-process/>.

The Development Consent Order process is a streamlined consent route for major infrastructure projects, and was established to provide a faster and fairer process for interested persons, such as landowners, organisations and members of the public. The process puts emphasis on early engagement with communities and stakeholders to allow for the opportunity to influence a project before an application is made for development consent.

In determining a development consent application, the Secretary of State must have regard to documents called 'local impact reports' prepared by local planning authorities which set out details of the likely impacts of a proposed development on the authority's area.

Indicative process for preparing and determining a development consent application

We are here

Indicative timeframe from Development Consent Order Application to Decision = 18 months



Approach to Environmental Impact Assessment

The Environmental Impact Assessment process is an important framework around which the consent process for major infrastructure is built, informing scheme development, consent, and future plans for delivery. The following section considers how environmental assessment, avoidance and impact mitigation has and will continue to inform our Project.

Assessing the environment

We recognise that our proposals have the potential to impact local communities and the surrounding environment in a number of ways. Impacts, both beneficial and adverse, may occur during the construction and operation of the Project and will need to be assessed fully through a process known as Environmental Impact Assessment.

The purpose of the Environmental Impact Assessment is to identify the likely significant effects of a proposed development. It also assesses the combined impact of the Project with other projects in the area (referred to as 'cumulative' effects).

As part of the Environmental Impact Assessment process, we will carry out a preliminary environmental impact assessment. This assessment will represent a point in the assessment process when the design of the project is still in development, and the likely significant effects are continuing to be understood. We will present these early assessment outcomes in our next consultation. The potential for measures to address environmental effects will then be considered, and feedback from consultation and engagement will help to inform the design development of the Project. This will include identifying opportunities to enhance the environment through environmental design.

The findings of our Environmental Impact Assessment will be documented in an Environmental Statement and we will also complete supporting environmental assessments, such as a Flood Risk Assessment, Water Framework Directive Assessment and Habitat Regulations Assessment. The key stages of the assessment process are shown in the diagram below.

Gathering data and undertaking surveys

To understand the existing environment (i.e. baseline conditions), we will use data from a wide range of sources. These include organisations such as Natural England and the Environment Agency, local authorities, academic organisations, expert environmental organisations, conservation groups and other relevant interest groups. This knowledge will be further enhanced and supplemented through comprehensive field-based surveys, to identify baseline conditions and potentially sensitive receptors such as protected species, unknown archaeology or areas of contamination.

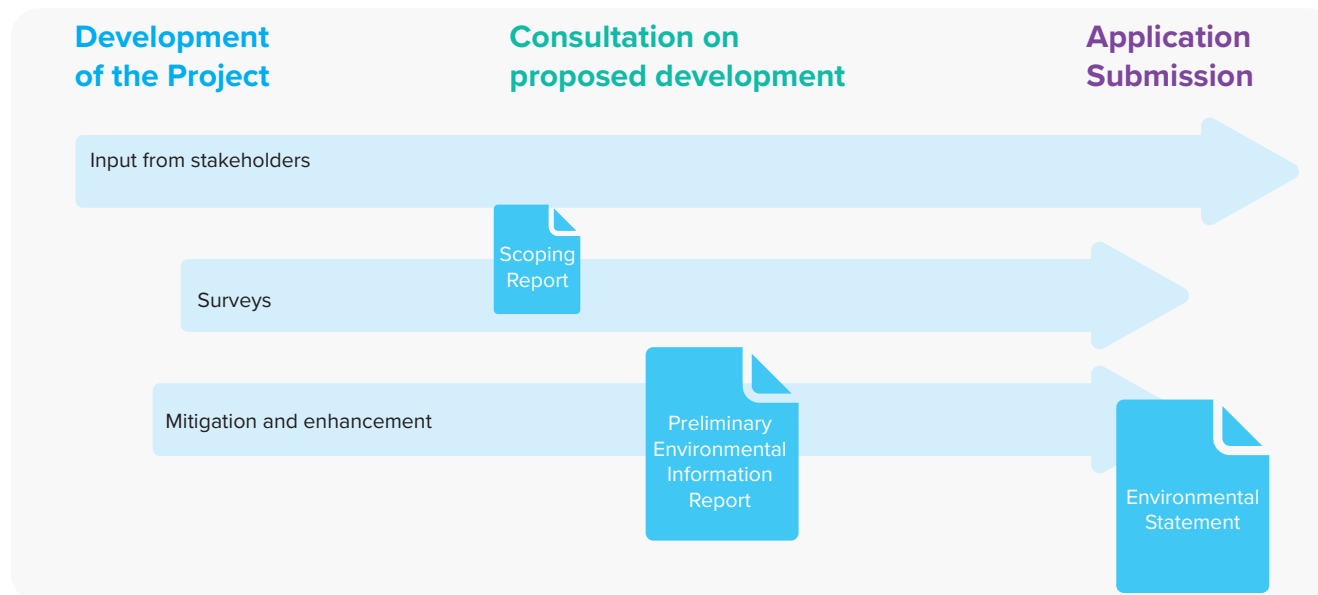
Our surveys started in 2021 and will continue throughout the pre-application stage of the Project to make sure we have a good understanding of the existing environment.

Avoiding and mitigating our impacts

In line with Environmental Impact Assessment good practice, we are following a 'hierarchy' of mitigation where we seek to avoid impacts in the first instance. In developing the corridor sections we have taken into account guiding principles such as avoiding internationally and nationally important features, such as nature conservation designations and the South Downs National Park as much as possible. Please refer to Section 4 of the Scheme Development Summary for further details.

Where impacts cannot be avoided, we will seek to minimise these as far as practicably possible. In some cases, it may also be possible to identify opportunities for enhancements to achieve improved environmental outcomes.

The design of the Project will seek to include measures to avoid and minimise environmental impacts along with additional mitigation measures that will be secured through the Development Consent Order or other relevant legal agreements entered into with the relevant local authority.



We will present further detail on our mitigation proposals at the next stage of consultation. This may also include mitigation proposals for temporary construction activities.

We need to deliver the right balance between the strategic benefits of the Project, the effects of its construction and operation on local communities and the environment, and the need to deliver a value for money solution for customers.

Engagement and consultation

An integral part of developing and delivering an effective scheme is meaningful and effective engagement with stakeholders. Alongside effective engagement a transparent approach to consultation must show how stakeholder views inform and shape our proposals, and how they will play a part in future implementation.

The consultation process

We have been engaging with a range of stakeholders through the development of this scheme, and have held one round of consultation in 2021. Feedback from this engagement and consultation has already informed the Project.

As we further develop the details of the Project, we will continue to consult with a wide variety of people and organisations who might be affected by or interested in our Project. This is why we are seeking your views on our emerging proposals at this early stage by undertaking this consultation.

We will hold another consultation in 2023 to update on how the scheme has developed further and seek your views. See Section 5 of this brochure for more details.

All comments we receive will be considered and reported in a document called the Consultation Report which will be submitted with our application - but before that we will provide an update at our next consultation on how we have had regard to comments received during this consultation.

Engaging with landowners

We will need to access, use and acquire land either on a temporary or permanent basis for a variety of reasons for the Project – to install the pipelines, to build the new water recycling plant, pumping stations and break pressure tanks, to safely construct the Project and to operate and maintain the pipeline and equipment over its lifetime.

Landowners are important to us, and we have been contacting various potentially affected landowners. As the Project develops, we will continue to contact landowners within the preferred corridor to arrange access to private land for surveys.

As we progress with the consent process, we will seek agreements with the relevant landowners for the installation and operation of the pipeline, the water recycling plant and other infrastructure such as pumping stations and break pressure tanks.

Share your views

Our consultation is open between **5 July** and **16 August 2022**. This is your opportunity to learn about what the Project means for you and your area and express your views on our Project.

The easiest way for you to send us your feedback is to complete the online feedback form which can be found at <https://hampshireWTWRP.commonplace.is>

You can access the full suite of consultation materials, view our virtual exhibition and browse our maps to pinpoint where you live or work in relation to the Project.

Come along to our events

We are hosting a series of drop-in sessions in locations close to the Project. Details of the Project described in this brochure will be on display and you can meet members of the Project team to ask us any questions you may have.

Date	Time	Venue details
Wednesday 6 July	2pm – 8pm	Leigh Park Community Centre, Dunsbury Way, Havant PO9 5BG
Saturday 9 July	10am – 4pm	Jubilee Hall, Little Shore Lane, Bishop's Waltham SO32 1ED
Friday 15 July	2pm – 8pm	Wickham Community Centre, Mill Lane, Wickham O17 5AL
Saturday 16 July	10am – 4pm	Meridian Shopping Centre, Elm Lane, Havant PO9 1UN
Thursday 21 July	2pm – 8pm	Southwick D-Day Memorial Hall, Priory Road, Southwick PO17 6ED
Friday 22 July	2pm – 8pm	Colden Common Community Centre, St Vigor Way, Colden Common SO21 1UU

Attend an online briefing

If you can't make an event, don't worry – we're holding a series of virtual briefings that you can join from the comfort of your own home. These sessions provide you the same information shown at the public consultation events and give you the chance to submit questions about the project to the team. The online briefings will take place on Microsoft Teams (with a web browser) between 7.00pm and 8.30pm.

To register, email HampshireWTWRP@southernwater.co.uk and let us know which date you wish to sign up for:

- Tuesday 26 July
- Wednesday 3 August
- Thursday 11 August


Contact us

If you would like this consultation brochure or the feedback form as a printed copy, or in large print, please contact us using the details below. We will be happy to print and post A3 sheets of any maps free of charge.

 Email us at HampshireWTWRP@southernwater.co.uk

 Write to us at **FREEPOST HAMPSHIRE WTWRP CONSULTATION** (no stamp is required)

 Follow us on Twitter [@SouthernWater](https://twitter.com/SouthernWater)

 If you have questions about the consultation please call **0330 303 0368**.

Paper copies of the consultation materials

You can visit one of the locations listed below to read reference copies of the consultation materials and pick up a printed feedback form.

Deposit location	Address	Opening times	
Bishops Waltham Library	Free Street Bishop's Waltham Southampton SO32 1EE	Monday	Closed
		Tuesday	1–5pm
		Wednesday	9:30am–1:30pm
		Thursday	Closed
		Friday	1–5pm
		Saturday	9:30am–1:30pm
		Sunday	Closed
Chandler's Ford Library	Oakmount Road Chandler's Ford Eastleigh SO53 2LH	Monday	9:30am–5pm
		Tuesday	9:30am–5pm
		Wednesday	9:30am–5pm
		Thursday	9:30am–5pm
		Friday	9:30am–1:30pm
		Saturday	9:30am–5pm
		Sunday	Closed
Cosham Library	Spur Road Cosham Portsmouth PO6 3EB	Monday	9:30am–6pm
		Tuesday	9:30am–6pm
		Wednesday	9:30am–5pm
		Thursday	9:30am–6pm
		Friday	9:30am–5pm
		Saturday	10am–3:30pm
		Sunday	Closed
Eastleigh Library	Swan Centre Eastleigh SO50 5SF	Monday	9:30am–1:30pm
		Tuesday	9:30am–5pm
		Wednesday	Closed
		Thursday	9:30am–5pm
		Friday	9:30am–5pm
		Saturday	9:30am–5pm
		Sunday	Closed
Fair Oak Community Library	Campbell Way Upham Eastleigh SO50 7AX	Monday	9:30am–1pm
		Tuesday	2–5pm
		Wednesday	9:30am–5pm
		Thursday	2–5pm
		Friday	9:30am–1pm
		Saturday	9:30am–1pm
		Sunday	Closed

Deposit location	Address	Opening times	
Havant Borough Council	Public Service Plaza Civic Centre Road Havant PO9 2AX	Monday	9am–5pm
		Tuesday	9am–5pm
		Wednesday	9am–5pm
		Thursday	9am–5pm
		Friday	9am–5pm
		Saturday	Closed
		Sunday	Closed
Leigh Park Library	50 Park Parade Leigh Park Havant PO9 5AB	Monday	9:30am–4:30pm
		Tuesday	9:30am–4:30pm
		Wednesday	9:30am–4:30pm
		Thursday	9:30am–7:00pm
		Friday	9:30am–4:30pm
		Saturday	9:30am–13:30pm
		Sunday	Closed
Paulsgrove Library	Marsden Road Portsmouth PO6 4JB	Monday	9:30am–12:30pm & 1:30–5pm
		Tuesday	Closed
		Wednesday	9:30am–12:30pm & 1:30–5pm
		Thursday	9:30am–12:30pm & 1:30–5pm
		Friday	9:30am–12:30pm & 1:30–5pm
		Saturday	10am–3:30pm
		Sunday	Closed
Portchester Community Hub	2 New Parade West Street Portchester Fareham PO16 9UY	Monday	9:30am–4:15pm
		Tuesday	9:30am–4:15pm
		Wednesday	9:30am–4:15pm
		Thursday	9:30am–4:15pm
		Friday	9:30am–4:15pm
		Saturday	9:30am–12pm
		Sunday	Closed

5.

Next steps

After this consultation has closed, we will review our proposals, having regard to the feedback received from this consultation alongside the findings of our ongoing work.

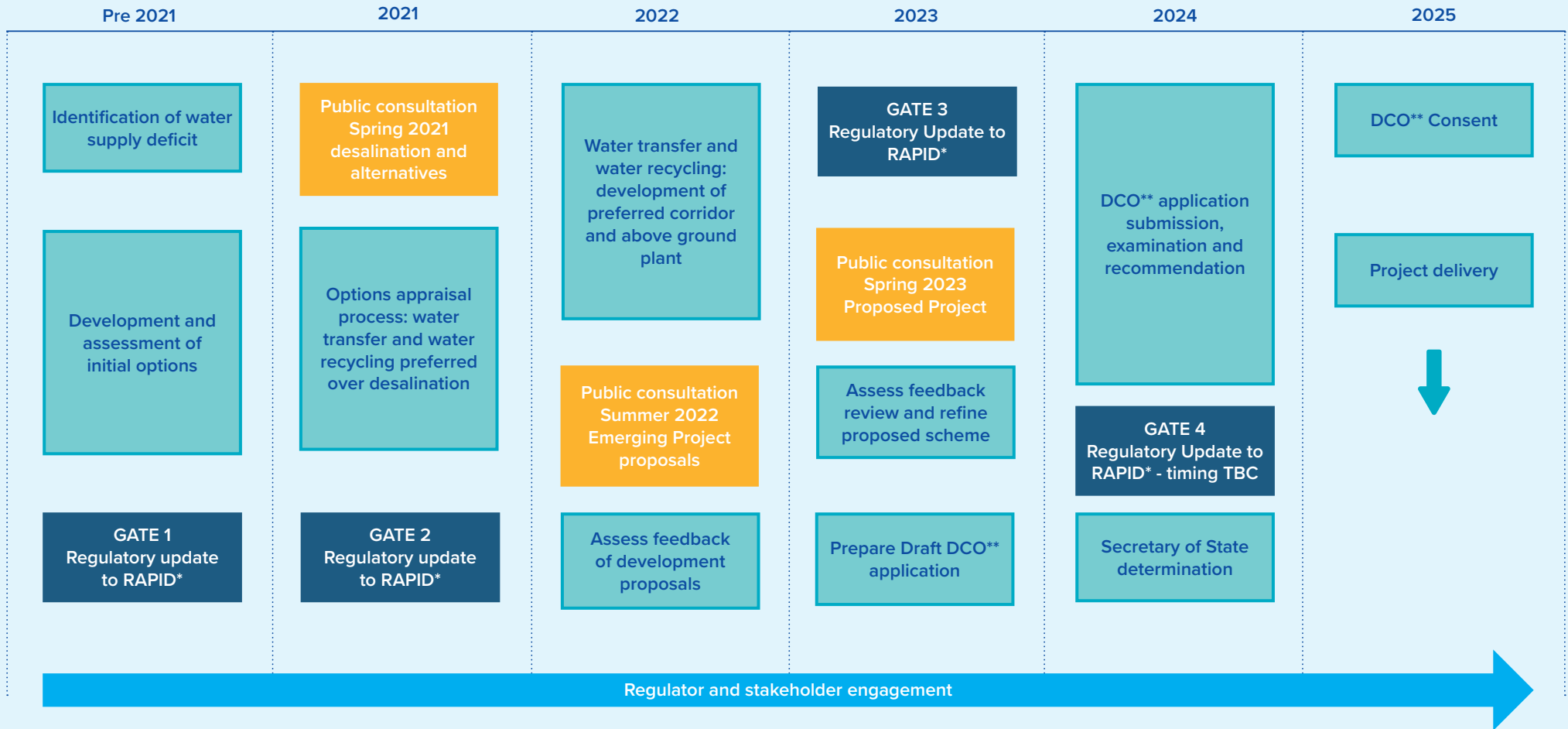
We will then develop our proposals further before consulting next year on a preferred pipeline route and other elements of the Project. We will also have developed likely working areas for construction such as the compounds and access routes we will need. We will continue to engage with stakeholders and interested parties to develop the Project further.

At our next consultation we anticipate presenting information on:

- further details on the site of the water recycling plant and the pipelines connecting the plant to Budds Farm Wastewater Treatment Works;
- the preferred pipeline route within the corridor for the pipeline from the water recycling plant to Havant Thicket Reservoir;
- the preferred pipeline route within the proposed corridor for the pipeline from the pumping station at the water recycling plant to Otterbourne Water Supply Works;
- the locations of construction compounds and the temporary working areas;
- the location of launch, reception and any intermediate shafts in sections that will be tunnelled;
- the locations of above ground plant such as pumping stations and break pressure tanks we will require in the proposed corridor;
- the locations of potential sites for ecological mitigation; and
- a Preliminary Environmental Information Report which will outline the likely significant environmental effects of our proposals, based upon emerging assessment work.

Following the next consultation, we will prepare and submit an application for development consent for the Project, for submission to the Planning Inspectorate.

i Helpful information about the process so far and next steps



*RAPID stands for Regulators' Alliance for Progressing Infrastructure Development. It is an advisory board that makes recommendations to Ofwat.

**DCO stands for Development Consent Order



from
Southern
Water. 

The Southern Water logo is a stylized graphic of three wavy lines, representing water, positioned to the right of the word "Water." in the text above.