

Welcome to our public information event

Welcome to our public information event on our proposals to deliver a desalination plant near Par Docks.

The following information boards provide an overview of our proposals and the key considerations that have guided our thinking as the project has developed. We welcome your feedback on our initial proposals and a feedback form is available for you to fill out.

Our work in Cornwall

South West Water is investing to improve the security of Cornwall's water supply. The 2022 drought presented us with one of the most significant water resources management challenges the South West region has faced. Throughout this period, we have been closely monitoring and looking at forward projections, making plans to act responsibly and quickly.

We have taken a number of actions to build a resilient network fit for the future:

- Reducing leakages (22,000 leaks fixed between 2022 and 2023)
- Behavioural changes including our Stop The Drop campaign
- Water efficiency campaign called Save Every Drop
- Conversion of former clay pits into reservoirs such as Hawk's Tor

Actions we have taken and recent rainfall means our reservoirs are fuller than this time last year and the hosepipe ban has now been lifted. But we need to do more to secure the region's water supplies for the future.

A climate independent source of water such as our proposed desalination plant is just one of the solutions we are using to tackle droughts and water shortages.

About South West Water

South West Water provides water for 2.2 million people living in Cornwall, Devon and parts of Somerset and Dorset as well as in the Bournemouth area and the Isles of Scilly.

Why desalination?

As part of our early work, we have explored a variety of options and possible solutions to ensure we are meeting future challenges to build water resilience. Whilst desalination will be an important part of this, it forms only part of our wider plans to ensure a robust water network that is fit for the future.

Benefits:

- Climate independent source of water
- Part of a range of new sources, including reservoirs and naturalised clay pits
- Reduces the need for drought permits and hosepipe bans
- A 'turn on/turn off' resource that we will only use when climate puts pressure on our water resources

The desalination process

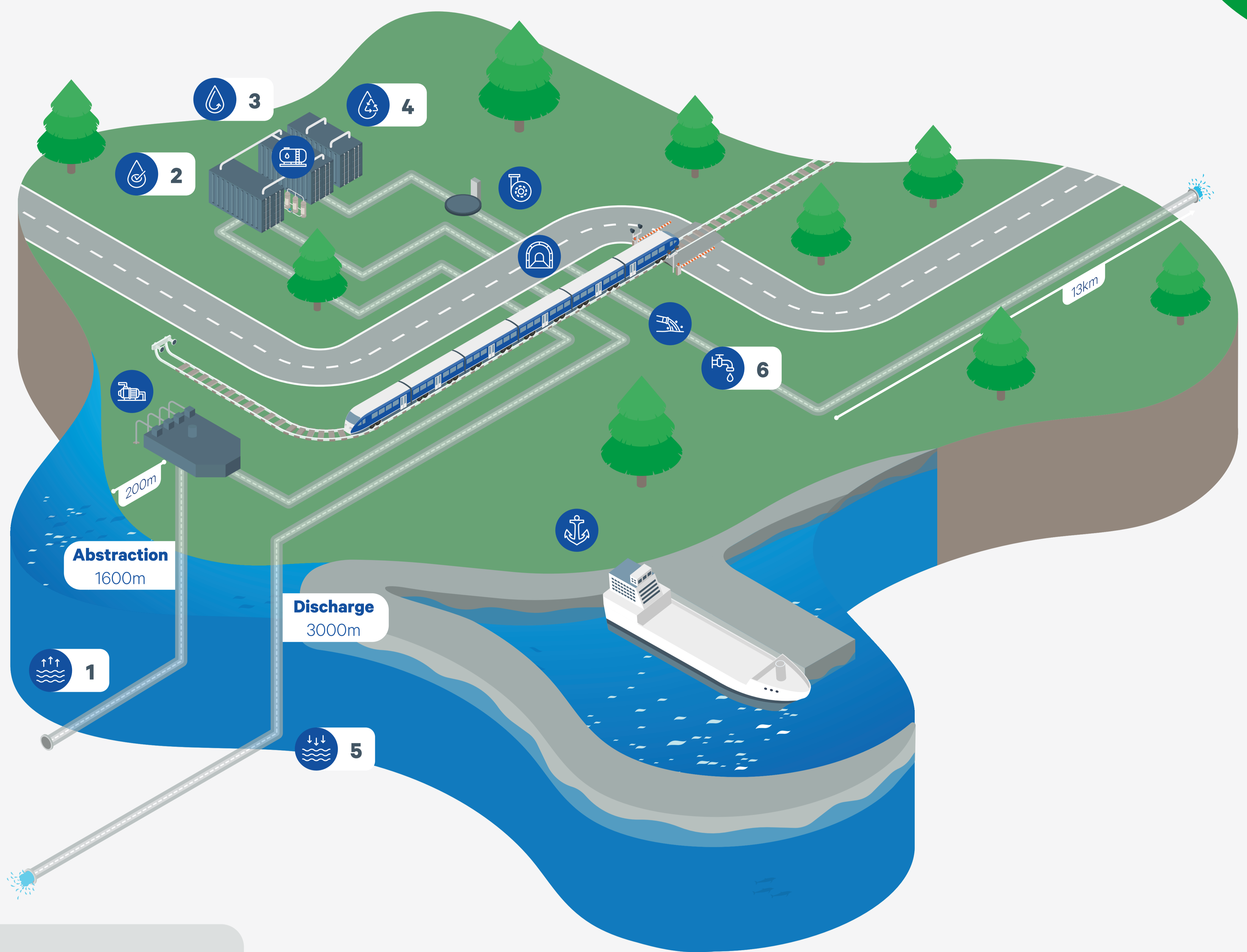
Desalination is a process that removes salt and other impurities from seawater, making it safe and suitable for human consumption, irrigation, or industrial use.

The primary goal of desalination is to provide a clean, safe source of freshwater in locations where traditional water resources may, at certain times, be insufficient.







Key points:

- The process is clean and provides water that is both safe to drink and of high quality
- Desalination is practiced globally, a preferred method of many countries
- We will use this resource to add capacity to our raw water network, which we can rely on when required

Desalination process



Key

-  Desalination Plant
-  High Lift Pumping Chamber
-  Underground Pipeline Tunnel
-  Transfer Pipeline to Restormel Water Treatment Works (WTW)
-  Par Docks
-  Abstraction Pumping Chamber

1. Abstraction
Taking seawater through filters and pumping it through a buried pipeline to the desalination plant

2. Pre-treatment
A range of treatment processes are used to remove solids

3. Membrane
Removal of dissolved salts using membrane processes

4. Conditioning
Further treatment to add vital minerals back into the water

5. Brine
Deep water release of salt water back to the sea through a diffuser system that minimises impacts to marine environment

6. Transfer
Water is transferred via a buried pipeline to Restormel Water Treatment Works



Location of proposed plant

We have spent a considerable amount of time investigating and identifying the best and most viable solutions to deliver this important project.

Key considerations for the desalination plant

A number of key considerations have guided our thinking as we have developed our plans.

These have included:

- Proximity to Restormel Water Treatment Works
- Accessibility to the sea
- Avoiding urban areas
- Minimising visual impact
- Minimising impact on the environment and marine life
- Minimising impact on leisure and tourism
- Minimising impact on sea grass and maerl

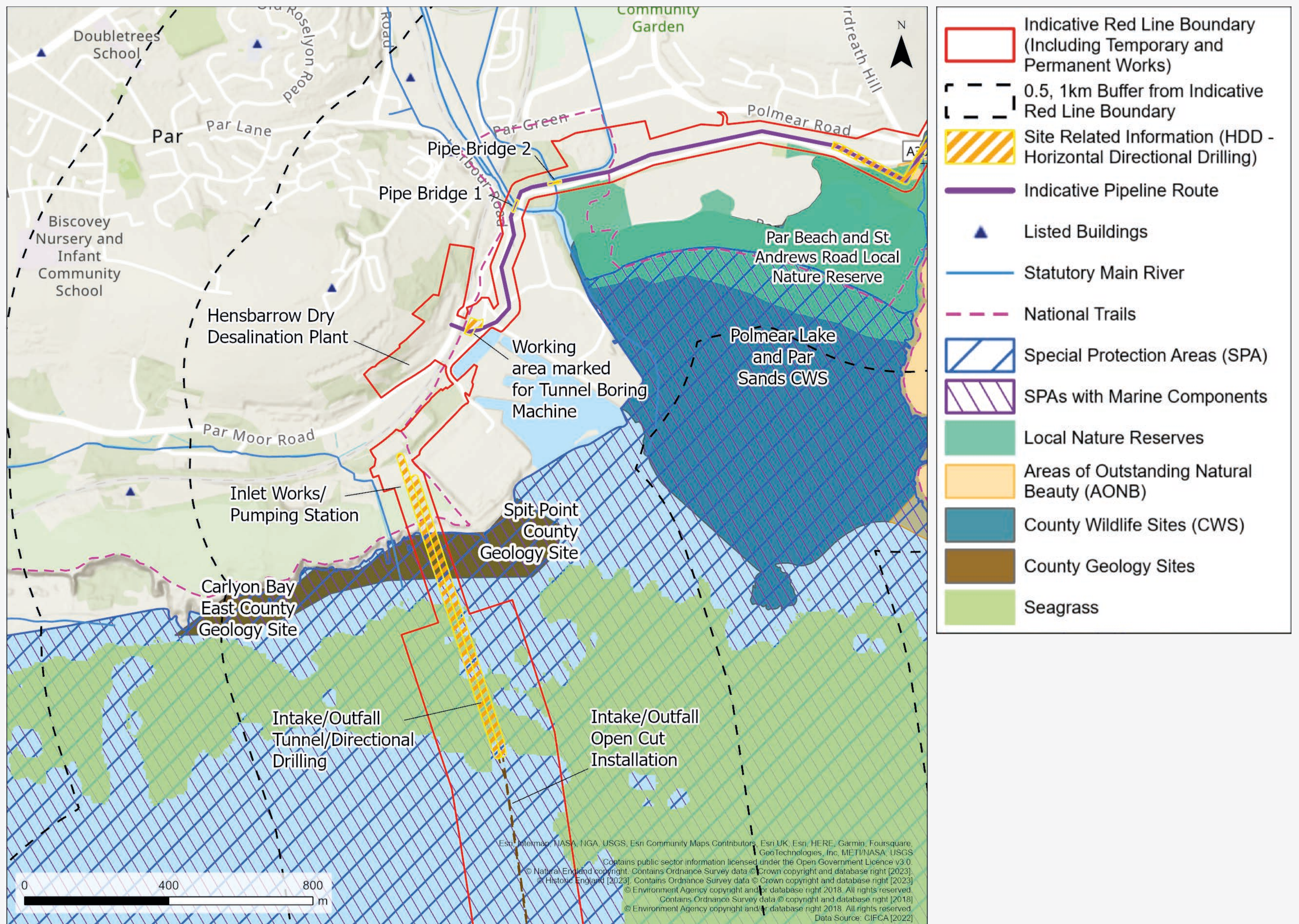
Why Par?

Potential sites have been assessed against the following criteria:

- Can we build it? - engineering capabilities and feasibility
- Level of impact on the environment and local people

Par is the most suitable location because:

- Of its proximity to Restormel Water Treatment Works
- Accessibility to the sea
- Operational harbour and industrial area, which is better suited for this kind of development.



Key considerations for the pipeline route

As part of the desalination process, the abstracted water will be transferred to our Restormel Water Treatment Works via a buried 13km pipeline. This is done to ensure that the water can be properly treated prior to entering the supply network.

The pipeline route has been carefully considered to ensure that we are minimising and mitigating any potential impacts.

These considerations include:

- Avoiding ancient woodland
- Bypassing urban areas
- Minimising impacts on woodland, trees, hedgerows and habitats
- Minimising impact on the marine environment
- Avoiding impact on protected sites
- Avoiding site and setting of protected heritage assets
- Minimising impact on archaeology and heritage assets (above and below ground)
- Avoiding any impact on Network Rail

We have provided a large printed map of our pipeline route that is available to view today at our information event. Please ask a member of the project team for further information.



Environmental considerations

Protecting and enhancing the environment and minimising the impact of this project on the local area is our key priority.

We have already started to do detailed surveys, which have helped inform our plans so far and will continue to do so.

These include:

- Ecological, e.g. birds, bats, otters, great crested newts, reptiles and dormice
- Archaeology
- Acoustic
- Landscape
- Arboricultural
- Ground investigations
- Landscape
- Marine
- Lighting

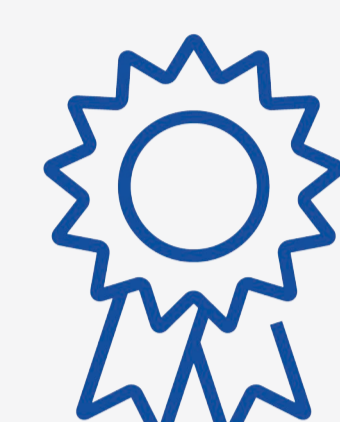
We are working closely with regulatory bodies, including Cornwall Council and the Marine Management Organisation.

Protecting the environment

We will put in place a number of mitigation measures to protect the local environment and minimise the impact of this project. For example:



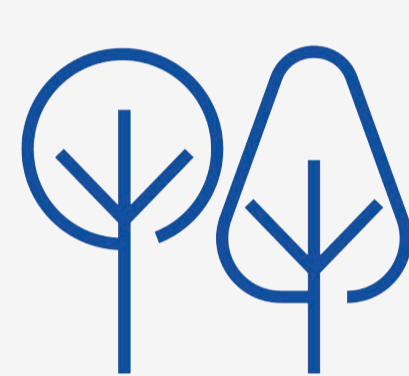
Avoid any land with national or international statutory designations



Use techniques such as Horizontal Directional Drilling (HDD) to go under sensitive features



Create exclusion zones for habitats



Use soft felling techniques if removing trees to protect bats



Adhere to all statutory requirements



Be guided by an agreed Environmental Management Plan



Be guided by an agreed Construction Traffic Management Plan

Marine considerations

From the outset of this project, we have been committed to ensuring that our proposals minimise any impact on marine life.

We will put in place a number of mitigation measures to protect the marine environment and minimise the impact of this project.

For example:

- Avoid Seagrass by using Horizontal Directional Drilling (HDD) to put the pipelines below the seabed
- Do robust modelling to determine a discharge point with least impact
- Be guided by an agreed Marine Management Plan
- Keep construction areas clear e.g using warning buoys
- Give notice and updates to mariners and update navigation aids and admiralty charts

The underwater pipeline will consist of two pipes - one for abstraction and one for discharge.

Both pipes will be horizontally directionally drilled beneath the seabed for 800m from the abstraction pumping chamber to a point 600m from the coastline to avoid the sea grass.

The remaining pipeline will be buried in trenches along the seabed.

The abstraction pipe will continue for a further 800m beyond the HDD (total length 1600m).

The discharge pipe will continue for a further 2200m beyond the HDD (total length 3000m).

We continue to consult with key stakeholders including the Environment Agency, Natural England, Cornwall Council and the Marine Maritime Organisation.



Regulations and consents

We will need to acquire planning consent and other regulatory consents and licenses for this project.

As part of the planning process, we are committed to complying with the Environmental Impact Assessment (EIA) process.

We will identify ways to mitigate any adverse environment effects.

We will work closely with the following regulatory and consenting bodies to minimise impacts, including:

- Cornwall Council
- Ofwat
- Drinking Water Inspectorate
- Environment Agency
- Natural England
- Historic England
- Marine Management Organisation



Treatment wetland

As part of our proposals, and in line with the Drinking Water Inspectorate's requirements, we will create an environmental buffer to condition the desalinated water prior to it arriving at Restormel for further treatment.

It will comprise of a lagoon and an Integrated Constructed Wetland (ICW).

It will form part of the natural landscape and will use a naturally occurring vegetation processes to condition the water.



Example of treatment wetland




Feedback and next steps

Thank you for taking the time to view our proposals today. Your feedback is important to us and we welcome your views.

We want to bring our customers and stakeholders on this journey with us and ensure that we are addressing any concerns and taking on board feedback where possible.

Feedback forms are available for you to fill out and give back to us, or alternatively take away and send back to us via email or post.

Get in touch

 By post: **FREEPOST SWW DESALINATION**
(no stamp required)

 By email: **info@swwdesalination.co.uk**



* dates subject to change

