



Supporting document • Enhancement business case

Isles of Scilly (First-time Rural Sewerage)



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Executive Summary

Strategic intent

Our service is essential to maintaining public health, our local environment and the economy of our region. Our vision reflects the long term ambitions that we will realise by 2050 and our purpose is to deliver resilient natural and built infrastructure that protects the communities we serve and the environment. We aim to be acknowledged for our environmental leadership as we protect and enhance the natural river and marine environments of the southwest region.

In April 2020 South West Water became the wastewater undertaker for the Isles of Scilly. There are limited public wastewater networks on only two of the five inhabited islands. These networks and their assets transferred to South West Water at the start of operations.

Sewerage undertakers have a duty under the Water Industry Act Section 101A to provide a public sewer for domestic sewerage purposes in its area if the drains or sewers for domestic sewerage do not, either directly or indirectly, connect with a public sewer; and that the drainage is giving, or is likely to give rise to adverse effects to the environment or amenity.

In 2019, The Isles of Scilly (Application of Water Legislation) Order 2019¹, set out that the requirements of the Water Industry Act 1991² applies to the Isles of Scilly as it applies to the rest of England, subject to certain modifications. The relevant modification to Section 101, being that it would apply from 1 April 2025.

To help focus our plans, in the context of this programme of investment as part of our overall wastewater plan for PR24, we have conducted our most extensive engagement programme yet. Our wider engagement strategy has reached over 30,000 customers and stakeholders. Listening to our customers and stakeholders has enabled us to develop a comprehensive understanding of what our customers and communities care about, and this insight has been used to inform our plans, for the whole company as well as for the Isles of Scilly. Key customer insight is listed below particularly in relation to the Isles of Scilly first-time rural sewerage programme.

- Improvements in services and environmental protection for remote communities are viewed positively and the wider benefits are recognised.
- The Isles of Scilly are seen as part of the Southwest region.
- The importance of sharing costs of water and wastewater services to keep bills affordable is high.
- 74% of respondents accepted a bill increase would be necessary to improve the Isles of Scilly services.

Scope of the case

In April 2020 South West Water became the licensed water and wastewater service provider for the Isles of Scilly. There are limited wastewater networks on two of the five inhabited islands: St Marys and Tresco. In AMP7 we are renewing treatment facilities on Tresco and install new treatment and networks on St Marys in line with our PR19 Business Plan for the Isles of Scilly. We are also recording performance metrics and shadow reporting to EA and are monitoring storm overflows from the two pumping station overflows on St Marys and Tresco. Our capital investments are on track to deliver by 2030.

Bryher, St Agnes and St Martins islands do not have public wastewater networks, instead relying on local private systems and septic tanks.

An extensive wastewater network is available on Tresco with only three properties, including Tresco Abbey Gardens, connected to a large and well-maintained septic tank and therefore no improvements are planned in AMP8.

The impact of the discharges from current septic tanks are localised, the groundwater supplies in the Isles of Scilly are vulnerable and limited and there is an acknowledged need to invest to improve resilience and environmental protection.

To protect groundwaters it will be necessary to remove the discharges to ground and replace them with discharges to surface water therefore, First-Time Rural Sewerage (FRS) and treatment schemes will be required at Bryher, St Martins, St Agnes and the northern part of St Marys.

¹ [The Isles of Scilly \(Application of Water Legislation\) Order 2019](#)

² [Water Industry Act 1991 \(legislation.gov.uk\)](#)

The first-time rural sewerage programme will lead to improvements to groundwaters on the islands, which are at risk from existing, but life expired and/or poor condition septic tanks and private systems, whilst protecting the sensitive marine environment.

Key planning assumptions

In developing our plan, we have used the following key planning assumptions:

- First-time rural sewerage is required for 3 islands and expansion on a 4th by 2030
- New WWTW will have a design horizon of 2040 and assumed appropriate treatment of 60 mg/l Suspended Solids and 40 mg/l BOD performance
- In AMP7 St Mary's WWTW will accommodate the additional treatment capacity, in conjunction with a new long sea outfall for appropriate treatment and discharge
- Population forecast including tourism to 2040.

Options considered

South West Water conducted extensive surveys and investigations for the Isles of Scilly, working closely with regulators to develop a ten-year business plan for the islands, spanning AMP7 and AMP8.

Options including septic tanks were not progressed as they would not be compliant with urban wastewater treatment regulations.

The options assessed for all sites are based around an FRS scheme provision with secondary treatment suitable for discharge to a Marine Special Area of Conservation (SAC) such as Bio-Bubble package plant, Rotating Biological Contactors, (RBC), Submerged Aeration Filters (SAF) and Reedbeds.

We developed our PR24 programme via assessing each catchment on a case-by-case basis for number and location of properties, land availability and topography, given both first-time sewerage, wastewater treatment and new outfalls were required.

Proposed option

The total proposed investment in AMP8 for the Isles of Scilly is £33.575m (Totex). This is a 22% decrease from AMP7, primarily due to the scale of the FRS network and the provision of three new wastewater treatment works and three new sea outfalls, being less than the initial phase of investment in AMP7. At St Mary's, the WWTW is being upgraded in AMP7 and it can therefore accommodate the additional properties connected, in conjunction with a new long sea outfall delivered in AMP8.

Due to the first-time provision of these new assets, there is no base maintenance overlap.

The proposed plan was selected as the least cost and best value whole life benefit that meets the environmental and regulatory requirements as part of our long-term plan for the islands.

This programme of first-time sewerage investment is a regulatory requirement under S101A for the Isles of Scilly. It also brings environmental benefits through protecting precious groundwater reserves. It also aligns standards of service on the islands to those on the mainland, which was a key objective of Defra for the variation of our license in 2020 to include service provision on the Isles of Scilly.

Table 1 - Isles of Scilly Enhancement Totex Expenditure Summary (Pre-Efficiency)

	AMP7 £m	AMP8 £m	Post AMP8 £m
SWB Wastewater Network +	37.941	33.575	15.000*
SWB Total	37.941	33.575	15.000*

*Estimated based on £2m opex per annum and £5m enhancement capex

Efficient costs

Solution costs were developed, in line with the SWB costing methodology, with our external consultants, Chandler KBS, for a range of options using site specific detail, unit costs and design criteria to company standards for design and build options.

Solutions underwent internal peer challenge to identify the least cost totex solutions for these islands, including capital options. In addition, an opportunity efficiency challenge of £5m capex has been netted off the proposed enhancement investment.

The costing process was assured as part of the PR24 assurance by KPMG to ensure robustness and confirm it were based upon historical unit costs.

Independent assurance and scrutiny have been undertaken by Jacobs.

Key information

First-time sewerage with secondary treatment and sea outfalls will be installed as follows:

Table 2 - Isle of Scilly First-time Sewerage Project delivery in AMP8

	New sewer length, km	New Sewage Pumping Stations	WWTW Status	Sea Outfall Length, km
Bryher	5.0	5	Required	0.3
St Agnes	4.6	5	Required	0.3
St Martin	6.0	6	Required	0.4
St Mary's	15.9	9	Utilise existing from AMP7 delivery	2.0
Total	31.5	25		3.0

- Bryher - 5km sewers, 5 sewage pumping stations, new WWTW and new 0.3km sea outfall
- St Agnes - 4.6km sewers, 5 sewage pumping stations, new WWTW and new 0.3km sea outfall
- St Martin - 6km sewers, 6 sewage pumping stations, new WWTW and new 0.4km sea outfall
- St Marys - 15.9km sewers, 9 sewage pumping stations, utilise existing WWTW and a new 2km long sea outfall.

Alignment with customer views

Our 2019 Isles of Scilly customer engagement showed support for the 10-year programme of improvements to their infrastructure and treatment facilities. The survey identified that:

- Improvements in services and environmental protection for remote communities are viewed positively and the wider benefits are recognised
- The Isles of Scilly are seen as part of the Southwest region
- The importance of sharing costs of water and wastewater services to keep bills affordable is high
- 74% of respondents accepted a bill increase would be necessary to improve the Isles of Scilly services.

Table 3 - Customer Feedback and Action

What we have heard	How this informed our plan
Improvements in services and environmental protection for remote communities are viewed positively and the wider benefits are recognised.	We are investing to create new public wastewater networks, treatment and disposal for three islands and extending the public wastewater service on a fourth island, in AMP8, building new infrastructure to ensure that there is a healthy asset base for future generations.
Our customers and stakeholders expect us to control and treat wastewater flows through a healthy, resilient sewerage system.	We have been working with our customers and stakeholders to develop our plans to evolve and enhance our wastewater recycling processes and protect the environment.

Our customers also want us to prioritize those in vulnerable circumstances or properties (e.g., schools) that may be more heavily impacted than others.

We have tested our plans with our customers over the last 2 years to ensure they are affordable and acceptable. Our plans have been adapted in light of the findings from the Affordability and Acceptability testing (AAT)

We have selected least cost and best value feasible options at each island to support a more affordable plan.

We have phased our plan from 2020 to 2030, in order that the plan should be affordable, deliverable and fair for future generations.

Delivery

In recognition of the scale of our AMP8 programme we have already made significant progress to delivery readiness for AMP8. We were one of the first to go to the market to secure our partners directly off the back of significant industry and supply chain engagement and have benefited from doing so. The field of prospective bidders participating in our procurement process has been incredibly strong in a market where suppliers can pick and choose who they target.

Our AMP7 Isles of Scilly is delivering the first part of our 2020-2030 plan with work forecast to complete by 2025, giving confidence in our AMP8 delivery.

Benefits

The benefit to customers is the provision of a first-time public wastewater network, including treatment and disposal and the removal of the need to manage and maintain private septic tanks. The environmental benefit is the removal of risk of contamination of groundwaters, whilst also protecting the sensitive marine environment.

Customers will be protected via the treatment works compliance common performance commitment for three islands, where new permits will be introduced for each new WWTW.

Given the atypical nature of the programme we assessed the materiality of the programme for a price control deliverable. As it does not meet the materiality threshold the project deliverables are set out in Table 4 below.

Customers are further protected from non-delivery via regulatory enforcement powers of the Environment Agency.

Table 4 - Isles of Scilly First-time Sewerage Project delivery in AMP8

	New WWTW Population Equivalent Capacity	Sewer and rising main km	SPS Nr	Sea outfall km	Delivery date
Bryher	435	5	5	0.3	31/03/2030
St Agnes	336	4.6	5	0.3	31/03/2030
St Martin	491	6	6	0.4	31/03/2030
St Mary's	0	15.9	9	2.0	31/03/2030
Total	1,242	31.5	25	3.0	

Assurance and validation

We have tested plans with our customers over the last two years – starting in September 2021 around the future direction of our plans and ending with affordability and acceptability testing (AAT) – using the Ofwat approach but also following this with final testing as we looked to make final changes to our plan in light of the results of the AAT testing.

The Isles of Scilly First-time Sewerage and treatment requirements are part of an affordable and acceptable plan with 74% acceptability. The majority of customers accept the proposed plan and are supportive of a plan that balances engineering and nature-based solutions.

Our Isles of Scilly first-time rural sewerage plan has been developed in collaboration with local Environment Agency officers. It has been subject to internal review, management controls and robust external assurance.

- Jacobs independent external assurance - DWMP submission, May 2023
- KPMG independent external assurance - Cost methodologies, May 2023
- Turner and Townsend independent external assurance - PR24 Isles of Scilly, September 2023

Our Board has been engaged on the options during plan development, challenged to ensure deliverability and approved our WWTW growth programme as part of the overall PR24 plan in September 2023. Board assurance has also been a key part of the programme development, through the DWMP submission in May 2023.

Summary

Investment	£33.575m Totex
Timetable	Our AMP8 programme is a continuation of the AMP7/AMP8 10 year plan, following being appointed as wastewater undertaker for the Isles of Scilly in 2020.
Customer	The benefit to customers is provide first-time public wastewater network, treatment and disposal and the removal of the need for private septic tanks.
Environment	The environmental benefit is the removal of risk of contamination of groundwaters, whilst also protecting the sensitive marine environment.
Economy	What is the job impact and wider economic benefits, i.e., Our investment is estimated to yield 15 new jobs. It will be co-delivered with community groups, etc.
Outcome	Our water recycling and sewerage systems to meet the needs of our customers and can safely connect to our networks without harm to the environment.

1. Need for Enhancement Investment

Our Vision and Long Term Delivery Strategy

Our service is essential to maintaining public health, our local environment and the economy of our region. Our vision reflects the long-term ambitions that we will realise by 2050 and our purpose is to deliver resilient natural and built infrastructure that protects the communities we serve and the environment. We aim to be acknowledged for our environmental leadership as we protect and enhance the natural river and marine environments of the southwest region.

We are trusted to provide a safe and reliable wastewater collection and treatment service for approximately 1.5m customers and up to 10m visitors to Devon, Cornwall and the Isles of Scilly each year. In our Vision to 2050 statement (and our Long-Term Delivery Strategy) we set out the following commitment to:

- Evolve our water recycling and sewerage systems to meet the needs of our customers and the environment
- Enhance sustainable drainage to reduce risk of flooding and pollution
- Return treated water safely to the environment
- Ensure the growing population in the southwest region can safely connect to our networks without harm to the environment.

Investment Need

Regulatory context

In April 2020 South West Water was appointed as the water and wastewater service provider for the Isles of Scilly. Prior to that time, the Council of the Isles of Scilly provided some water services on two islands, St Marys and Bryher, while the other islands had private service provision either individually or through the Duchy of Cornwall or Tresco Estate. Wastewater services were limited to two islands, St Marys and Tresco, where there are public wastewater networks, with pumping stations and treatment facilities. Bryher, St Agnes and St Martins do not have public wastewater networks, instead relying on local private systems and individual septic tanks.

At the start of operations on the islands, SWB embarked upon a 10-year programme, outlined in our PR19 Isles of Scilly Business Plan, to align standards of service on the islands with those on the mainland. This has involved capital investment to deliver improvements in water quality and availability and also improvements to wastewater collection and treatment to better protect the environment. Environmental legislation such as the Urban Waste Water Treatment Directive (UWWTD) 1994 and General Binding Rules, 2015, applied to discharges to land and the marine environment for the first-time.

The wastewater assets on St Marys and Tresco were transferred to South West Water's ownership by statutory transfer, and operation of these assets including their discharges continued under the terms of a Local Enforcement Position (LEP) until the first phase of improvements are delivered in 2025.

The investment period 2020-2025 will deliver essential improvements such as a new wastewater treatment facility on St Marys, replacement of the fine screening plant on Tresco and installation of a storm storage tank at Old Grimsby SPS to reduce overflow spills. While this programme is being rolled out any expansion of the network i.e., new connections, first-time sewerage applications and sewer adoptions were effectively paused for five years until the infrastructure was appropriate to accept new customers flows and loads.

Under normal circumstances, sewerage undertakers have a duty under the Water Industry Act Section 101A to provide a public sewer for domestic sewerage purposes in its area if the drains or sewers for domestic sewerage do not, either directly or indirectly, connect with a public sewer; and that the drainage is giving, or is likely to give rise to adverse effects to the environment or amenity.

In 2019, The Isles of Scilly (Application of Water Legislation) Order 2019³, set out that the requirements of the Water Industry Act 1991⁴ applies to the Isles of Scilly as it applies to the rest of England, subject to certain modifications. The relevant modification to Section 101, being that it would apply from 1 April 2025. Therefore, we anticipated requests for first-time sewerage connections, from that date.

³ [The Isles of Scilly \(Application of Water Legislation\) Order 2019](#)

⁴ [Water Industry Act 1991 \(legislation.gov.uk\)](#)

First-time rural sewerage is supported by communities on the islands and by our customers in Devon and Cornwall, who acknowledge the need for improvements in services and environmental protection for remote communities such as the Isles of Scilly.

Drainage and Wastewater Management Plan (DWMP) and long-term plan

Our wastewater services are delivered via c.24,000 km of sewers and rising mains, 655 WWTW and 1,342 storm overflows in Cornwall, Devon, Dorset and the Isle of Scilly. The region has 1384km of coastline, 30 designated shellfish protected areas, 150 designated coastal bathing waters which is 36% of the total in England and over a third of the total in the UK.

Official forecasts indicate that an additional 300,000 people will be living in Devon and Cornwall, by 2050, adding to the 1.8m customers for whom we provide wastewater services.

Our Drainage and Wastewater Management Plan for the Isles of Scilly⁵ (DWMP) identified current and future needs for first-time rural sewerage and sewage treatment facilities where new or additional hydraulic or treatment capacity is required to manage current populations and new development without environmental harm. This built upon the extensive surveys and investigations carried out in advance of becoming the wastewater undertaker for the Isles of Scilly. The objective of these was to determine the level of investment required to improve the resilience of water and wastewater assets and infrastructure and align service levels with those experienced on the mainland, working closely with regulators throughout. This was developed into a ten-year business plan for the islands, spanning AMP7 and AMP8.

The Isles of Scilly catchments form the Isles of Scilly Strategic Planning Unit (Level 2) in our Drainage and Wastewater Management Plans (DWMP). On 1 April 2020, South West Water began operations on the Isles of Scilly, when our licence to operate was varied to include the communities on the Islands. The assets that had been installed over time by others to manage wastewater services were transferred to SWB under statute at the same time.

Given our relatively limited experience of operating on the Isles of Scilly and the acknowledged need to invest to improve resilience and environmental protection, we have not generated a quantitative data driven DWMP for the Isles of Scilly at this time, as we only have three years of operational data and experience, for a legacy asset base designed and installed by others who were operating outside of our regulatory regime.

We have, however, reviewed the most recent performance data and combined this with our growing knowledge of the asset base, risks and issues and our investment programme to 2025, to develop a DWMP based upon this experience, and our planned programme of investment to 2030.

Following the delivery of our ambitious and extensive round of AMP7 investments, wastewater assets and services for existing connected properties on St Mary's and Tresco require no further enhancement investment at this time and our focus will shift to Bryher, St Agnes, St Martins and the northern area of St Marys where there are no wastewater networks or assets to support new connections.

In developing our plan, we have used the following key planning assumptions:

- First-time rural sewerage is required for 3 islands and expansion on a 4th (St Marys) by 2030
- The new St Marys WWTW (AMP7) will have a design horizon of 2040 and assumed appropriate treatment of 60 mg/l Suspended Solids and 40 mg/l BOD performance
- The AMP7 investment at St Mary's WWTW will accommodate the additional treatment capacity, in conjunction with a new long sea outfall to maintain appropriate treatment and discharge
- Population forecast including tourism to 2040.

Bryher, St Agnes and St Martins first-time rural sewerage programme

The islands of Bryher, St Agnes and St Martins are without public wastewater network for the collection of wastewater, treatment and disposal.

Properties are served by either their own individual septic tanks, or via a shared common septic tank provision. There is a considerable demand from residents, the Duchy of Cornwall and the Council of the Isles of Scilly to establish a public network on each island, particularly St Martins and St Agnes.

⁵ [isles-of-scilly_l2_plan_dwmp.pdf\(southwestwater.co.uk\)](https://isles-of-scilly.l2.plan.dwmp.pdf(southwestwater.co.uk))

In anticipation of legislative changes and the application of the Water Industry Act 1991, formal Section 101A applications were made by the Duchy of Cornwall, as principal landowner and landlord, in 2019 for each island to have public sewerage system. This reflects the considerable pent-up demand for a public sewerage network and treatment on the islands. The island communities recognise that the legacy wastewater assets acquired by SWW at the start of operations in April 2020 are no longer appropriate to meet regulatory standards for environmental protection. The provision of safe and effective wastewater treatment was a key factor in the considerations to appoint SWW as the water and wastewater service provider and this investment is much anticipated by local communities.

We accept the need for the public sewerage system in each case and the cases are supported by local Environment Agency officers.

The main benefit of a public wastewater system would be to protect groundwater from potential contamination from the large number of septic tanks present, some of which are beyond their original design life.

Groundwater surveys carried out by the Environment Agency in 2016-17 have identified areas where possible septic tank overflows are impacting the quality of groundwater, which could become a source of groundwater pollution. Amalgamation of the private installations is not possible; therefore, first-time wastewater treatment would be required, with a number of sewage pumping stations, rising mains and gravity sewers on each island. Finally discharge outfalls will be required to safely return treated wastewater to the marine environment, with appropriate MMO licensing.

Therefore, we will protect groundwaters by the replacement of a number of discharges to ground, with discharges to surface water. Due to the size of the islands these discharges will mostly likely be to coastal waters.

There are multiple environmental marine designations and protected areas for the Isles of Scilly⁶, to protect sea birds, and species and habitats found underwater:

- Special protection area (SPA) - to protect rare and vulnerable birds - populations of storm petrel (*Hydrobates pelagicus*) and lesser black-backed gull (*Larus fuscus*). Since the islands also support more than 20,000 breeding seabirds they also qualify as an 'assemblage of breeding seabirds', one of only seven sites in England that meet this criterion
- Special Area of Conservation (SAC) is primarily designed to protect the coastal and intertidal marine habitats around the islands
- Marine Conservation Zones (MZC) to protect additional marine habitats and species in intertidal habitats and reefs.

Due to the environmental sensitivity, the minimum standard of treatment required is full secondary treatment.

It is intended that the first phase of FRS systems will serve approximately 100 properties on St Martin's, 40 properties on St Agnes and 45 properties on Bryher. This is a mix of residential and commercial properties, and includes hotels, campsites and community halls.

St Marys first-time rural sewerage programme

As part of our 10-year investment plan from 2020, we have already planned and delivered significant improvements in AMP7 include:

- An investigation into the special features of the Marine Special Area of Conservation that surrounds the islands. Special features include the vast sea grass beds (*Zostera Marina*) that flourish in the ocean around the islands
- Delivering a new resilient wastewater treatment facility in Old Town (St Marys WWTW) to provide treatment in line with the Urban Wastewater Treatment Directive (UWWTD) requirements, (to be completed by 2025)
- Improvements at Telegraph WwTW, St Marys to improve quality and resilience and to enable a permit application to be made and granted by 2025.

Although there are two WWTW on St Marys and most properties in Hugh Town and Old Town are connected to the existing public network, some parts of the northern section of the island is not connected to a public network, except for c.12 properties connected to Telegraph WWTW.

⁶ Protected Areas : Isles of Scilly IFCAs

As there are a significant number of properties on St Marys, not currently connected to the wastewater network we expect that this will result in requests to connect to our network. The Council of the Isles of Scilly have indicated that they are supportive of this approach and, with the Duchy of Cornwall, may facilitate the first-time wastewater application. Additional infrastructure in the form of gravity sewers, pumping stations, rising mains as well as potential further upgrades to treatment facilities and / or disposal will be required to manage this additional demand.

We accept the need for the public sewerage system extension, and it is supported by the local Environment Agency.

The Isles of Scilly Local Plan (2015-2030)⁷ has identified a need for additional housing on all five islands, with the majority of these c.110 on St Mary's. Some of this development is already being planned on St Marys.

The Strategic Aims and Objectives of the Local Plan include the following:

Aim2: Ensuring the provision of infrastructure utilities to create a more sustainable and resilient and self-sufficient Scilly.

Objectives:

- *Support improvements and secure investments to modernize the islands drinking water, sewerage and waste management operations and infrastructure to ensure that it is affordable and complies with the appropriate legislation and regulations*
- *Engender a planned and coordinated approach for securing infrastructure provision as part of, and in step with, new development and investment opportunities*
- *Support clean, environmentally acceptable and flexible energy technologies (including renewable energy generation and storage) and more efficient grid technologies that move the islands towards a low carbon economy.*

The limits of the legacy water and wastewater infrastructure has been a limiting factor for growth and new development on the islands. The appointment of South West Water as the water and wastewater service provider is seen as essential to unlock and support development potential and enable business development particularly within the islands' hospitality sector. The Council of the Isles of Scilly and their communities clearly expect alignment between water and wastewater services and their objectives regarding sustainability, innovation and affordability, which we also share.

To protect the groundwater on St Mary's, we are currently planning to replace a number of private discharges to ground via soakaways with a discharge to surface water.

In order to accommodate this, it is proposed to include a first time rural sewerage (FRS) scheme on the northern part of the island serving c.60 properties in anticipation of the individual applications.

Given the anticipated forecast increase in properties which will need treatment in AMP8, the AMP7 investment at St Marys WWTW is already delivering the additional treatment capacity required. The additional flow may require a greater volume long sea outfall in order to maintain appropriate treatment, pending finalisation of the AMP7 plans for delivery. This will deliver greater protection the Marine Special Area of Conservation (SAC) which surrounds the islands.

Customer Support

Our PR24 customer and stakeholder engagement has been our most extensive programme yet. Building on the research carried out at PR19, we have proactively engaged with our customers and stakeholders, using a range of tools – including surveys, workshops, focus groups and interviews – to build our understanding of customers' and stakeholders' priorities and gain insight on our business plan.

Our research has been developed and delivered by experts in market research, customer engagement and the water sector to ensure it is usable and actionable – conducted in line with market research standards as well as Ofwat tests. It has had independent oversight, through our WaterShare+ Customer Advisory Panel as well as external assurance partners, meaning it can be used with confidence.

From work undertaken, prior to SWB being appointed as the water and wastewater service provider on the Isles of Scilly, customer surveys clearly supported the 10-year programme of improvements to the Island's infrastructure and treatment facilities. The survey carried out by ICS identified that:

⁷ Local Plan (2015 - 2030) | Council of the ISLES OF SCILLY

- Improvements in services and environmental protection for remote communities are viewed positively and the wider benefits are recognised
- The Isles of Scilly are seen as part of the South West region
- The importance of sharing costs of water and wastewater services to keep bills affordable is high
- 74% of respondents accepted a bill increase would be necessary to improve the Isles of Scilly services.

Our PR24 engagement has confirmed that the environment is increasingly important for our customers who are much more aware of pollution incidents and storm overflow spills following recent media interest and coverage.

Most of our customers actively experience the rivers and beaches in the region, with nearly two thirds visiting beaches regularly. Our customers and stakeholders want us to be a good neighbour; they want us to demonstrate environmental leadership by controlling and treating wastewater flows to protect the environment.

Despite the media attention, customers do maintain that their local water environment overall is good - with high proportions of customers visiting beaches on a regular basis and river use growing in popularity. While there are currently no designated bathing waters on the Isles of Scilly, it should be considered when planning improvements that the Isles of Scilly have 13 beaches that have the potential for designation.

Customers want us to pass on a healthy asset base to future customers and don't find it acceptable to allow assets to deteriorate. They want us to do more to invest in the region's sewerage infrastructure to reduce its current impacts on the environment. Our customers also prioritise the mitigation of and adaption to the impacts of climate change and our strategy aligns with our net zero strategy, promise to the planet and carbon reduction glidepath.

We have included islanders in all of our research, including the Your Water, Your Say event. On top of that, to make sure we hear what they say specifically, we have completed 1-2-1 interviews with islanders – so we can understand their overall views and to discuss our plans with them.

'Very acceptable. Everything we have gone through I'm in complete agreement with and. clearly, it's going to make a big difference to a lot of people'

Isles of Scilly Household Female 25-50

'I think you need high quality tap water, you don't want water coming out that's not safe to drink and could potentially cause any illness or problems.'

Isles of Scilly Household Female 25-50

'We might be on a tiny island but we still need the same quality as they do on the mainland so I'm glad they are prioritising that and seeing what they can do to bring us up to standard.'

Isles of Scilly Household Female 25-50

The majority of customers consider good service from their water company is not only the provision of sewerage services at an affordable price, but also that this is provided reliably, with minimal disruption. While three in four of our customers agree investment in the environment is required, they are conscious of the impact on affordability of their bills – they want bill rises to be smooth and protections and support for those less able to pay.

Further detail on our robust customer engagement methods and results are found in:

- Engagement and affordability (and associated appendix: Engaging customers and communities)
- Frontier independent synthesis and assurance
- Affordability strategy.

Management Control

For the islands of Bryher, St Agnes and St Martins there is no public sewerage service and the driver for the need is a statutory requirement under Section 101A of the Water Industry Act from April 2025. There are no public assets and therefore the need is completely outside of management control.

For St Marys there is a limited public sewerage service serving the hamlets of Old Town and Hugh Town, draining to a single WWTW (St Marys WWTW), which is being upgraded in AMP7. The driver to extend the public sewerage service for the need, is a statutory requirement under Section 101A of the Water Industry Act from April 2025 and the need for the extension is outside of management control. The AMP7 improvements are being carried out with future AMP8 connections as a consideration to avoid the risk of abortive costs in either AMP7 or AMP8.

2. Best option for customers (assessment optioneering)

Assessment Approach Summary

We developed our PR24 programme by assessing each catchment on a case-by-case basis for number and location of properties, land availability and topography, given both FRS, wastewater treatment and new outfalls were required.

Totex options to provide a public sewerage service whilst accommodating growth to 2040 were then considered by:

- Balance of gravity sewers, sewage pumping stations and rising mains
- Continued use or renewal of septic tanks
- New WWTW – with a range of treatment processes assessed for feasibility
- Short or long sea outfalls.

Whole life carbon and whole life costs were assessed for feasible options.

Options Considered

The impact of the discharges from current septic tanks are generally localised, due in the most part to the size of the discharges, though there are potentially more significant impacts on private water supplies taken from the islands' groundwaters, as some of these are very close to existing septic tank discharges. The groundwater supplies in the Isles of Scilly are vulnerable and limited, and there is an acknowledged need to invest to improve resilience and environmental protection.

The FRS systems are initially likely to serve 45 properties on Bryher, 100 properties on St Martins, 40 Properties on St Agnes and c.60 properties in the northern part of St Marys.

To protect groundwaters it will be necessary to remove the discharges to ground and replace them with discharges to surface water therefore, FRS schemes will be required at Bryher, St Martins, St Agnes and the northern part of St Marys.

The unconstrained list options are applicable to all sites and are detailed below:

Table 5 - Stage 1a option assessment

Description	Assessment	Decision
Do Nothing	Increased environmental risk, groundwater risks,	Reject
Renew existing septic tanks	Environmental and groundwater risks remain	Reject
New network and SPS, with screening or septic tank discharge to surface waters	Septic tank discharge to surface waters does not meet Government Policy or UWWTR requirements	Reject
New network and SPS, with secondary treatment and sea outfalls	Provides environmental improvement, protection of groundwater and meets Government policy and UWWTR requirements	Progress

Improvements under the FRS programme are designed to provide a reliable wastewater service and to ensure compliance with the Urban Waste Water Treatment Regulations 1994⁸ (UWWTR) and to satisfy the requirements of Government Policy on small sewage treatment discharges to surface waters.

Therefore, to fulfil this requirement it will be necessary to install secondary treatment on Bryher; St Agnes and St Martins and connect to a WWTW with secondary treatment capacity on St Mary's, with appropriate sea outfalls for discharge of effluent.

The nature of the islands, the topography and restricted footprint poses challenges that restrict the feasibility of treatment options. The consideration included:

- Ease of operation and consistency for operation teams
- Small footprint

⁸ [The Urban Waste Water Treatment \(England and Wales\) Regulations 1994 \(legislation.gov.uk\)](https://www.legislation.gov.uk/ukreg/1994/1000/contents)

- Suitable for rock geology
- Resilient to saline intrusion
- Resilient performance
- Low / no sludge production (due to need to ship any sludge to mainland).

The options assessed for all sites are based around an FRS scheme provision with secondary treatment suitable for discharge to a Marine Special Area of Conservation (SAC) such as Bio-bubble package plant, Rotating Biological Contactors (RBC), Submerged Aeration Filters (SAF) and Reedbeds.

Table 6 - Stage 1b Appropriate treatment option feasibility assessment

Description	Assessment	Decision
Bio-bubble package plant	Small foot print, resilient, consistent operation with other WWTW at St Mary's, low sludge production	Proceed
Rotating biological contactor	Unfamiliar to local teams, less resilient, does not perform well with saline intrusion	Reject
Reedbeds	Large footprint, not suitable for rocky locations	Reject
Submerged aeration filter	Large foot print, higher sludge production, high power due to high aeration	Reject

At St Mary's the sea outfall is required to be a long sea outfall due to the 2040 flows and loads from the WWTW, once local development occurs, discharging into the marine protected area.

Due to the island domain, marine designations and regulatory requirements, there are therefore limited options for further assessment and the bio-bubble package plant was then progressed for detailed costing where a new WWTW was required.

Best value cost and cost benefit analysis

Our new Asset Risk and Optimisation Suite (AROS) consolidates and streamlines data processing, deterioration modelling, and economic investment decision making, enabling evidence and demonstration of plan ambition.

Best practice asset management is being delivered through adherence to the Framework for Expenditure Decision Making, developed in partnership with our industry research organisation (UKWIR). The eight-stage framework encompasses all investment planning with emphasis on a total expenditure (Totex) approach providing maximum value to customers.

The plan is developed through reference to asset and service risk models and approaches, overlaid by specific regulatory, legislative or customer derived obligations, all of which are entered into our cross-asset optimiser Portfolio Risk Manager (PRM).

PRM enables consistent whole life cost assessment of change in performance risk between a Need and Intervention (Totex) over 40 years, against a common valuation framework incorporating private, social and customer willingness to pay elements (WTP). Collaborative customer research is updated regularly and informs updated WTP values. The costs of failure such as GSS payments and fines are not included within the valuation.

Optimisation is a critical element of the plan balancing process, identifying interventions that are value for money – i.e., have benefits that exceed costs. It allows promotes the best mix of solutions to maximise customer value, whilst applying constraints around legal compliance, affordability, and service levels targets.

The methodology includes assessing the embodied carbon implication for each option. New, and the upgrading of existing assets have significant embodied carbon implications. Embodied carbon implications have been calculated and reported.

An extensive quality assurance process is also adopted through provision of user guides and specialised PRM user training modules, including guidance on scenario planning, risk and benefit scoring and the application of confidence and uncertainty grades. Uncertainty is assessed at three levels within PRM: certainty of Need, confidence in Intervention, and confidence in Cost accuracy. The valuation framework incorporates 50+ output performance measures (OPMs) informed by an expansive programme of customer research and engagement studies, including several nature-based solution measures. Particular attention has been given to ensuring our valuation framework includes the proposed Ofwat common performance commitments.

The outputs from PRM (both Capex and Opex) have also been fed through into the Financial Model, translating the individual scenarios into bill impacts given other financial information to meet the challenge of delivering an affordable plan.

Table 7 - Stage Two AMP8 Isles of Scilly First-time Rural Sewerage

Stage 2 Option/s	Post efficiency Capex £m	Opex £m p.a.	Whole life costs £m	Total Embodied Carbon (tCO2e)	Delta/new Operational carbon (tCO2e/yr)	Whole Life Carbon (tCO2e)	Decision
Bryher	7.533	0.056	12.003	150.6	279.2 new	8526.6	Proceed
St Agnes	7.093	0.052	11.563	138.8	205.2 new	6294.8	Proceed
St Martins	8.983	0.067	13.453	174.4	318.0 new	9714.4	Proceed
St Mary's	8.767	0.065	13.237	2341.5	494.6 new	17179.5	Proceed
TOTAL	32.376	0.240	50.256	2805	1297 new	41715	

In conclusion our best value and least cost programme for AMP8 Isles of Scilly comprises:

- new public foul sewer network, pumping stations, new package plant (bio-bubble) WWTW capable of achieving 60 mg/l suspended solids and 40 mg/l BOD, with new sea outfalls for discharge of effluent at each of Bryher, St Agnes and St Martins
- an extended public foul network, additional pumping stations, connection to a WWTW with existing secondary treatment capacity and a new long sea outfall for discharge of effluent at St Mary's.

Cost benefit of the WWTW AMP8 Isles of Scilly programme

This programme of FRS investment is a regulatory requirement under S101A for the Isles of Scilly. It also brings environmental benefits through protecting precious groundwater reserves. It also aligns standards of service on the islands to those on the mainland, which was a key objective of Defra for the variation of our license in 2020 to include service provision on the Isles of Scilly.

Benefits are shown in Ofwat data table CWW15.

Third-party funding

There is no third-party funding applicable for the Isles of Scilly first-time rural sewerage programme.

Direct Procurement for Customers

We have reviewed the Isles of Scilly first-time rural sewerage programme against the regulatory guidance and do not consider direct procurement a suitable delivery model.

Accelerated/transitional expenditure programme

We are not seeking transition investment in PR24 for this programme.

There was no acceleration funding for first-time rural sewerage first-time rural sewerage.

Customer Views

Our customers and stakeholders want to see a resilient public sewerage service for the Isles of Scilly and continuing the journey that we set out from 2020, will do just that.

We have been working with our customers and stakeholders to develop our plans for the wastewater system and storm overflows, as we ensure we continue to evolve and enhance our wastewater recycling processes and protect the environment, both the vulnerable groundwaters on the islands and the sensitive marine environment in which they are situated.

Our ambition is to evolve the water recycling system into one that future generations can be proud of. Our plans will maintain environmental compliance, whilst accommodating climate change, growth and new development, in line with customers' priorities for controlling and treating wastewater flows.

We are investing at new or extended public sewerage systems, three WWTW with new sea outfalls and one new long sea outfall in AMP8, to connect customers for the first-time and enable much needed local development and business opportunities by building new infrastructure to ensure that there is a healthy asset base for future generations.

We have selected least cost and best value feasible options at each island to support a more affordable plan in the context of a no regrets pathway of our longer-term plans, in our Isles of Scilly Drainage and Wastewater Management Plan (DWMP).

We have phased our plan from 2020 to 2030, in order that the plan should be affordable, deliverable and fair for future generations.

3. Cost Efficiency

Review of costs undertaken detail approach to determining costs and efficiency

South West Water has a track record of developing high quality business plans with a clear focus on delivering value to customers. We have built upon these successes and taken the opportunity of our recent merger with Bristol Water (BRL) to adopt the best value asset management tools and techniques from both organisations within our PR24 plan.

Best practice asset management is being delivered through adherence to the Framework for Expenditure Decision Making, developed in partnership with our industry research organisation (UKWIR). The eight-stage framework encompasses all investment planning with emphasis on a total expenditure (Totex) approach providing maximum value to customers.

Typically, costings within the plan follow business as usual principles, meaning that; Asset Planning provide scoped solutions which need to be estimated prior to inclusion in the PR24 Business Planning investment reviews. This procedure ensures consistency of approach in the PR24 estimating process and follows the **Client Target Cost Procedure (PR-ENG-110)** and **PR24 Estimating Methodology (PR-ENG-120)**. This approach in order of priority uses costs based on:

- Unit Cost Models & SWW Estimating System data Process level,
- Unit Cost Models & SWW Estimating System data Elemental level,
- Rates, Quotations or Estimates from Framework Agreements
- Historic published cost data or data from Cost Managers systems
- First Principles Estimating.

We have utilised our industry leading unit cost database tools and investment modelling approaches so that we have confidence that we can accurately price alternative solutions to deliver the best solutions for customers at optimal long-term cost and benefit.

Optimism bias has been included to manage uncertainty in the delivery programme, details of how this was calculated and applied can be found in the SWB Costing Methodology v3.0, which accompanies this submission.

Care is taken to adjust all costs to a common 2022/23 price base using the agreed indices. Estimates prepared using data from the unit cost database will be automatically updated to the required base date.

The costing process was independently assured by KPMG in May 2023 to ensure robustness and did not find any issues which would give rise to concerns about the accuracy of cost estimates.

Our PR24 costing methodology is explained in more detail can be found in the SWW Costing Methodology⁹ document.

Preferred Options

Table 8 - AMP8 preferred option by island

WWTW catchment	Design Population Equivalent	2030 permit conditions (assumed)	Description	Post-efficiency Capex £m	Opex £m p.a. AMP8
Bryher	435	TSS 60 mg/l	3.2km gravity, 1.8km rising main	7.533	0.056
	2040 horizon	BOD 40 mg/l	5 SPS		
		Daily flow 87.06 m3/d	1 bio-bubble package plant WWTW		
			0.3km sea outfall		
St Agnes	336	TSS 60 mg/l	2.9km gravity, 1.7km rising main	7.093	0.052
	2040 horizon	BOD 40 mg/l	5 SPS		
		Daily flow 672 m3/d	1 bio-bubble package plant WWTW		
			0.3km sea outfall		

⁹ [SWW Costing Methodology v3.0.docx](#)

St Martins	471	TSS 60 mg/l	3.85km gravity, 2.15km rising main	8.983	0.067
	2040 horizon	BOD 40 mg/l	6 SPS		
		Daily flow 94.2 m3/d	1 bio-bubble package plant WWTW		
			0.4km sea outfall		
St Mary's	Accommodated within AMP7 investment at St Marys WWTW	n/a	13.80km gravity, 4.10km rising main 9 SPS 2.0 km long sea outfall	8.767	0.065

Process for developing scope and cost

Drainage Water Management Plan (DWMP) and long term Isles of Scilly plan

Our Drainage and Wastewater Management Plan for the Isles of Scilly¹⁰ (DWMP) identified current and future needs for first-time rural sewerage and sewage treatment facilities where new or additional hydraulic or treatment capacity is required to manage current populations and new development without environmental harm. This built upon the extensive surveys and investigations carried out in advance of becoming the wastewater undertaker for the Isles of Scilly.

The objective of these was to determine the level of investment required to improve the resilience of water and wastewater assets and infrastructure and align service levels with those experienced on the mainland, working closely with regulators throughout. This was developed into a ten-year business plan for the islands, spanning AMP7 and AMP8. The detailed scope has then been refined for PR24.

Scope assessment

Detailed island scope assessments to deliver first-time rural sewerage were carried out with the support of framework consultants AECOM.

The assessments considered:

- Population forecasts to 2040, tourist and resident
- Island ground conditions and rock removal
- Population distribution to inform SPS location, and length of gravity sewers and rising mains,
- Intertidal marine working for sections of sea outfalls
- Working in cliff and foreshore areas
- Land purchase, access, permissions and power for new WWTWs
- AMP7 capacity at St Marys WWTW at Old Town on St Marys
- Power and chemicals
- Whole life carbon impact - embodied and the change in operational carbon.

Efficient costs

Costing procedure for PR24 Isles of Scilly First-time Rural Sewerage

Our PR24 Isles of Scilly First-time Rural Sewerage programme used the Client Target Cost (CTC) and unit cost model approach. The Unit Cost Models were updated in 2022 as part of the Periodic Review development plan.

The CTC is calculated by estimating the construction value of the scope and correcting this value for AMP7 efficiencies (Ofwat and Company) and price base using the agreed indices. The resultant cost is further modified by including Site Specific costs, Contractor's indirect costs, Risk, Tender to Outturn, Design, SWW Overhead percentages, Optimism Bias and an estimate for Land & Compensation where appropriate.

¹⁰ [isles-of-scilly_l2_plan_dwmp.pdf \(southwestwater.co.uk\)](#)

The CTC therefore provides a total project cost for the current scope that would have been included in the SWW PR19 business plan if the current scope had been available at that time. The Company General overhead and Engineering Management and General (M&G) allowance has been removed to enable direct comparison with Target Costs produced by SWB delivery partners.

Rates, Quotations or Estimates from company Framework Agreements can be sought or obtained during scoping by the Concept Team based on normal business. In exceptional circumstances, other published cost data or data obtained from Cost Managers' own cost capture systems may be used.

Table 9 - Costing methodologies applied in Isles of Scilly First-time Rural Sewerage plan

SIP Code	Investment Area	Investment Base / Enhancement	Enhancement Detailed Case	Costing Methodology	Engineering on Costs Applied	Optimism Bias Applied
6.07	Isles of Scilly - Wastewater	Enhancement	Growth Waste	Client Target Cost (CTC) - Unit Cost Data / First Principle Estimating	Yes	Yes

Our approach to optioneering looks at operational process improvements and then our green first framework prior to reviewing capital intensive options, however we recognise this was not suitable as an approach for first-time rural sewerage, treatment and disposal to sensitive marine environments.

Our 10-year plan recognising in 2020 included provision for St Mary's WWTW to be designed for the anticipated additional properties to be connected from 2025 and avoiding abortive costs in AMP7 and additional costs in AMP8.

When developing capital Intensive options, we reviewed opportunities to reuse, repurpose or convert existing processes. This approach resulted in confirming that septic tanks could not be reutilised due to the environmental risks and was not a viable option.

Our unit cost models are based upon actual costs and have been updated for PR24 planning purposes. The process is robust and has AMP7 efficiencies applied. Our costing process was independently assured by KMPG In May 2023.

Our design assumptions have been reviewed and challenged by internal peer review, followed by a review of base maintenance overlap and potential for future efficiency.

Base maintenance overlap and efficiency challenge

We have challenged all enhancement cases, including the Isles of Scilly FRS to ensure that the costs and proposals are robust and have had overlap with capital maintenance removed. However, as we are proposing completely new assets on Isles of Scilly, noting that the existing septic tanks etc are in the ownership of others, there is no base overlap to consider in this case.

We have also applied a future efficiency challenge, recognising the potential for future economies of scale for the total programme, not yet identified at this stage of PR24.

We have therefore reduced the pre-efficiency capex of £37.376m by £5m for potential efficiencies.

Therefore, a total of £32.376m capex, and £33.575m totex overall is our PR24 least cost and best value plan.

Need for enhancement model adjustment

Due to the limited information available, we have not appraised our needs based on Ofwat's enhancement model approach.

4. Finance and affordability

Investment Summary (2022/23 prices)

Table 10 below shows the totex impact of the FRS investment for the Isles of Scilly. The Capex numbers shown are pre-efficiency, but we estimate a £5m efficiency target can be achieved through optimal planning, modular designs, off-island construction and, where possible, local engagement.

Table 10 - Isles of Scilly Enhancement Expenditure – Pre Efficiency

	Cost Allocation	AMP7 £m	AMP8 £m	25/26 £m	26/27 £m	27/28 £m	28/29 £m	29/30 £m	Post AMP8 £m	Data Table Ref
SWB Wastewater Network+	Capex	19.969	32.376	10.547	9.830	5.848	5.269	0.882	5	SWB CWW3
	Opex	2.050	1.199	0.000	0.003	0.201	0.399	0.596	10	
	Totex	22.019	33.575	10.547	9.833	6.049	5.668	1.478	15	
BRL + SWB	Totex	22.019	33.575	10.547	9.833	6.049	5.668	1.478	15	

This programme of FRS investment is a regulatory requirement under S101A for the Isles of Scilly. It also brings environmental benefits through protecting precious groundwater reserves. It also aligns standards of service on the islands to those on the mainland, which was a key objective of DEFRA for the variation of our license in 2020 to include service provision on the Isles of Scilly.

Benefits are shown in Ofwat data table CWW15.

Opex impacts

Operational expenditure will increase with the delivery of these completely new assets for the Isles of Scilly. Increases are planned for electricity consumption, for pumping and aeration systems. Additional planned and reactive operational tasks and planned and reactive maintenance tasks will require additional manpower for the Isles of Scilly operational team. We will continue to develop and improve our connectivity with the islands and engage innovative solutions monitor control and automate operational tasks where possible particularly given the remote location of Bryher, St Agnes and St Martins.

Affordability and acceptability

We have tested plans with our customers over the last two years – starting in September 2021 around the future direction of our plans and ending with affordability and acceptability testing (AAT) – using the Ofwat approach but also following this with final testing as we looked to make final changes to our plan in light of the results of the AAT testing.

Our plans have been evolved to meet what customers want – recognising that some aspects of service we are legally required to deliver, but we can do this in the way that best helps our customers.

This enhancement case is part of an affordable and acceptable plan with 74% acceptability. The majority of customers accept the proposed plan and are supportive of a plan that balances engineering and nature-based solutions.

Our enhanced, more detailed Acceptability of our final plan demonstrates 93% support for the outcomes that this enhancement case contributes to.

The majority of customers who support the plan have told us they do so because the plan focuses on the right services or because they support what we are doing in the long term. The concerns of the minority of customers who do not support the plan do not relate to the outcomes proposed but concerns that water companies are making too much profit or paying out too much in dividends. We have introduced new policies around dividends and executive remuneration as we look to address concerns around financial performance. Our plan contains clear actions to ensure bills are affordable for all by delivering zero water poverty. By addressing all of the concerns raised, we know that we have a plan that delivers for customers and communities.

This enhancement case presents the right balance for our plan – supporting our customers’ priority for Storm overflows and pollution, delivering for our customers and addressing affordability, whilst protecting the most vulnerable in society and balancing investment needs with affordability.

Following the AAT results we have taken steps to make the plan more affordable and more acceptable by

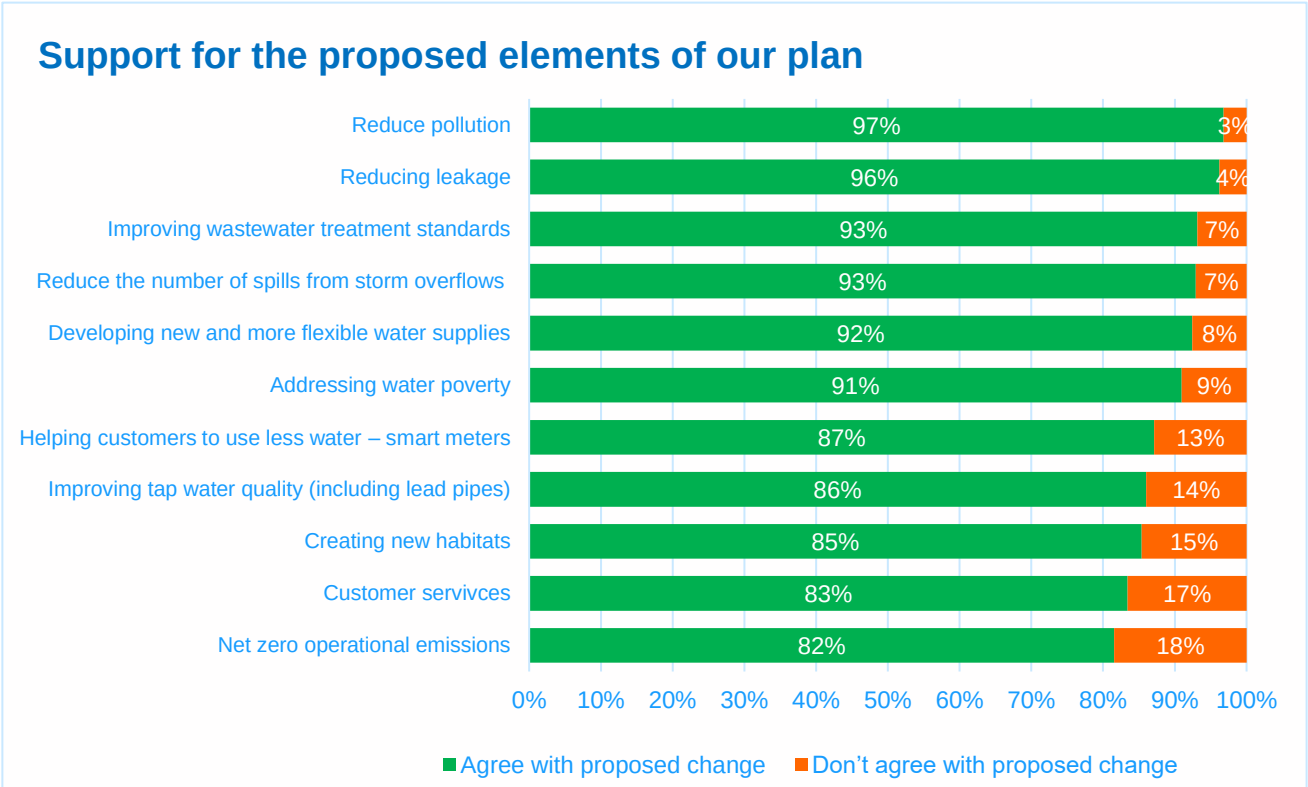


Figure 1 - Customer Support for Aspects of Our Plan

incorporating a £5m reduction in capex, that we will achieve through efficiencies in delivery supported by the experience gained of working in an island environment in AMP7, which has advised the efficiency defined for AMP8.

5. Delivery of the preferred option

Delivery approach

In recognition of the scale of our overall AMP8 programme, we have already made significant progress to delivery readiness for AMP8.

We were one of the first to go to the market to secure our partners directly off the back of significant industry and supply chain engagement and have benefited from doing so. The field of prospective bidders participating in our procurement process has been incredibly strong in a market where suppliers can pick and choose who they target.

Consultant partners, three of which are new to us, were appointed in July 2023, covering three key lots on a five year plus five basis:

- | | |
|-------------------------------------|-------------------------|
| 1. Project and Programme Management | (3 Consultant Partners) |
| 2. Cost Management | (3 Consultant Partners) |
| 3. Design and Engineering Services | (5 Consultant Partners) |

These consultants are now mobilising and commencing work on the transitional programmes, of our total PR24 plan, to enable on the ground delivery to commence by the end of Year 4 of AMP7, a year ahead of AMP8.

Recognising the buoyancy of the construction market, the engagement ahead of the procurement process has enabled us to shape our delivery model, approach and procurement to attract the key players. We focused the tender exercise on the elements that really matter along with a value-based evaluation weighted to the qualitative assessment over the pure commercials to ensure the best outcome. The success of this has been very strongly reflected in our prospective bidders, attracting all the key players into the process and submitting tenders. We were programme focused on the procurement model and hit all dates as prescribed in the bid process. We recognise that early engagement, visibility, consolidation of projects and simplifying process are key success factors. The programme model considers integration, collaboration and coordination boundaries to limit risk exposure between different delivery parties. The selection process of our main tier 1 delivery partners is also well-advanced; Pennon Board have approved the award of 6 delivery partners on the 27th September 2023. Mobilisation will commence on the 12th October 2023, with construction on the transition programme is anticipated during Q4, year 2023/24.

Table 11 - AMP8 Tier 1 Delivery Partners

Investment area	Geographic area	Delivery Partner
Wastewater Non-Infrastructure	Devon	1 x Tier 1 delivery partner
Clean Water Non -Infrastructure	Devon, Bournemouth, Bristol	1 x Tier 1 delivery partner
Wastewater Non -Infrastructure	Cornwall and Isle of Scilly	1 x Tier 1 delivery partner
Clean Water Non -Infrastructure	Cornwall and Isle of Scilly	1 x Tier 1 delivery partner
Infrastructure	Devon, Bournemouth, Bristol	1 x Tier 1 delivery partner
Infrastructure	Cornwall and Isle of Scilly	1 x Tier 1 delivery partner

Given the pressure on resources and to mobilise the greatest range of talent we have chosen to diversify our supply chain across the following, with awards being made to discrete Tier 1 Delivery Partners on a 5 year plus 5 years basis.

Our organisation model is integrated delivery with a governance Board, comprising of us and the Delivery partners.

Integrated teams in a structure of 2 Super Teams split 1 Devon/ Bournemouth/Bristol and 1 Cornwall/ Isles of Scilly with the technical and resource capability to deliver the programme in each geographic area. The Devon team will also pick up the Bournemouth and Bristol programme, with the Cornwall team picking up the Isles of Scilly. The storm overflow programme will predominantly, but not exclusively, be delivered by the 2 infrastructure partners.

The successful partners will also hold 'open frameworks' across the other lots that they bid proving flexibility and resilience to undertake regional programmes of work, hold mini competitions and support workloads across the full geography. This will ensure resilience in our delivery model.

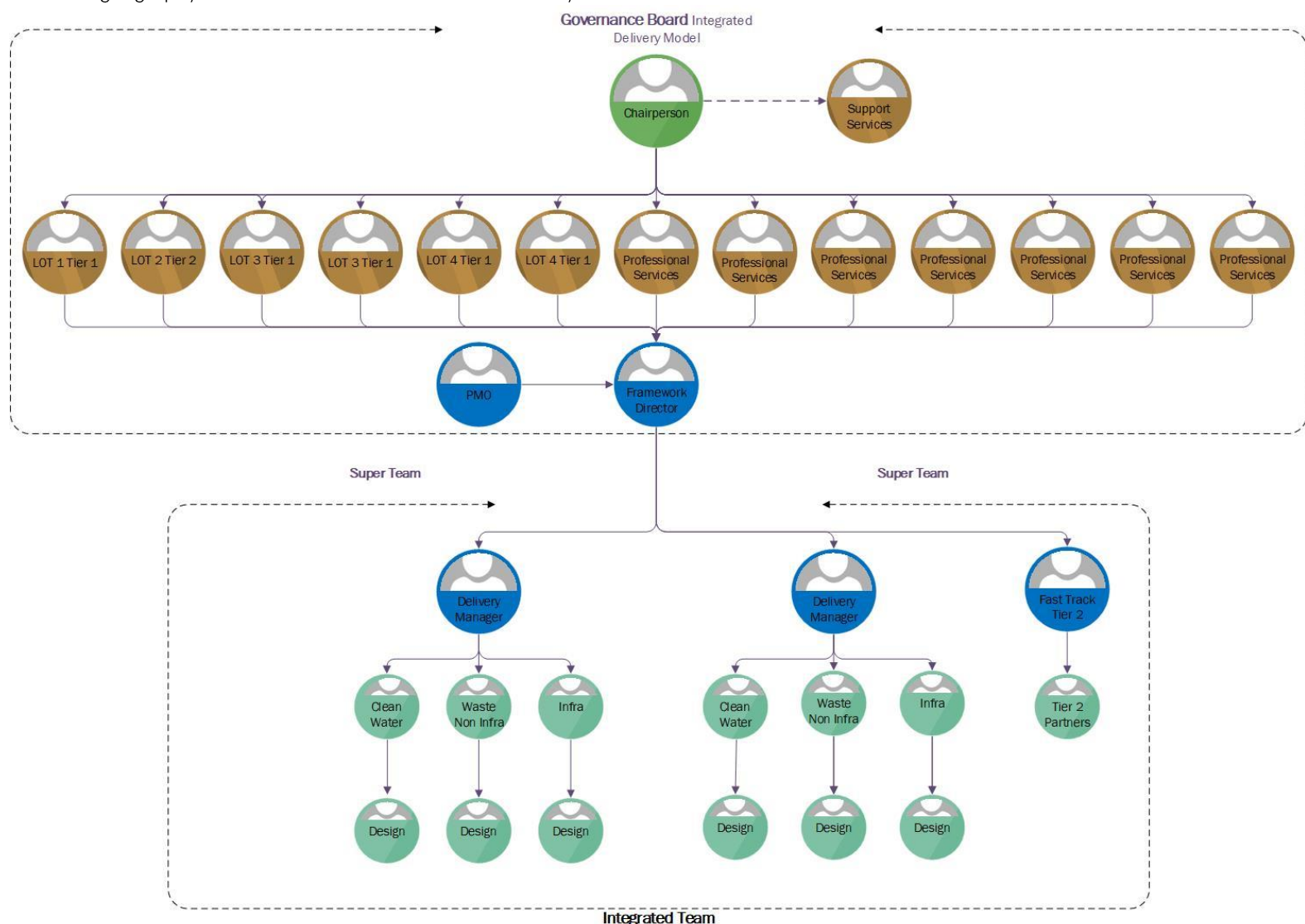


Figure 2 - AMP8 Integrated Delivery Model

In the engagement process the anticipated size of the lots were shared and our AMP8 programme remains aligned with this size and scale.

One of the key criteria in the selection process is the ability to resource the programme with particular focus on deployable regional resources. This is further supplemented by our ongoing engagement and support from the Civil Engineering Contractors Association (CECA) and British Water for the South West. Key sources of deployable resource from concluding programmes, accessible by our current bidders and partners, are: A303 upgrade at Sparkford to Ilchester, A30 works in Cornwall, Devonport Naval Base works, local highways frameworks and Hinckley Point construction winding down through AMP8 from 25,000 construction personal to 10% of this number on an enduring basis.

Programmes are already underway within our supply chain to redirect and retrain these resources ready for the substantial regional water programme. This is welcomed by the regional construction industry thus retaining the resources in the Greater South West.

The foregoing resources supplements our existing supply chain at both a Tier 1 level and wider Tier 2 and 3 levels which has already seen our annual capital significantly ramp up since the start of AMP7, demonstrating our ability to scale up delivery. The current AMP 7 programme has seen a significant increase in infiltration reduction this has been delivered by our Tier 2 incumbent partner. Additional business programmes such as WaterFit where we are improving 37 rising main schemes over a 2-year period have been delivered through our incumbent Tier 2 supply chain.

In addition, following the appointment of our Tier 1 partners in October 2023, we will move to enhance our wider Tier 2 and 3 supply chain with a process commencing in the Autumn and extending to March 2024.

In the selection process for our Tier 1 partners, we were specific in our selection of a partner that had the capability and experience to deliver our nature-based solutions.

This is further accelerated by our pioneering new research Centre for Resilience in Environment, Water and Waste (CREWW) established with the University of Exeter, where we are researching some of the most important challenges faced by the water sector and our customers today.

Environment Act Investigations will also be led by our Asset Management team. Much data is already being collected and the current SOAF investigations are being extended where possible to enable efficient delivery of the Environment Act Investigations. We have built a good relationship with specialist river water quality modelling consultants, and we have in-house resource we can focus in this area if required (the amount of river WQ modelling is currently being determined). Sampling and surveys are again completed using similar resource to the Bathing and Shellfish Water investigations.

We are going to move towards a more standardised approach to our work. We have considered the risk and complexity of our portfolio as we look to accelerate the delivery of our low complexity works and are currently trialling design by exception projects for improved time to site at reduced costs, enabling quicker delivery without compromising safety. Our work to standardise design and specifications will continue in AMP8/ and 9 and will contribute to our risk and value processes.

The Isles of Scilly is a unique place to live and work. It is a small island community with several key stakeholders who can have a large impact on the programme. These stakeholders are the Duchy of Cornwall, Council of the Isles of Scilly, Isles of Scilly Wildlife Trust, Tresco Estates and other service providers such as BT Openreach and National Grid. To address this unique environment and to coordinate South Water Water's capital programme with the stakeholders an infrastructure group has been set up. This along with the appointment of a specialist stakeholder management company to drive our stakeholder and community engagement strategy will ensure the best possible outcome for the island communities.

Our AMP7 Isles of Scilly programme is delivering the first part of our 2020-2030 plan with work forecast to complete by 2025, giving confidence in our AMP8 delivery. We will apply the lessons learned in our first five years of operation on the islands. Challenges due to the remote location, weather dependencies, transportation of resources and availability of accommodation for staff and our supply chain have all broadened our experience of delivery in an island environment.

We have appointed a dedicated Isles of Scilly capital delivery team to oversee the delivery of our AMP7 programme. This approach will continue into AMP8. We also plan to make accommodation provisions for our on-island capital delivery partners during the on-island delivery for AMP8.

In addition, we will build time into our delivery programmes to allow for consultation with various stakeholders including, the Council of the Isles of Scilly, Duchy of Cornwall, MMO, EA, Natural England, IoS Wildlife Trust, Historic England, Inshore Fisheries and Conservation Authority. We also recognise the need to understand any possible environmental impact from our delivery programme. The Isles of Scilly is an Area of Outstanding Natural Beauty and has several designations such as:

- Marine Conservation Zone
- Special Area of Conservation
- RAMSAR site
- SSSIs with biological or geological classifications.

Statutory and other consultees will require assurance that the environmental impact has been evaluated and effectively communicated, which will require surveys for sea grass *Zostera Marina*¹¹ (Feature of MCZ), wintering birds, breeding birds etc., many of which will have seasonal constraints. Many other survey requirements include landscape, air quality, noise, flood risk and dark skies. Arboricultural risk is particularly significant as the IoS has some of the oldest Elm trees in the UK.

We have also striven to build a positive, constructive relationship with the Duchy of Cornwall, as principal landowner on the islands, to facilitate the process of leasing land parcels for new assets and access to existing assets.

This experience and planning will enable the timely and efficient delivery of the FRS assets on the islands.

¹¹ Seagrass | Isles of Scilly Wildlife Trust (ios-wildlifetrust.org.uk)

Customers and communities

We have built a customer experience strategy that is focused on ensuring we provide this service. At its heart, we have undertaken to:

- Serve – provide excellent customer service to all our customers, supported by effortless, automated customer journeys
- Conserve – work with our customers to help care for the environment, leading behaviour change
- Care – supporting all our customers and ensure inclusive, consistent services
- Share – build trust by proudly showing who we are and what we are doing. Working with customers, communities and partners through purposeful engagement to learn.

In recognition of the scale and importance of this programme to our customer and communities, we will ensure that the customer experience journey informs our delivery approach:

- Customer Relationship Managers will ensure project specific communications to impacted customers and communities, making use of digital tools to support the improvement of the customer experience e.g., Notifications and Story boards
- Providing enhanced services for our vulnerable customers
- We will reduce the number of times we visit an asset and therefore reduce the frequency of potential disruption
- We have established control process and procedures for controlled access to our network
- We will engage and coordinate with Local Authorities such as the Devon and Cornwall councils to provide visibility of our works, optimising with other utility works and mitigate any disruption, enabled by our programme level approach
- We have factored in long lead considerations such as consenting and wayleaves into the phasing of our plan.

Timetable

The programme is the second part of our 10-year 2020-2030 programme since becoming the wastewater undertaker in 2020.

The AMP8 projects will all be delivered by 31/3/2030, as set out in Table 12 below.

Table 12 - Isles of Scilly Growth Project delivery in AMP8

	New WWTW Population Equivalent Capacity	Sewer and rising main km	SPS Nr	Sea outfall km	Delivery date
Bryher	435	5	5	0.3	31/03/2030
St Agnes	336	4.6	5	0.3	31/03/2030
St Martin	491	6	6	0.4	31/03/2030
St Mary's	0	15.9	9	2.0	31/03/2030
Total	1,242	31.5	25	3.0	

Resource and skills

We are confident we have the level of expertise for IoS programme because of our extensive experience of major programmes of coastal investment such as the £2bn Clean Sweep^[1] programme to improve coastal waters from 1992-2011, our extensive hydraulic and coastal modelling and investigation experience and our track record of collaboration with local communities and the Environment Agency.

^[1] [Clean Sweep \(beachwise.org.uk\)](https://www.beachwise.org.uk/)

Recognising the need to improve our green first delivery capability and experience, we are selecting partners with extensive experience in nature-based solutions, whilst building on the success of our upstream management approach.

Whole Life Consultants Ltd (WLC Ltd) completed research on our behalf to consider the workforce requirements to deliver our total capital expenditure from 2025/26 to 2029/30.

The Isles of Scilly programme creates circa 5 additional jobs in SWW and our mainland or on-island supply chain, throughout 2025/26 - 2029/30. This is out of the over 1000 jobs created by our overall AMP8 programme, thereby supporting the regional economy. We envisage that this will offset reductions in jobs elsewhere in the construction industry as other large-scale programmes in other sectors reduce.

6. Customer Protection

The benefit to customers is to provide first-time public wastewater network, treatment and disposal and the removal of the need for private septic tanks. The environmental benefit is the removal of risk of contamination of groundwaters, whilst also protecting the sensitive marine environment.

Customers will be protected via the treatment works compliance common performance commitment for three islands, where new permits will be introduced for each new WWTW.

Customers are further protected from non-delivery via regulatory enforcement powers of the Environment Agency.

Price Control Deliverables

Our Price Control Deliverables proposals are detailed in our **Risk and Return** document, and set out:

- the outcomes or outputs expected to be delivered from enhancement and related expenditure;
- the expected timing of delivery of these outcomes or outputs; and
- the payments to customers if these outcomes or outputs are not delivered on time.

We have used a 1% of relevant wholesale totex as an indicative threshold, testing the materiality of 0.5% of totex. We calculate PCD value based on 60% of the totex value. We have not deducted the value of any outcomes delivered, because of our choice in PCD type and the top-down approach to ODI values.

PCD_17 SWB First Time Sewerage

There are four individual schemes and a small (£1.0m) element linked to potential other small projects. We propose using PCDs for the specific projects on the Isle of Scilly. The schemes are in CWW3.161 table line.

Table 13 - Cost breakdown for all IoS schemes by line in CWW3

CWW 3 line expenditure (£m)	Name	2025/26	2026/27	2027/28	2028/29	2029/30	Total	Delivery date
CWW3.161	IN00001061-IN5F0102 Wastewater resilience for IoS St Marys	2.684	5.124	1.047	0.196	0.196	9.248	2027/28
CWW3.161	IN00001060-IN5F0101 Wastewater resilience for IoS Bryher	0.963	2.562	2.562	1.373	0.196	7.657	2028/29
CWW3.161	IN00001059-IN5F0100 Wastewater resilience for IoS St Agnes	0.000	0.000	2.245	3.902	0.887	7.034	2029/30
CWW3.161	IN00000235-IN5F0001 first time sewerage IoS St Martins	6.709	1.955	0.005	0.006	0.007	8.682	2026/27

The PCD approach for each scheme is set out in Table 14 below.

Table 14 - PCD breakdown

PCD_17 SWB First Time Sewerage	St Marys	Bryher	St Agnes	St Martins
Totex £m	£9.248m	£7.657m	£7.034m	£8.682m
60% of Totex	£5.549m	£4.594m	£4.221m	£5.209m
Outcomes value	-	-	-	-
Net PCD value	£5.549m	£4.594m	£4.221m	£5.209m

Activity	Project completion 2027/28	Project completion 2028/29	Project completion 2029/30	Project completion 2026/27
PCD rate	£5.549m	£4.594m	£4.221m	£5.209m
Time incentive rate	£0.324m	£0.268m	£0.246m	£0.304m

The below table gives an overview of the measurement and assurance approach for this PCD.

Table 15 - PCD overview for PCD_17 SWB

PCD_17 SWB	St Marys
Description of price control deliverable	There are four First Time Sewerage Schemes on the Isles of Scilly
Measurement and reporting	Completion of schemes reported on in APR
Conditions on allowance	None
Assurances	Independent third-party assurance of the annual amount of activity will be reported on as part of each APR submission, together with the calculation of the PCD at PR29.
Price control deliverable payment rate	As set out in PCD rate table for each scheme
Impact on performance in relation to performance commitments	Not applicable

7. Assurance

Board Assurance

The Board have been engaged at all stages in the development of South West Water's Business Plan for 2025-30. In line with customer and other stakeholder engagement they have set the objectives for the plan, which is both ambitious in respect of delivering significant improvements against key performance commitments in the outcomes, which we are prioritising, and reflective of the extensive customer and stakeholder engagement we have performed to establish the willingness of customers to pay for these priority areas.

The scale of the plan reflects well justified business cases, which have been thoroughly reviewed by the Board to ensure they represent efficient means of delivering the priorities. For example, the investment proposed to reduce the use of storm overflows in the South West area is judged by the Board to significantly reduce risks in respect of storm overflows and provide a significant improvement to the wastewater treatment process in the long term.

The Board has reviewed and challenged the Isles of Scilly enhancement case on a number of occasions, encompassing multiple board papers and challenge and review sessions. This has resulted in a number of changes to ensure the needs of customers and statutory obligations are met, the scale and pace of the plan, its deliverability and that the plan is both affordable and acceptable to customers.

Assurance has been central to the Board's decision-making process and business cases have been thoroughly and robustly developed, utilising both internal and external specialists, and subject to levels of assurance commensurate with the scale of the proposals. This has been provided in line with our Integrated Assurance Framework, utilising our external technical and financial assurance partners as well as other specialists when deemed necessary.

The Board have reviewed outputs of this assurance in considering business cases included within the Business Plan and, in approving the business plan, has also submitted and published its Board assurance statement.

Full details of the Board assurance and their Board assurance statement, including proof points and supporting evidence are set out in the Data, Information and Assurance document.

Data quality and verification

The Data, Information and Assurance document outlines procedures in line with our Integrated Assurance Framework being performed across the PR24 programme.

The effective operation of our first- and second-line procedures

In line with the process outlined in that document, this enhancement case, has been subject to full first line sign-off process. The case was also reviewed by an independent industry specialist to perform an independent second line review of the enhancement case documents.

Business plan tables, including enhancement case tables, have been subject to assurance procedures outlined in the Data, Information and Assurance document.

Overview of our approach to third party assurance

For the PR24 process, on a risk-based approach, all data tables submitted as part of our final submission, as well as significant submissions throughout the process are subject to this independent third line assurance.

The external technical audit covers all the data tables, including historic data, 2023/24 and 2024/25 forecast data, as well as business planning data for AMP8 and beyond. Subject to risk-based considerations across the data tables and other submissions detailed testing and challenge is performed including:

- A review of documented methodology and commentary for compliance with internal and external reporting requirements as well as definitions within the PR24 final methodology and other relevant information (such as Regulatory Accounting Guidelines 4 (RAG4))
- The documentation of assumptions, and whether they are reasonable
- The production of data in accordance with the documented methodology
- Consistency of data with previously reported information

- Preparation of the data in accordance with relevant Ofwat guidance, including amendments to guidance and queries
- A review of any proposed exceptions for ODIs as well as processes for challenging any judgemental classifications
- The format of data for publication
- South West Water internal review and sign-off procedures.

Jacobs, one of our core assurance providers, have reviewed the documentation for each case and provided independent third-line assurance. A summary of their findings is included as an appendix to the Data, Information and Assurance document.

External Assurance

All business cases have been subject to a thorough first line development process, including full sign-off process up to and including Executive level. Ongoing second line review of business cases proposed has been performed by an independent specialist consultant providing review and challenge, including consideration of Ofwat's quality and ambition assessment criteria.

External assurers, Jacobs have provided an independent third line audit on the DWMP, of which this forms a part. Our Isles of Scilly first-time rural sewerage plan for SWW has been subject to internal review, management controls and critical friend review by Turner and Townsend.

Jacobs independent external assurance - DWMP submission, May 2023

Jacobs' Technical Assurance team assured the final DWMP, their alignment to Defra's Guidelines and Water UK's Framework for the production of DWMPs, key assumptions and progress from the draft DWMP (submitted for consultation on 30 June 2022). The key audit findings are:

- the framework summary includes measures, scenarios, and the appraisal of options against SEA topics and objectives, in alignment with both the SEA and DWMP guidance.
- stakeholder engagement has been conducted throughout the DWMP process and a wide range of groups, stakeholders and customers have been involved to shape the final DWMP submission.
- consultation and engagement have been carried out to include all groups of customers as far as possible, using a range of approaches to engagement.
- the company has taken into account the feedback from the Strategic Planning Groups (SPGs) in the assessments and solutions, including inclusion of coastal risks and critical drainage areas where appropriate.
- resilience assessments have been carried out on all catchments,
- the Option Development and Appraisal process was found to be well managed,
- that measures are in place to achieve the objectives set in the Government's Storm Overflows Discharge Reduction Plan
- monitoring implementation of the plan is provided within the framework summary aligning with the SEA and DWMP guidance,
- the audit concludes that Defra's guidance and Water UK's Guiding Principles have been followed for the DWMP and in their opinion, should significantly improve and benefit the water environment of the South West region.

KPMG independent external assurance - Cost methodologies, May 2023

KPMG conducted a review of our cost calculation methodologies for drainage and wastewater, including WWTW Growth which underpin the Company's DWMP that had to be submitted to the regulator at the end of May 2023 and conducted sample tests to identify where there may be issues with the robustness of these methodologies. They concluded:

- they did not find any issues with the drainage and wastewater cost model and how model outputs were used such as would give rise to concerns about the accuracy of cost estimates.
- details of project specifications were drawn correctly from the cost estimating data sheets summarising model information into the Cost Estimating Template (CET) sheets used to build up cost estimates for projects.
- unit cost information was correctly drawn from the cost model and fed into the CET sheets.
- the models used had a good level of robustness (all assessed as Green or Amber based on SWB's RAG system).

Turner and Townsend independent external assurance – PR24 Isles of Scilly - September 2023

Turner and Townsend carried out a review of the Isles of Scilly FRW Enhancement business case. They concluded that the document described the business case effectively and had reasonable flow. No material issues were found.