

Large Scheme Gated Submission 1 Sandown Water Recycling ((Isle of Wight Water Recycling Project) IWWRP)

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from
**Southern
Water** 

Contents

Glossary	3
1. Executive Summary	5
2. Background and Objectives	7
2.1 Background	7
2.2. PR24 Business Plan	8
3. Optioneering and Solution Design	8
3.1 Optioneering Methodology	8
3.2 IWWRP Optioneering	9
3.3 Solution Outline Design	15
4. Solution Costs and Benefits	17
4.1 Cost Estimate	17
4.2 Benchmarking	18
4.3 Change Log - Post PR24 FD	19
5. Programme and Planning	19
5.1 Project Delivery Plan	19
5.2 Key Risk and mitigation measures	21
5.3 Proposed Submission 2 activities and timelines.	23
6. Customer Protection	24
7. Stakeholder and Customer Engagement	25
7.1 Public Perception and Strengthening Customer Support	25
7.2 Customer engagement	25
7.3 Regulator and Local Authority Engagement	26
7.4 Wider Stakeholder Engagement	27
7.5 Future Public Engagement	27
8. Assurance	28
8.1 Our approach to assurance	28
8.2 Managing Risks and improvements	28
8.3 External Assurance findings (Jacobs)	28
9. Efficiency of Expenditure to Date	29
9.1 Costs to Submission 1 (1 Oct 2025)	29
9.2 Forecast expenditure to Submission 2 (March 2026)	30
9.3 Comparison against the development allowance	31
10. Conclusions and Recommendations	31

11. Supporting Documentation	33
Annex A1: Cost Methodology	33
Annex C1: Delivery Plan DPW4	33
Annex C2: High Level Plan and Critical Path (Figure 7)	34
Annex E1: Stakeholder and Customer Engagement	35
Annex F1: Technical Assurance Report	35
Annex F2: Commercial Assurance Report	35

Glossary

Acronym	Full Term
ALS	ALS Laboratories (Analytical Laboratory Services)
AMP	Asset Management Plan
AOP	Advanced Oxidation Process
CMDP	Costain-MWH Delivery Partner
DO	Deployable Output
DWI	Drinking Water Inspectorate
EA	Environment Agency
EBL	Environmental Buffer Lake
ECI	Early Contractor Involvement
ETS	Engineering Technical Services
FD	Final Determination
HSW	Hampshire Southampton West
IoW	Isle of Wight
IoWC	Isle of Wight Council
IWWRP	Isle of Wight Water Recycling Plant
LSG	Large Scheme Gated
LSO	Long Sea Outfall
MBR	Membrane Bio-Reactor
MDO	Minimum Deployable Output
MoV	Management of Value
O&M	Operations and Maintenance
PDO	Peak Deployable Output

PR24	Price Review 2024
QC	Quality Control
RAPID	Regulators' Alliance for Progressing Infrastructure Development
R&V	Risk and Value
RO	Reverse Osmosis
STC	Sludge Treatment Centre
SWS	Southern Water Services
UV	Ultra-Violet
WINEP	Water Industry National Environment Programme
WRP	Water Recycling Plant
WRMP	Water Resources Management Plan
WRZ	Water Resource Zone
WTW	Wastewater Treatment Works

Figure 1 – Concept Image of IWWRP preferred solution



1. Executive Summary

Context and Strategic Need

Approximately a third of the Isle of Wight's (IoW) water is sourced from the River Test on the mainland and is supplied via the cross Solent main. The whole of the Hampshire region, including the IoW is under mounting water stress, with recent and forthcoming Environment Agency (EA) requirements mandating significant reductions in river abstractions on the mainland, enforced through an operating agreement known as 'Section 20'. These measures are necessary and supported by Southern Water Services (SWS) to protect precious and vulnerable habitats, but they also create a projected supply-demand deficit under both moderate and severe drought scenarios. In response, Southern Water's Water Resources Management Plans (WRMP19 and WRMP24) identify water recycling from Sandown as a critical solution for the Island, known as Isle of Wight Water Recycling Project (IWWRP).

Site Selection and Technical Approach

Following SWS' Risk and Value lifecycle approach, several process and technical options were proposed, developed and assessed to arrive at a preferred solution. Further confirmed by a separate Management of Value (MoV) exercise. The preferred solution entails taking a crude side-stream from Sandown Wastewater Treatment Works and employing crude Membrane BioReactors (MBR) and advanced treatment (Reverse Osmosis (RO), Ultra-Violet (UV) and an Advanced Oxidation Process (AOP)) with discharge into the River Yar (acting as an environmental buffer). This blended water is then abstracted downstream at an existing point and processed into potable water for onward supply via the existing network. The process elements are to be housed in a single 'water recycling plant' (WRP) for which a suitable location has also been identified via a selection process.

Stakeholder and Community Engagement

Building public understanding and support for water recycling is critical to the project's success. SWS has led a sustained and proactive engagement campaign, involving customers through research, consultation events, and targeted communications. Public exhibitions, direct outreach to local stakeholders, and open channels for feedback have been central to this approach. The engagement strategy is informed by insights from the wider Water for Life – Hampshire programme, ensuring lessons learned and best practices are applied.

Feedback to date indicates general acceptance for the project, though some concerns about the use of recycled water for potable supply remain. SWS continue to address these concerns through education and proactive communication.

Regulatory and Environmental Assurance

Regulatory engagement has been integral from the outset with SWS having worked closely with the Environment Agency, Natural England, and local authorities to ensure the scheme meets all legal and planning requirements. Environmental assessments are being carried out to support the planning application and discharge permits, with a focus on minimising ecological impact and ensuring compliance with all relevant regulations.

Risk Management and Delivery Considerations

A disciplined, SWS-wide risk management framework is applied to the scheme. The most significant risks such as schedule delays in planning consent, delivery partner capacity and public perception have been identified and are actively managed with clear mitigation strategies. The project's critical path is continuously reassessed to manage dependencies and risks to ensure projected benefits are achieved as early as possible.

Current Cost Estimate

As of September 2025, the Cost Intelligence Team (CIT) has produced an updated cost estimate for the preferred solution at £194.8m (including corporate overheads). Net Direct Works Costs are £82.2m and are based on scope information and supply chain quotations. CIT's benchmarking process, which adjusts for inflation and location, confirms that 90% of the net direct scope has strong cost confidence and that the net direct costs are within 3.4% of industry benchmarks.

Next Steps

With continued progress in design, environmental assessment, and stakeholder engagement, the IWWRP is considered well developed. Key upcoming activities include securing planning consent, Ofwat Large Scheme Gated (LSG) Submission 2 and progressing towards main works construction.

Table 1 Executive Summary: Sandown Isle of Wight Water Recycling Plant Scheme Details

Item	Project Details
WRZ	Isle of Wight
Population Impacted	140k
Primary assets	Water Recycling Plant (WRP) and pipelines between (a) the WRP site and River Yar injection point and (b) the WRP and long sea outfall location.
Scope	• New 3.25km pipeline • Advanced treatment process includes Membrane BioReactors (MBR), Reverse Osmosis (RO), Ultra-Violet (UV) and an Advanced Oxidation Process (AOP) • Takes Crude wastewater from sewer network (post screens at WTW) • Sludge collected by process fed back to main works STC • Waste streams combined and sent to existing Long Sea Outfall (LSO) • Treated (recycled) water transferred to River Yar when required
Excluded scope	Upgrades to existing Sandown Water Treatment Works
Delivery Partners	CMDP (Costain-MWH Delivery Partner)
Estimated Development costs	
Regulatory Drivers	WRMP19 WRMP24 (currently under consideration by Secretary of State)
Programme timeline	2030-31 first operation (WRMP24)

2. Background and Objectives

2.1 Background

Following the completion of Asset Management Plan 6 (AMP6) Water Industry National Environment Programme (WINEP), abstraction licence reductions were implemented at Newport and Lukely Brook sources on the IoW in 2020. As such, IWWRP was first selected in WRMP19¹ being referred to as 'Sandown Wastewater Treatment Works (WTW) Indirect Potable Reuse (8.1l/d)'.

Its selection was driven by further forecast abstraction license reductions where it was estimated at the time that IoW Deployable Output (DO) could reduce by up to 10.5MI/d under Minimum Deployable Output (MDO) conditions up to 17.5MI/d under Peak Deployable Output (PDO) conditions in a severe drought (WRMP19 Annex 9, Table 1). In the scenarios considered for WRMP19, the scheme was needed from 2027 to be fully utilised under drought conditions but not needed under normal year conditions (WRMP19 Annex 9, Section 3.1.6).

Sandown WTW Indirect Potable Reuse scheme formed part of the preferred strategy for SWS' Western Area² water resource zones in SWS' WRMP19. [REDACTED]

A developed version of the Sandown WTW Indirect Potable Reuse scheme, renamed 'Recycling (IoW): Sandown 8.5MI/d', and referred to in this document as IWWRP, forms part of the preferred strategy for the Western Area in SWS' WRMP24, so delivery of this scheme is subject to the enhanced commitment set out in the Section 20 Agreement.

As part of the Environmental Destination scenarios considered for WRMP24, the loss of DO under drought conditions was concluded as up to 14.5MI/d (WRMP24 Annex 9, Table 16). This is in addition to the reductions already implemented at Newport and Lukely Brook. In contrast to WRMP19, this option is not just needed under drought conditions. It is utilised under normal year conditions as soon as it becomes available in 2030-31 and is fully utilised from 2039-40. It reduces reliance on the cross Solent main transfer from Hampshire Southampton West (HSW) from over 10MI/d on average (since 01/01/2018) to less than 5MI/d (under normal year conditions) from 2044-45 onward.

In compliance with the Water Resources Planning Guideline (WRPG) issued for WRMP24, the scheme was pre-selected for WRMP24. However, following advice from Southern Water Engineering and Construction teams, the achievable delivery date was advised to be 2029-30 with availability from 2030-31. The option was also renamed to 'Recycling (IoW): Sandown 8.5MI/d'. Thus the needs case for 8.5MI/d of new water on the IoW was confirmed. This option, along with significant demand management is a key part of our

¹ SRN-DDR-028 Water Resources – Supply Enhancement Cost Evidence Case 28th August 2024 Version 1.0 and WRMP19 Technical Overview and Annex 9.

² The Western Area comprises seven interlinked water resource zones: Hampshire Southampton East; Hampshire Southampton West; Hampshire Winchester; Hampshire Rural; Hampshire Andover; Hampshire Kingsclere; and the Isle of Wight.

strategy to maintain the supply-demand balance on the IoW in droughts of up to 1-in-500-year severity.

2.2. PR24 Business Plan

SWS' PR24 business plan was submitted in October 2023. Provision of the 8.5MI/d deployable output was included via the Sandown WTW Recycling scheme with ~£184m (2022/23 cost base) of expenditure in AMP8 to construct a new water recycling plant adjacent to Sandown WTW with new pipeline and discharge to the River Yar. IWWRP (Sandown WwTW Recycling scheme) is now being progressed using the Large Scheme Gated Process.

3. Optioneering and Solution Design

3.1 Optioneering Methodology

This section outlines the standardised Decision-Making Framework SWS apply to determine a preferred option solution from a comprehensive long list to meet a needs case.

The framework, known internally as the Risk and Value (R&V) staged process (see Figure 2) has been developed to enable consistent and objective evaluation of potential solution options to ensure a balance of cost, benefits, risks, and other key factors. The approach integrates asset management principles and considers key lifecycle factors such as performance, risks, maintenance requirements, operational costs, decommissioning complexity, and useful life.

Figure 2 - Decision Making Framework



It governs the full project development and delivery lifecycle, with R&V stages 1–3 providing a granular approach towards detailed optioneering, promoting value-driven decisions early in a project's lifecycle when the greatest influence on outcomes can be achieved.

The purpose and objectives of R&V1 are to engage with all stakeholders, including strategy Sponsor, Engineering and Technical Service (ETS), delivery and Operations to collaboratively validate, develop and understand 'the need' with the outcome being a clear and concise needs statement. R&V2 sees root cause analysis conducted whilst the objectives of R&V3 are to identify options that meet the needs statement, followed by shortlisting of these options (R&V3.1) and, following further analysis a single, preferred option (R&V3.2) which demonstrably provides the best balance of cost and risk to meet the required needs statement.

Fixed review sessions occur at the R&V gateway stages, where multidisciplinary teams challenge, review, and when satisfied, agree on progression through to the next stage. The review sessions occur through workshops overseen by formal, independent facilitators, ensuring adherence to the designed R&V methodology, capturing lessons learned to inform future projects. The methodology and process is designed to provide confidence in the

selected preferred solution, thus ensuring alignment with broader programme objectives and delivering value for customers, stakeholders, and the environment.

3.2 IWWRP Optioneering

Developed in accordance with the R&V process overviewed above, IWWRP has a preferred option (R&V3.2). A potted history of the previous stages is provided below:

- R&V1: Risk Identification and Need Validation (July 2021): The agreed need statement at the time was: *'To provide 8.5 Ml/d via water recycling to the loW Water Resource Zone (WRZ) under a 1:200 drought scenario; as to meet the requirements of the WRMP19 by the 31/03/2027 regulatory date.'* At this stage, there were two recycled water transfer options in discussion, centred around the discharge location either on the Eastern River Yar or into the Golf Links tank bankside storage. A benefits and risk analysis was evidenced for both options.
- R&V2: Root Cause Analysis (October 2021): The problem statement for Sandown was: *'Current sustainability reductions and the requirement to not use drought orders has resulted in a deficit within the Hampshire & loW supply zones. One element of the agreed mitigations to this deficit was for a Water Recycling scheme on the loW, using Sandown WTW final effluent. This solution being subject to the Section 20 legal agreement between the EA and SWS.'* The statement of need was slightly modified to: *'To provide 8.5 Ml/d to the loW WRZ via a water recycling plant with a constant minimum flow; to meet the requirements of the WRMP19 by the 31/03/2027 regulatory date.'*
- R&V3.1: Shortlist of Options (September 2022): At this stage there were multiple factors that required options analysis. Nine options were considered, two of which were process related and seven were discharge options. Via the workshop, these were reduced to a shortlist of six to be taken forward for more detailed analysis.
- R&V 3.2: Preferred Option (May 2023): described below via a technical options and a site location options consideration process.

Technical Options Feasibility and Considerations

Each option put forward was capable of producing 10.8Ml/d of recycled water so that environmental and process losses could be accommodated in achieving the required 8.5Ml/d into the loW WRZ. This requires 15Ml/d to be available into advanced treatment to produce 10.8Ml/d of recycled water.

There were six options (shown in Table 2) involving either crude Membrane BioReactors (MBRs), tertiary MBRs or tertiary sand filters, with discharge location options as either the River Yar ("A" Options) or an (EBL) Environmental Buffer Lake ("B" Options).

Table 2 List of Options Explored

Option	Option Summary
1A. Crude MBR + Advanced Treatment (RO, UV AOP) + River Discharge	• Takes Crude wastewater from sewer network (post screens at Sandown WTW) • Sludge collected by process fed back to main works STC • Waste streams combined and sent to existing Long Sea Outfall (LSO) • RO required due to saline intrusion in sewer network • Treated (recycled) water transferred to River Yar, plant upsized to account for loss to environment

2A. Tertiary MBR + Advanced Treatment (RO, UV AOP) + River Discharge	• Takes final effluent from Sandown WTW • MBR required as pre-treatment due to relaxed discharge consent at Sandown WTW • Waste streams combined and sent to existing LSO • RO required due to saline intrusion • Treated (recycled) water transferred to River Yar, plant upsized to account for loss to environment.
3A. Tertiary Sand Filters + Advanced Treatment (MF, RO, UV AOP) + River Discharge	• Takes final effluent from Sandown WTW • Alternative to MBR pre-treatment. Nitrifying/denitrifying sand filters. • Waste streams combined and sent to existing LSO • RO required due to saline intrusion • Treated (recycled) water transferred to River Yar. Plant upsized to account for loss to environment.
1B. Crude MBR + Advanced Treatment (RO, UV AOP) + EBL Discharge	• Takes Crude wastewater from sewer network (post screens at Sandown WTW) • Sludge collected by process fed back to main works STC • Waste streams combined and sent to existing LSO • RO required due to saline intrusion in sewer network • Treated (recycled) water transferred to newly constructed EBL.
2B. Tertiary MBR + Advanced Treatment (RO, UV AOP) + EBL Discharge	• Takes final effluent from Sandown WTW • MBR required as pre-treatment due to relaxed discharge consent at Sandown WTW • Waste streams combined and sent to existing LSO • RO required due to saline intrusion • Treated (recycled) water transferred to newly constructed EBL.
3B. Tertiary Sand Filters + Advanced Treatment (MF, RO, UV AOP) + EBL Discharge	• Takes final effluent from Sandown WTW • Alternative to MBR pre-treatment. Nitrifying/denitrifying sand filters. • Waste streams combined and sent to existing LSO • RO required due to saline intrusion • Treated (recycled) water transferred to newly constructed EBL.

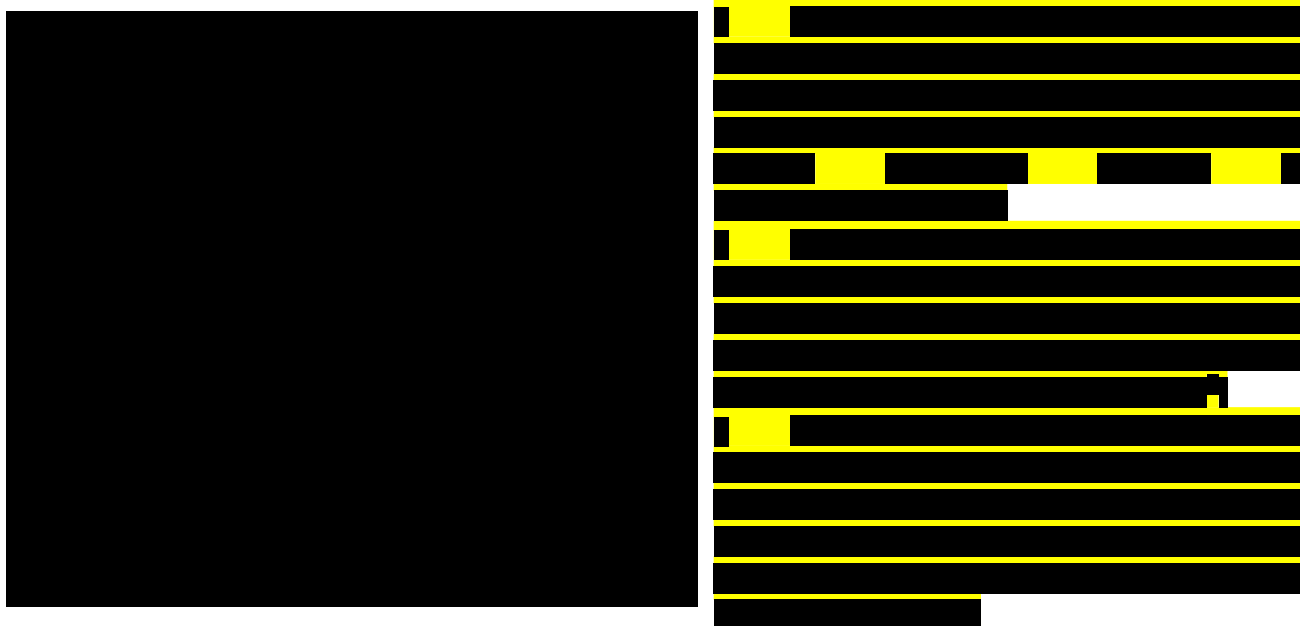
New WRP Site Location Considerations

In addition to the technical options outlined above, a site selection exercise was carried out with a key assessment criteria being distance from the Sandown WTW site. The importance of this criteria is related to technical, economic, and environmental constraints, such as:

- To minimise additional pumping infrastructure and pipeline installation between the WTW and the WRP. Further benefits arise from close proximity relating to reducing embedded carbon associated with additional construction activities to install such assets, as well as the energy and operational cost for the transfer from the WTW to the WRP and then transferring process related wastewater to the LSO back via the WTW.
- Shorter sections of pipeline reduce risk of pipeline rupture and leaks occurring.
- The closer the WRP is to the WTW, the lower the likelihood of creating a build-up of hydrogen sulphide gas. Greater distances have resultant health and safety implications and increase the risk of pipe corrosion.

Given the limited number of suitable locations on the IoW, identified sites are summarised below and oriented as shown in Figure 3. Notably, Sites 1 and 2 are owned by SWS, while Site 3 is owned by the IoWC. The minimum size of footprint required was 30,000m² with an allowance for 10,500m² for a temporary construction compound.

Figure 3 New WRP Site Options



These three land parcels were assessed for their feasibility against engineering design, constructability, consenting and environmental considerations such as published environmental constraints and designations. From this assessment, Site 1 was considered unsuitable for development due to the extent of uneven ground, as well as being 10,000m² too small for the optimised WRP layout and site compound.

Site 2 was too small to accommodate the WRP and is located entirely within a flood zone. Its permanent development was assessed as requiring land for flood compensation which was not available in the surrounding area. This land parcel is instead planned to be utilised as a temporary construction compound.

Notwithstanding its historic use as a landfill site, Site 3 was identified as the most appropriate option, with 49,139m² of space it was large enough to accommodate the new WRP. Unlike Site 1 ground surface is more even and there is adequate space for the configuration of the WRP site layout.

To ensure a robust preferred WRP location identification approach, a wider search area was then investigated to identify alternative potentially feasible land parcels within 1.5km of Sandown WTW and Alverstone Weir⁴. The outcome of the exercise reconfirmed that no further sites were suitable as they were either existing golf courses, sites allocated for housing in the IoW Local Plan, or greenfield sites within the IoW National Landscape. From this assessment, the most suitable location for the WRP remained as Site 3.

Cost Benefit Analysis (CBA)

As part of R&V3.2 a CBA of the six shortlisted options was conducted to assess financial, operational, and environmental (carbon) dimensions. Financial metrics including Capex

³ Environment Agency Flood Zone 3 designates land with a high probability of flooding, having a 1 in 100 (1%) or greater annual chance of river flooding or a 1 in 200 (0.5%) or greater annual chance of sea flooding, ignoring flood defences.

⁴ It was considered that a search area larger than 1.5km would result in increased energy, land-take and resource use associated with construction and operation of the proposed scheme. The 1.5km buffer was expanded in some locations to take into account land parcels that were partially located within the 1.5km, so that the full extent of that land parcel could be considered.

estimates at Class 5 stage (see section 4 for more information) were provided by our Cost Intelligence Team (CIT). Additionally Annual Opex as well as operational and embodied carbon estimates were supplied via ETS. All options, by definition were deemed capable of supplying the 10.8MI/d of recycled water and hence the 8.5MI/d (potable water) customer benefit. The comparison of this data at the time of the R&V3.2 is presented below. These figures, plus risk mitigation, were employed in a Whole Life Cost Model (WLCM) and assessed over 5, 10 and 30 years of operational life. Whole Life Cost and Whole Life Benefit (taken as 30 years) in NPV, were also assessed at R&V3.2. A percentage risk reduction evaluation⁵ of not meeting the Section 20 obligations and/or WRMP commitments was undertaken. These were derived via professional judgement by the subject matter experts within SWS. See Table 3 for analysis.

Table 3 Cost Benefit Analysis by Option

	Option 1a Crude MBR + Advanced Treatment (RO, UV AOP) + River Discharge	Option 2a Tertiary MBR + Advanced Treatment (RO, UV AOP) + River Discharge	Option 3a Tertiary Sand Filters + Advanced Treatment (MF, RO, UV AOP) + River Discharge	Option 1b Crude MBR + Advanced Treatment (RO, UV AOP) + EBL Discharge	Option 2b Tertiary MBR + Advanced Treatment (RO, UV AOP) + EBL Discharge	Option 3b Tertiary Sand Filters + Advanced Treatment (MF, RO, UV AOP) + EBL Discharge
CAPEX (£m)	133	119	156	153	140	176
Annual OPEX (£m)	1.58	1.41	1.5	1.66	1.5	1.6
Annual Operational Carbon (m/tCO ₂ eq/year)						
Embodied Carbon(tCO ₂ eq)						
Whole Life Cost NPV (£m)						
Whole Life Benefit NPV (£m)						
Section 20 /WRMP Risk Reduction	80%	60%	50%	50%	30%	20%

The data indicates that from a WLC perspective Option 2A would be preferred, given this has the lowest financial forecast to the business and customers. However, when Section 20 / WRMP risk reduction was considered, the relative difference in WLC between Option 1A, 1B and 2B is small (c£22m), but the risk reduction is wide ranging (50% to 80%, with the Option 2A at 60%).

⁵ The SWS Subject Matter Experts used their professional judgement to assess the percentage chance of ensuring the 'risk of not meeting section 20 and/or WRMP commitments' was not realised by scoring the likelihood and consequence of achieving legal compliance, the risk of severe restrictions in a drought and long-term supply demand impact for each of the 6 options.

As such, given the relative cost difference to Option 2A to provide a much greater likelihood of Section 20 / WRMP risk reduction. A case was made in the R&V3.2 workshop for Option 1A to be selected as the preferred option⁶.

Through this structured approach, we gained a holistic view of option feasibility, enabling informed and balanced decision-making, even considering non-monetised benefits such as those relating to carbon, that aligns with both financial objectives, sustainability goals and risk reduction. However, given an element of professional judgement was used in the assessment at R&V3.2 the Programme Sponsor requested that a Management of Value (MoV) study was also performed to ensure the move from Option 2A (best WLC) to Option 1A (best risk reduction) was robust.

Management of Value (MoV) Study (May 2023)

A MoV study exercise was performed to conclude the R&V3.2 outcome. MoV, used extensively across Government and public sector projects, works by identifying a set of strategic 'value' drivers, establishing their relative importance to each other and assessing the solution options against the output.

Value Drivers: The need statement was reconfirmed, and strategic value drivers were discussed and agreed with the Sponsor, SMEs and Asset Management representation (see Table 4 below).

Prioritisation: The next task was to ascertain the importance of each value driver relative to the full set. A 'Paired Comparison Matrix' was used to compare each value driver with every other in turn. Workshop participants rated, by consensus, the extent to which one value driver was thought more important than the other in accordance with a scoring system (1 = slightly more important; 2 = more important; 3 = significantly more important). In line with good practice, a spare/dummy driver was used to ensure that each value driver achieved a score. Once all paired combinations had been assessed, a simple weighting was established to provide the relative importance of each. For this MoV exercise, a sensitivity analysis was also conducted where the paired comparisons were close. Here the average of four sensitivity outputs were used to arrive at the outcome as follows:

Table 4 MoV Value Drivers and their Relative Importance

	Value Driver	PRIMARY / SECONDARY	Description	Relative Importance
A	Meeting commitments and expectations	PRIMARY	-	22.7%
B	Minimise environmental impact	PRIMARY	Accounting for the construction impacts as well as the wider impact on the environment	18.2%
C	Potential to improve natural capital	SECONDARY	Additional benefit	3.0%

⁶ In addition, from an EBL location perspective (relating to options 1B, 2B, and 3B), a site selection process consistent with that used for the WRP location, reviewing lakes and existing watercourses, identified a minimum area of 52,900m² was required to account for the EBL itself and associated construction needs within a 500m search area from key assets. Of six initially identified sites, five were considered suitable, as a smaller site with protected species constraints was excluded. All shortlisted sites were within the Isle of Wight National Landscape, with constraints from heritage assets and settlements. Due to policy limitations, landscape and visual impacts, and constructability concerns with slope and elevation, the EBL options were not deemed viable, thus also supporting solutions the discharge to the River Yar such as Options 1A and Option 2A, and discounts Option 2B.

	Value Driver	PRIMARY / SECONDARY	Description	Relative Importance
D	Reduce reliance on treatment process at Sandown WTW	SECONDARY	Additional benefit and provides a good benefit to the company	6.1%
E	Support reliable and controllable operation	PRIMARY	Minimise intermittent operating. Must be able to adjust to change	21.2%
F	Regulator(s) and customer acceptability	PRIMARY	-	28.8%

Evaluation: The evaluation stage assessed each of the six R&V3.2 options outlined in Table 2, against how well they meet the value driver description in Table 4. The assessment, agreed via workshop consensus, was on a scale of 1 to 5 (5 being 'very well'). Once this scoring and relative importance were considered, a Value Index for each option was calculated to give an indication of how each option performed against the set of strategic drivers (without accounting for option cost). For value indices, which range from 0 to 500, external good practice suggests an index of 175 or below is regarded as poor value, whereas an index of over 375 is regarded as excellent value. The value for £ spent is calculated using a simple ratio performed using the value index and its capital cost for each option, see Table 5 for results. The analysis outcome is that Option 1A best meets the identified strategic drivers and remains the best value for money option to meet the needs case.

Table 5 Options with Value Index and Value for £ Spent Ranking

Option	Value Index	Value Index Ranking	Value for £ Spent	Value for £ Spent Ranking
1A. Crude MBR + Advanced Treatment (RO, UV AOP) + River Discharge	437.7	1		1
2A. Tertiary MBR + Advanced Treatment (RO, UV AOP) + River Discharge	384.8	3		2
3A. Tertiary Sand Filters + Advanced Treatment (MF, RO, UV AOP) + River Discharge	406.0	2		3
1B. Crude MBR + Advanced Treatment (RO, UV AOP) + EBL Discharge	313.6	4		4
2B. Tertiary MBR + Advanced Treatment (RO, UV AOP) + EBL Discharge	181.8	6		5
3B. Tertiary Sand Filters + Advanced Treatment (MF, RO, UV AOP) + EBL Discharge	224.2	5		6

R&V3.2 Preferred Option Outcome

Option 1A, the crude sidestream approach, is the preferred technical solution because it offers a reliable method for treating screened sewage at Sandown WTW to a standard suitable for discharge to the River Yar. More advanced tertiary treatment options were considered but found to be higher process risk, as they are untested for this type of effluent and unlikely to consistently achieve the required pre-treatment standards needed to protect the Reverse Osmosis process.

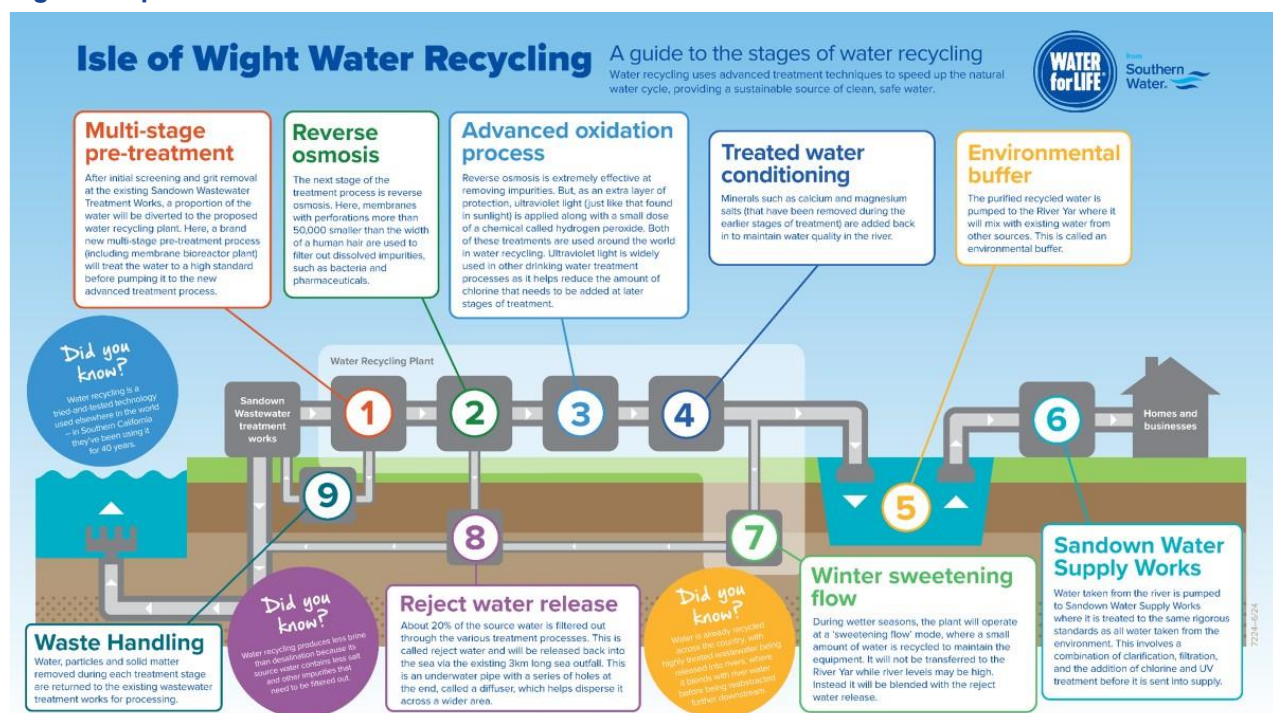
Option 1A also performed best within the MoV Study, as it most effectively aligns with the identified strategic drivers and continues to represent the best value for money in addressing the needs case.

Site 3 emerged as the preferred location for the WRP due to it being on higher ground (and outside of the flood plain), has good proximity to the existing WTW, and has sufficient space for the optimised WRP layout and access to adjacent site for the construction compound. Assessment work showed that engineering mitigations were available to minimise any potential impacts related to the former use of the site as a landfill, meaning this historical use did not stop the viability of this site as the preferred solution.

3.3 Solution Outline Design

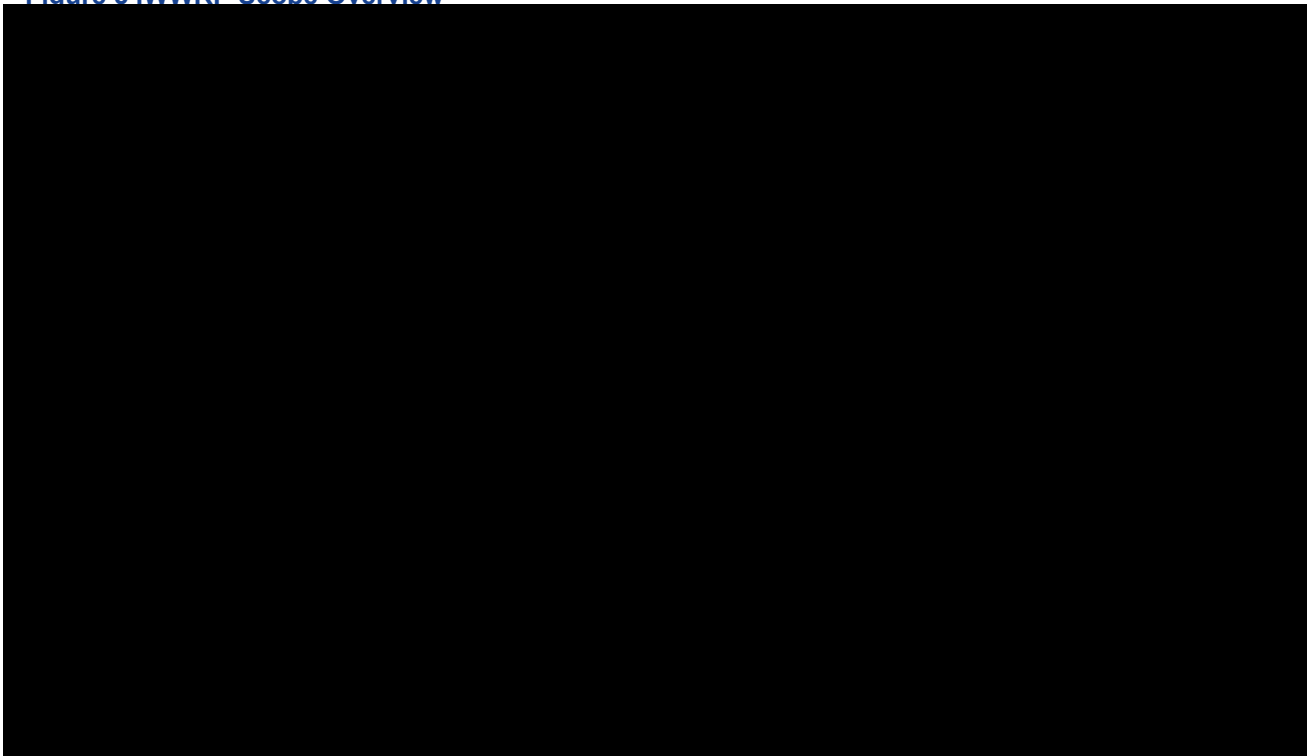
Since Option 1A was confirmed as the preferred option, we have been undertaking Early Contractor Involvement (ECI) with CMDP (Delivery Partner) to progress the conceptual design. The schematic in 4 below summarises the process steps.

Figure 4 Option 1A Process Schematic



Stages 1 to 4 of this process will be performed in the new WRP at Site location 3. It will use advanced treatment processes to clean and purify wastewater. The purified water will be pumped into the eastern River Yar (stage 5) to blend with river water (approx. 10.8MI/d). The same volume of blended water will then be abstracted from the river downstream to be treated to drinking water standards at the existing WSW before being supplied to customers on the island (8.5MI/d). The reject stream will be released via an existing LSO. During a drought the water recycling will support water supplies across the island. The scope overview and indicative pipeline route for Option 1A is summarised in Figure 5.

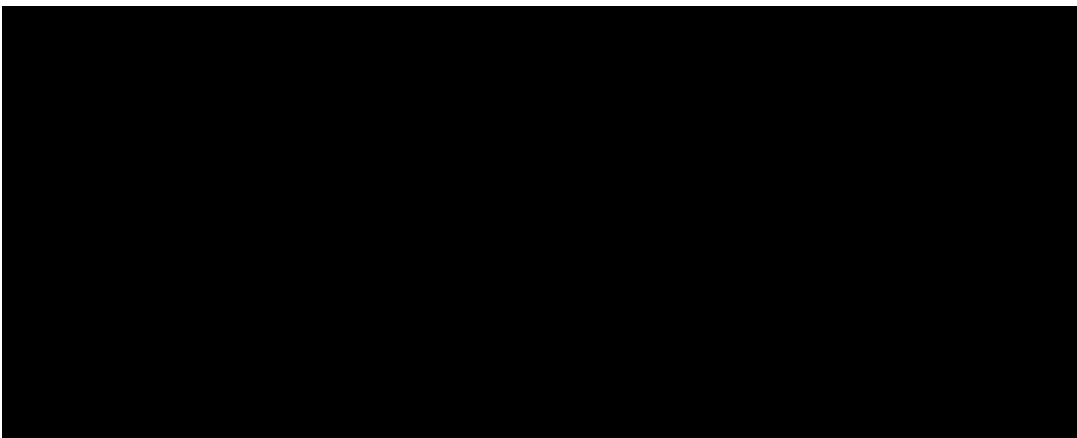
Figure 5 IWWRP Scope Overview



A new underground pipeline is also needed to transfer the treated water from the WRP to the new outfall, and after considering various route options the location just upstream of the Alverstone Weir was chosen primarily due to the cost advantages provided by the shorter 3.25km length of this route compared to the longer alternatives of up to 12.50km. The pipeline route will use a combination of trenchless construction methods where it crosses environmentally sensitive watercourses, main roads or railway lines and open cut techniques with Figure 6 below showing both the 'trenchless' and 'open cut' locations.

In addition to this, some minor scope is envisaged to be required at or around Carisbrooke WSW to enable water to be transferred to the north of the island. As this water does not exist yet, and the volumes are small, this scope is currently not considered to be technically challenging, expensive to deliver or operate.

Figure 6 Proposed pipeline route map and construction method



4. Solution Costs and Benefits

4.1 Cost Estimate

At R&V3.2, Mott MacDonald were engaged to provide a benchmarked project cost estimate for the six options outlined in Section 3.2. Mott MacDonald is on the SWS framework with a remit of providing both cost intelligence and benchmarking services, and the provision of independent expertise to assess the project's value for money. The team are referred to as the Cost Intelligence Team (CIT). Class 5⁷ cost estimates were prepared for the R&V3.2 option evaluation, that concluded with Option 1A as the preferred and best value solution.

In July 2024 following significant design work to develop the preferred solution and site selection costs, a more mature Class 3⁸ estimate was prepared. This was based on scope lists developed by the Delivery Partner CMDP and included package quotation budgets from process vendor suppliers for Net Direct Works Cost items such as MBR and UV large process elements.

As part of ongoing development, CIT has produced a further cost estimate to support the proposed scheme. This has been based on scope information and data derived for the Price Review 19/Price Review 24 (PR19/PR24) submissions, alongside updated design and technical inputs provided by SWS' Design Team ETS and SWS' Professional Services Consultant, [REDACTED].

As of September 2025, the mid-point estimate has matured further. Direct costs remain unchanged given they are supply-chain derived, but indirect costs have been recalculated using the formal PR24 cost methodology (*SRN15 Cost and Option Methodology*⁹) and hence includes corporate overheads. Additionally, the estimate now also uses pre (rather than post) mitigated risk evaluation. As such, the estimate currently stands at £174.3m (excluding corporate overheads), or £194.8m (including corporate overheads). The higher figure is within 0.5% of the PR24 Final Determination (FD) allowance. This is outlined in Table 6.

Table 6 High level cost breakdown - Option 1A – September 2025, inc. Corporate Overheads

Cost Type	Cost Type Description	£m
Net Direct Works Costs	Costs incurred by the contractor to deliver the project. Includes materials, plant and labour	[REDACTED]
Pre-mitigated Risk Register	Based on the pre-mitigated risk sum from the project risk register	[REDACTED]
Contractor and Client Indirect Costs	Costs incurred by the client and contractor during the development and management of the project. Includes design, preliminaries, construction management, third party costs, as well as contractor overheads, insurance and bonds	[REDACTED]

⁷ A Class 5 estimate ranges from -20% to +100% around a midpoint.

⁸ A Class 3 estimate ranges from -10% to +30% around a midpoint.

⁹ Southern Water. SRN15 Cost and Option Methodology: Technical Annex (October 2023). Available at: https://www.southernwater.co.uk/media/mjyp0of4/srn15-cost-and-option-methodology_redacted.pdf

Total Project Estimate		
Corporate Overhead	Costs applied to cover head office support, governance and assurance, legal, finance and HR functions and strategic management	
TOTAL		

[REDACTED]. Further details on the high-level breakdown for the cost build-up is available in the Sandown WwTW - Cost Build Up Outline Methodology Annex A1.

Activities to Submission 2 (detailed in section 9) include a review of the above costs with support from the Delivery Partner and further benchmarking by CIT to provide an assured total project cost for Submission 2.

4.2 Benchmarking

Benchmarking Methodology

CIT employ their benchmarking tools to ensure consistent alignment across individual assets and models with known industry data. As such, where elements of the estimate lie outside the range of comparable industry models, these have subsequently been removed from analysis. This ensures consistency of results and aides in highlighting key areas where costs are not aligned with the industry. The estimating and benchmarking methodology bring a structured approach to developing robust and auditable costs estimates, deployed on PR24 and within our capital projects and programmes. The methodology is built on a three-tier triage system:

- Level 1: High-level optioneering using cost models for rapid scenario planning.
- Level 2: Top-down estimates at asset/function level for viable options.
- Level 3: Detailed bottom-up/top-down estimates for business plan submission.

Benchmarking Report/Outcome

Given the nature of the cost estimate derivation, benchmarking has been performed on the Net Direct Works only.

[REDACTED]

[REDACTED]

[REDACTED] The costs attributed to quotations have then been included in both the scope benchmarked, and the benchmark, to give an overall cost confidence position.

It should be noted that costs were normalised with respect to inflation using the CPIH inflation index and normalised with respect to the construction location using BCIS location

factors. The latter helping to mitigate effects of regional purchasing power, improving benchmark accuracy. The price base was set to 1Q2023.

Costs associated with Custom Assets were incorporated into the benchmark where possible increasing coverage and benchmark confidence in the more bespoke assets. Cost models were aligned, and care was taken to examine corresponding scope information. In some instances, high-level assumptions were made, with the focus being to promote like-for-like comparison. In instances where there was insufficient granularity to reasonably align models, the asset was excluded from the benchmark analysis.

There were instances of large proportions of costs being attributed to assets that have been supplied with quotations from the supply chain. Where there was sufficient granularity within the scope for these assets to be benchmarked, a benchmark cost was taken forward in the traditional manner to improve confidence in the benchmark output.

4.3 Change Log - Post PR24 FD

There have been no material changes to the scope, benefits, site location, route, programme or costs on this project since the PR24 Final Determination in December 2024 (based on Ofwat's PR24 criteria of change). Therefore, no change log is included in this submission.

5. Programme and Planning

5.1 Project Delivery Plan

As project scope has developed, the project schedule has also matured with validation arising through ECI with our Delivery Partner. The project team has been driving required activities associated with design development, consenting, stakeholder engagement, land procurement and environmental works to meet key project milestones as well as interim milestones communicated to Ofwat in August 2025 as part of the Delivery Plan submission.

We have ensured that this submission is fully aligned with our DPW4 delivery plan table, including all key milestones and expenditure details. The relevant table is provided in the Annex C1. This replaces our August delivery plan submission as the most up to date baseline, there is likely to be limited change as part of our November 7th 2025 update to the delivery plan. As part of Submission 2 there may be further changes to the delivery plan baseline.

These lines of activity, and natural project development and consultation have resulted in several challenges that put the WRMP19 2027 'need by' date under strain. Such challenges are summarised as follows:

- Delays and complexities obtaining WRP planning approval. Including a full Environmental Impact Assessment (EIA) being required as the construction of the new WRP, on Site 3 is a landfill site. This required extensive ground investigations to inform the design and construction methodology.
- The need for a River Yar discharge permit to accept WRP treated water.
- Modifications required to the existing Sandown WSW abstraction permit to account for the purified wastewater discharged from the WRP. We are sampling the wastewater treatment works (crude and final effluent), the river at Alverstone Weir

and a sea location near the Sandown WTW LSO outside of the current modelled plume, to support the discharge permit application.

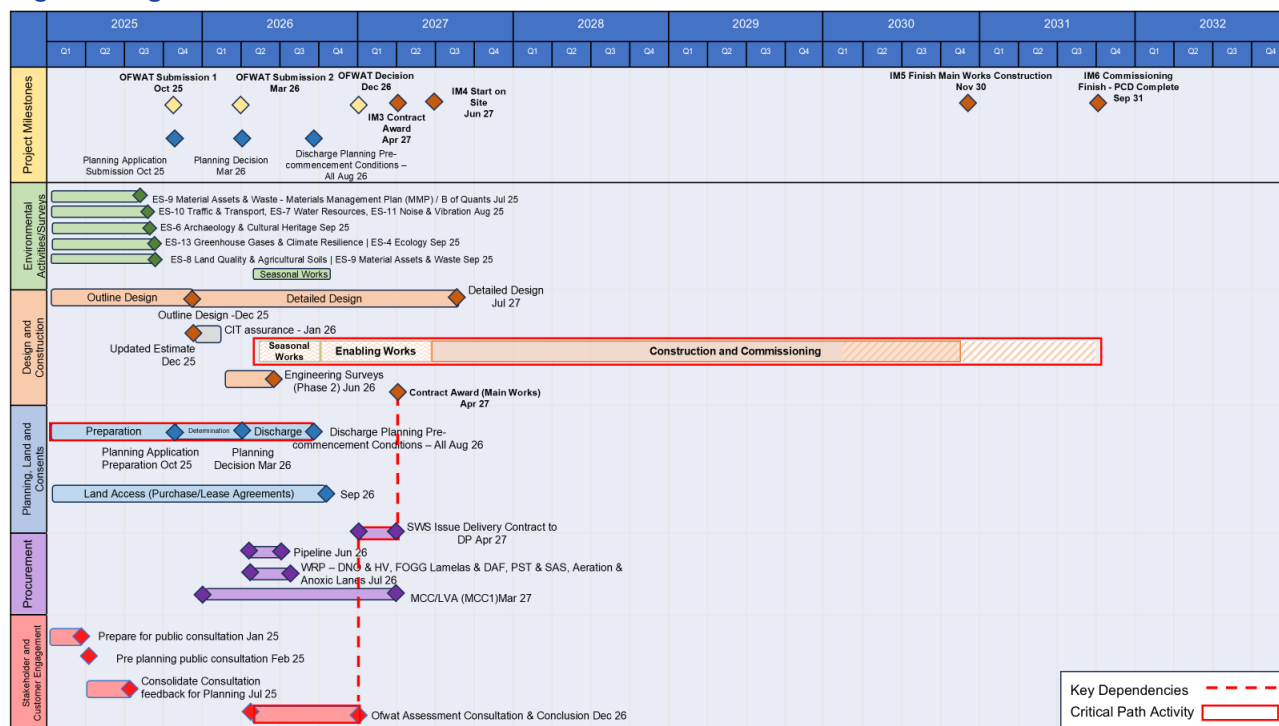
- Complexity associated with building on a former landfill site that requires environmental, ecological and engineering assessments.
- Establishing and formally confirming requirements for Biodiversity Net Gain (BNG).

Relevant, related information was incorporated into the development of WRMP24¹⁰, which has since concluded in Technical Report Exec Summary, Page 1 that the beneficial use 'need by' date has been revised to water resource year 2030-31. It also means that the statement of need has been revised from that considered at R&V3.2 to:

'To provide 8.5 Ml/d to the loW WRZ via a water recycling plant with a constant minimum flow; to meet the requirements of the WRMP24 by 2030-31.'

Accordingly, the current schedule is summarised in Figure 77 below (and in Annex C2).

Figure 7 High Level Plan and Critical Path



Prior to PR24 FD the plan to start construction was in Q4 2025. Following PR24 FD the schedule has been amended to take account of the LSG process and submission dates. As can be observed, the current plan shows that the IWWRP will start commissioning in Q1 2030 with construction due to complete in November 2030 and final commissioning forecast to be completed by September 2031. During the 20 month commissioning phase which overlaps with construction, engineers and technicians perform system calibration, equipment and process testing and operational adjustments alongside SWS operations for this new asset type, ready for full handover.

¹⁰ At the time of writing, WRMP24 was awaiting final approval by Secretary of State.

In order to ensure the earliest delivery date the IWWRP project team are taking every opportunity to seek out efficiencies and expedite the delivery as we progress the project. In particular:

- There are collaborative planning sessions underway with the Delivery Partner to derisk the schedule and explore opportunities for acceleration through
 - procurement of long lead items;
 - consideration of modular construction and Design for Manufacture and Assembly (DfMA) principles; and
 - Optimisation of the commissioning schedule.
- We are exploring ways to proceed with seasonal enabling works in Summer 2026 so that we can start with the main works in late 2026 or Q1/2027. In order to enable this we are actively engaging with Ofwat to assess our potential exposure and financial (cash flow) risks associated with 'working at risk' while the LSG process is ongoing. Our initial view on the current shortfall is ~£20m as set out in Section 9.3. We will establish a clear position on this before LSG Submission 2.

Next Key Milestone

Our next (at the time of writing) key project milestone is our Town and Country Planning submission to the Isle of Wight Council (IoWC) in October 2025 for their determination. This follows consideration and incorporation of feedback from our statutory consultation earlier this year (see section 7).

5.2 Key Risk and mitigation measures

Risk identification and evaluation activities are in line with SWS' risk management framework. This framework defines a process that all capital projects must follow for risk identification, evaluation, mitigation, and review, and is fully aligned with ISO31000 requirements. Following this process, the key risks to achieving the project objectives have been identified, scored, and mitigation actions defined.

Risk is actively managed by the project team and captured within the IWWRP risk register and are consistent with the quarterly dashboards presented to Ofwat. The risks listed have been identified through risk workshops that include the Delivery Partner through ECI. Risk prioritisation is determined by the impact on either outturn cost or the operational ready date.

The risk impact, likelihood and cost profile have been refined and updated as the project matures. The dependency between LSG Submission 2 final decision (December 2026) and the award of the main works contract along with supply chain capacity to deliver the works in these revised timescales are two key risks, impacting on our operational ready date.

The top 10 risks are summarised in Table 7 with total pre-mitigated risks estimated at £29m, decreasing to £14.6m post mitigation.

Table 7: Key Scheme Risk ordered by current score severity (pre-mitigation position)

Risk Category (and ID)	Risk Description	Pre-mitigation Score	Mitigation Action	Residual Score
Procurement & Commercial 708102-042	Due to the IWWRP making the assumption that the construction contract will be awarded to CMDP, there is a risk that CMDP do not have the required resource to proceed with the stage 2 contract, resulting in significant delay and additional cost while		Joint working group planned between SW procurement and CMDP to review options.	

Risk Category (and ID)	Risk Description	Pre-mitigation Score	Mitigation Action	Residual Score
	a re-tendering exercise is undertaken, putting subsequent schedule milestones and beneficial use at risk			
Construction (on site): Ground & Env Condition 710023-055	Due to excavated materials coming from an old landfill site, there is a risk that suitable locations for receiving unspecified quantities of contaminated materials are limited in number and/or difficult to access, in particular the Isle of Wight. This could lead to (a) additional costs and (b) delays.		Design to ensure minimum hazardous material requires removal from the site. Site to have working area for storage of hazardous waste between excavation and disposal.	
Financial 710023-116	As a result of design evolution there is a risk that the scope growth and/or complexity to that previously costed at cost plan 2 leading to additional cost/increase final outturn cost.		Residual score unchanged until mitigation activities confirmed.	
Planning, Consents and Stakeholder Approvals 710023-057	Due to the environmental and ecological impact of the proposed works, there is a risk the Isle of Wight Council require significant pre-commencement conditions as part of the planning approval process. This could lead to (a) delays in implementing the solution and (b) increased costs from additional management time and/or costlier solutions.		Formal pre-application advice from Isle of Wight Council underway to inform overall planning strategy. A proposed approval date of March 2026 is scheduled into the Project Programme and/or the Project Execution Plan. EIA Scoping & environmental statement progression to inform overall planning submission.	
Planning, Consents and Stakeholder Approvals 710023-013	Due to insufficient space on existing SWS land and the need to secure new land for the WRP (currently from IoWC + Fire Service), there is a risk that SW may have to pay above market rate for the land and/or use compulsory purchasing powers to acquire the land. This could lead to (a) reputational damage and (b) delays in implementing the solution and (c) increased costs resulting from land acquisition & relocating existing owners / tenants.		Agree landfill liability ownership as part of land purchase strategy. Landowner engagements to agree heads of terms at appropriate time in the programme. Tenant relocation strategy to be agreed & implemented to ensure vacant possession of site for the access date.	
Planning, Consents and Stakeholder Approvals 710023-023	Due to delays in completing the sampling or data analysis for the permitting, and/or additional sampling or pilot trials having to be implemented, there is a risk of delays to, or changing requirements associated with the new or modified discharge permitting associated with the project. This could also create delays in reaching agreement with process product providers. This could lead to (a) project delays and (b) additional costs from downtime etc.		Coordinate and instruct sampling and data analysis. Commence EA permitting pre-application January 2027 to inform additional requirements	
Handover to Operations 710023-011	Due to the complexity of the project, and the first-in-use nature of the solution there is a risk the project needs to provide additional O&M support to SWS. This could lead to delays resulting in (a) delays in contractual takeover and completion and (b) additional costs resulting extended O&M on the project.		Supply chain to provide expert support during handover and commissioning phase. Obtain maintenance agreements with key suppliers. Agreement between SWS and CMDP for O&M handover strategy.	
Construction: Technical Design Development 710023-016	Due to the design complexity of the project, there is a risk of complex technical challenges with regard to: fully complying with SWS standards, e.g. reverse osmosis, UVAOP and MBR. This could lead to additional cost as a result of additional design work and increased scope to meet SWS specs.		Obtain approval/confirmation from ETS that any of the proposed RO solutions are compliant with SWS standards. Supply chain informed of required standards that need to be followed.	
Planning, Consents and Stakeholder Approvals 710023-071	Due to a) a lack of resource within the SWS water sampling data quality team, b) the considerable volume of samples from the various sites, c) ALS labs sometimes not processing samples in acceptable time or		Progress permitting pre-application based on current 'raw' data while resourcing sourced for QC reviews to be undertaken concurrently to commencement of pre-app.	

Risk Category (and ID)	Risk Description	Pre-mitigation Score	Mitigation Action	Residual Score
	other supply chain issues, and d) initial sense checks of the data from ALS being significantly time consuming, there is a risk that river and seawater sampling data cannot be QCd in line with when the scheme needs to either prepare or update the necessary position statement, resulting in delays to completing the H1 screening assessment, key component to the discharge permitting application process.			
Planning, Consents and Stakeholder Approvals 710023-024	Due to stakeholders objecting to the recycling of wastewater and the resultant publicity, there is a risk of: a) the relevant planning permissions, and/or other such licences, consents, permissions required to implement the works being delayed. b) Impact to the delivery of the works associated with public relations (i.e. protests) causing delay and disruption. c) Reputational impact from the resulting publicity.		Stakeholder management including comms and PR strategy.	

5.3 Proposed Submission 2 activities and timelines.

Activities scheduled between Submission 1 and Submission 2 include the following:

- Town and Country Planning application submission and decision.
- Stakeholder consultation events.
- Environmental surveys and studies – ongoing.
- Distribution Network Operator application and connection planning.
- Seasonal environmental works procured and planned.
- Updated cost estimate received from Delivery Partner.
- Cost estimate assured and re-benchmarked by CIT.
- Further development of the schedule and QSRA.
- Funding decision to maintain WRMP24 timeframe as requested in the letter on additional flexibility for Large Scheme Gated submission sent in August 2025 from SWS to Ofwat.
- Consideration of ‘working at risk’ to ensure enabling works in 2026 is secured, to protect the overall schedule.

Work required to maintain delivery plan timelines (to be carried out between March 26 and April 27) is summarised in Section 9.

6. Customer Protection

As part of this scheme we recognise the importance of ensuring our customers are protected and so we have proposed a price control deliverable (PCD), this is in addition to our current PCDW11a on the supply of water.

Therefore, we have proposed the same non-delivery payment rates for the most complex schemes given this is for new water treatment. In the event we need to substitute this scheme with another solution, we would expect the same amount of MI/d to be delivered. The supply and demand benefits are needed to meet the requirements of the WRMP. The dates benefits will be realised and put into supply are consistent with this submission. This PCD includes both the MI/d benefit for IWWRP and Sittingbourne schemes.

The common requirements set out in section 6.1 of the PR24-final-determinations-Price-control-deliverables-appendix-REDACTED.pdf will apply to this new PCD.

Table 8 PCD Summary

Company		Southern Water											
Enhancement area		Supply											
PCD No.		PCDW11c											
Common requirements		See Section 6.1 of Price control deliverable appendix											
Additional company specific requirements													
Description		To provide 8.5 MI/d to the IoW WRZ via a water recycling plant with a constant minimum flow to meet the requirements of the WRMP and to provide 7.5MI/d at Sittingbourne to support supply side schemes in the eastern area via a water re-use scheme.											
Output measurement and reporting		MI/d											
Assurance		No additional assurance as per PCDW11a											
Conditions on scheme		No specific conditions on top of the conditions set out in PCDW11a											
Non-delivery PCD payment		Unit							Underperformance rate				
High complexity schemes		£m per MI/d							4.386				
PCD outputs (cumulative)	Unit	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32	2032-33	2033-34	2034-35
WAFU Benefit [High complexity]	MI/d	0	0	0	0	0	0	7.5	16	16	16	16	16

Note: This MI/d cumulative output is for IWWRP and Sittingbourne projects both of which are summarised in PCDW11c.

7. Stakeholder and Customer Engagement

7.1 Public Perception and Strengthening Customer Support

SWS has been proactively engaging with customers, stakeholders and regulators on water recycling. This has been part of the wider Water for Life – Hampshire (WfLH) strategic programme as well as more targeted engagement on the IWWRP. Engagement is aimed specifically at improving public awareness of water scarcity, highlighting the IoW's reliance on the mainland for one-third of its water and promoting water recycling as a drought-proof source of supply for the Island. Engagement on the project aims to address customer acceptability concerns regarding drinking recycled water by explaining the science behind the robust treatment processes involved – supported by a film and animation. Public engagement on water recycling has continued over the dry summer – which has been used to highlight the need for new sources of water, including water recycling, to keep taps and rivers flowing. SWS' dry weather communications have consistently included details of water recycling projects, including on the IoW, as key ways of catering for future droughts.

More than 5,000 customers across the region, including on the Island, have been directly involved in research regarding the use of water recycling. In addition, the development of WRSE's revised draft Regional Plan and WRMP24 has enabled further insight into public opinion on water recycling through engagement using a range of deliberative approaches, interacting with more than 3,000 customers and stakeholders in its development. Further rounds of customer insight are planned – including region-wide quantitative analysis and qualitative views from our established customer forums and 1-1 interviews, including with customers on the Island.

Southern Water continues to strive to bring consistency to national engagement on water recycling and currently co-chairs a National Water Recycling National Communications Group with Severn Trent Water. The group includes representatives from several water companies and regulators. In September 2025, Water UK agreed to set up a Water Recycling Network which will absorb the existing national group. Water UK has also agreed to host water recycling information material on their website on behalf of the industry – including links to external sources such as [the Drinking Water Inspectorate's webpage](#) to bring in other credible voices in support of this new source of supply.

To construct and operate the proposed Sandown WRP, we need to obtain planning permission from the IoWC. As part of this process and before submitting our planning application, we consulted with a wide variety of stakeholders, including local residents, landowners, businesses, environmental organisations, Parish Councils, and the IoWC itself on our proposals.

7.2 Customer engagement

The project team have implemented a comprehensive customer engagement programme to ensure the community is informed about the IWWRP as part of the pre-planning application engagement and consultation process. SWS' communication programme was aimed at explaining the need and rationale for the project, whilst enabling the community and technical consultees to provide comments on the proposals as they were developed. The formal consultation on the project ran for six weeks, with the consultation period ending on 9 March 2025. During this time a range of approaches were designed and implemented

to meet the requirements of the target audiences, with the overall approach being based on the following elements:

- **Public Consultation Events:** Three in-person consultation events were hosted enabling customers and stakeholders to view project details and engage directly with the project team. Two events were held at Sandown (31 January 2025 and 1st February 2025) and one at Alverstone (7 February 2025). A total of 137 people attended.
- **Letter Drops:** Letter drop to the parish of Sandown boundary (within which the WRP is proposed to be built) and included properties within approximately 500m of the pipeline route and/or construction impacts around the [REDACTED] advising of consultation and consultation events.
- **Website Updates and Social Media:** SWS' website¹¹ was updated with project information, a short film and animation, consultation brochures and online feedback forms. Facebook advertisements targeted the [REDACTED], informing residents of the consultation period.
- **Consultation Brochure:** A specific consultation brochure¹² was published in January 2025 to support the engagement.
- **Printed Literature:** Printed copies of the consultation brochure and survey forms were made available at Sandown library prior to, and during, the consultation as well as at the consultation events and upon request.
- **Media Relations:** Proactive media releases resulted in coverage in local press and radio, helping ensure wider awareness of the project across the Island.
- **Direct Communication:** Community and technical consultees were contacted directly, with pre-application fees paid as necessary to facilitate engagement.

Feedback was collected through various channels, including an online form, paper surveys, and freepost submissions. Analysis indicated that 58% of respondents support the project whilst 33% did not; the remaining 9% were neutral¹³. Future public engagement for all engagement groups is planned throughout the planning application period and the project's enabling and construction phases.

7.3 Regulator and Local Authority Engagement

Throughout the project, we have undertaken a proactive programme of engagement with the Environment Agency (EA), Natural England (NE), and the IoWC. Meetings, email correspondence, technical workshops and sharing drafts of reports and modelling files with EA and NE have ensured these key regulatory stakeholders are kept informed and actively involved in project development.

The EA has provided feedback on our technical proposals and have provided agreement with our methodologies for assessments. We have engaged with IoWC on technical aspects such as, ground investigation and risk assessments for foundation works at the new WRP site. NE has also provided feedback on our Nutrient Neutrality Position Statement and Habitats Regulations Assessment.

¹¹ Southern Water webpage: [Isle of Wight Water Recycling Project - Southern Water](#)

¹² The consultation brochure is available here: [Isle of Wight Water Recycling Project - Southern Water](#).

¹³ Of those who support the project, 40% 'strongly support' and 18% 'support'. Of those who do not, 28% 'strongly do not support' and 5% 'do not support'.

NE and EA are provisionally in acceptance of the preferred composite outfall option pending the receipt of further hydrological and flood modelling details for the outfall and have welcomed our commitment to iterative design and environmental mitigation.

The IoWC has also engaged constructively, confirming the scheme's classification as EIA development and contributing advice on drainage, ecology, BNG and pre-application processes. Council officers and ecologists have supported our precautionary approach to works within sensitive ecological areas.

Despite overall positive support, the EA have requested further clarification on the proposed outfall design, including dimensions and updated flood/hydrological modelling in relation to the release of the purified recycled water into the Eastern Yar (lower). The project team and wider SWS SME's are continuing to collaborate with all stakeholders to resolve these outstanding points, ensuring regulatory and environmental requirements are met as the design is matured and finalised.

7.4 Wider Stakeholder Engagement

In addition to Regulators, local authority and customers, we have identified the following relevant stakeholders and community consultees: Hampshire and Isle of Wight Fire Service, Island Roads, National Trust, National Farmers Union, The Isle of Wight County Archaeology and Historic Environment Service and The Marine Management Organisation. All of whom have been engaged throughout the pre-application stage. We have had ongoing consultations and briefings with these stakeholders between May 2023 and January 2025. They have been invited to the public consultations events and had briefings on their own specific areas of interest.

7.5 Future Public Engagement

SWS will continue to engage with IoWC officers through the planning application determination period and during the enabling and construction phases.

Further communications planning, including a detailed customer communications plan is in development. This will be developed after the planning application submission and in line with the key milestones within the proposed construction programme. Continued engagement during the planning assessment period is being prepared with local stakeholders, including Councillors, town/parish/community councils and environmental stakeholders. This will cover any updates since the public consultation engagement in January and February 2025 and provide information on the consultation feedback and changes to the proposals as a result.

Once planning permission is granted, a detailed construction communications programme will be implemented. This will include:

- Customer Impact Assessments - conducted for each location affected by construction (WRP, Pipeline, Outfall) with regular review and updates throughout the project.
- Advance and Ongoing Notifications - project updates provided before, during, and after completion of key milestones. With notifications about traffic movements, noise and vibration and other activities that may impact local residents.

To address customer and residents' concerns on water recycling IWWRP will benefit from SWS' 'Change of Source' engagement strategy and plan. This will include targeted

engagement activity commencing two years before switch-on of the new source. Overarching engagement activity will continue even after the new source is switched on, to increase awareness and understanding of the need and application of water recycling as a source of supply. IWWRP is the first WRP to be delivered by SWS (indeed it projected to be the first in the UK) and engagement activities will be closely aligned with the wider activities within the WfLH programme.

8. Assurance

8.1 Our approach to assurance

As described in our statement Data Assurance Summary, we take full responsibility for our performance information and seek to take a transparent approach to data assurance. We follow the 'three lines of defence' framework for our reporting governance and assurance activity. This framework helps to assure performance information by applying multiple levels of control.

Ultimately, all assurance activity has oversight from the Board and Audit Committee; the Board maintains oversight of material risks and issues and our timelines for improvement, while the Audit Committee monitors the assurance over the integrity of information reported by us in fulfilment of our regulatory, legal and environmental obligations as well as overseeing and challenging the effectiveness of our approach.

Our Risk, Audit and Assurance team ensures compliant reporting to our Regulators by ensuring all our reporting is subject to internal review and appropriate external assurance.

We have engaged [REDACTED] to undertake limited assurance (under ISAE (UK) 3000) over our Large Scheme (Gated) Submission 1, focusing on completeness, accuracy and validity of the data in the areas detailed by Ofwat in their Final Determination and subsequent guidance. [REDACTED] reports for each scheme are appended to this submission and describe their scope, approach and findings in greater detail.

8.2 Managing Risks and improvements

Through an extensive execution planning process, SWS has developed our PR24 Business Plan into an AMP8 delivery Investment Plan. We continue to refine our plans for the AMP and are collaborating with our internal and supply chain stakeholders to improve maturity. During the development of our plans we are identifying, mitigating and managing deliverability risks.

We have established a Strategic Programme Operating Model, with each Strategic Programme Leadership Team responsible for mitigating and managing identified risks. This is an active and ongoing process and will be used to support future reporting submissions.

8.3 External Assurance findings ([REDACTED])

Annexes F1 and F2 contain the external assurance findings from our independent advisors (both technical and commercial). These findings have been reviewed by our internal Assurance teams, the respective MDs and our CFO as part of our signoff governance process.

All findings will be incorporated into our preparations for Submission 2 and reviewed as part of Submission 2 assurance.

9. Efficiency of Expenditure to Date

9.1 Costs to Submission 1 (1 Oct 2025)

A breakdown of costs has been provided in Table 9 against the Regulators' Alliance for Progressing Infrastructure Development (RAPID) financial categories to bring alignment between this project and other SWS major projects. [REDACTED]

[REDACTED]. Most of the expenditure to date has been on developing the design, environmental assessments and project team costs. These costs are provided at 2022-23 prices. The activities to date are summarised as follows:

- Developing design plans, to an acceptable level for planning application, including Environmental Impact Assessment (Project Management & Consultancy Costs)
- Extensive sampling programme
- Enabling and pre construction activities
- Environmental impact assessment
- Environmental, land and ecology surveys such as reptile surveys, badger relocation assessments
- Land owner engagement and issue resolution
- Power requirement assessment finalisation
- Validation of pipeline route and associated technical surveys.
- Early procurement activities
- Detailed design and process issues remediation.
- BNG, planning assessments and related regulatory engagements.

Table 9 Costs to Submission 1 (2022-23 Prices)

Financial Categories	AMP7	AMP8 (Apr-Sept 2025)	Total (Submission 1 Only)
Project and Programme Management	[REDACTED]	[REDACTED]	[REDACTED]
Developed Design	[REDACTED]	[REDACTED]	[REDACTED]
Environmental Assessment	[REDACTED]	[REDACTED]	[REDACTED]
Data Collection, Sampling, and Pilot Trials	[REDACTED]	[REDACTED]	[REDACTED]
Commercial and Procurement	[REDACTED]	[REDACTED]	[REDACTED]
Planning and Land	[REDACTED]	[REDACTED]	[REDACTED]
Stakeholder Engagement	[REDACTED]	[REDACTED]	[REDACTED]
Legal	[REDACTED]	[REDACTED]	[REDACTED]
Others	[REDACTED]	[REDACTED]	[REDACTED]
Threats -SWS	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
TOTAL £	[REDACTED]	[REDACTED]	[REDACTED]
(Indexed 2022-23) TOTAL £	[REDACTED]	[REDACTED]	[REDACTED]

Early Submission 2 costs have been incurred (during the Submission 1 time window) to progress the design and develop the scheme in readiness for submission for the Town and

Country Planning application in October. We have extrapolated the costs associated with 'statutory consultation', deemed a Submission 2 activity, from the [REDACTED] spend to date. This equates to [REDACTED] or [REDACTED]% of spend that is categorised as early Submission 2 costs. See below for summary of costs by financial category.

Table 10 Early Submission 2 costs incurred Jan-Mar 2025

Financial Categories	Early Submission 2 costs
Project and Programme Management	[REDACTED]
Developed Design	[REDACTED]
Environmental Assessment	[REDACTED]
Data Collection, Sampling, and Pilot Trials	[REDACTED]
Commercial and Procurement	[REDACTED]
Planning and Land	[REDACTED]
Stakeholder Engagement	[REDACTED]
Legal	[REDACTED]
Others	[REDACTED]
Threats -SWS	[REDACTED]
Threats - DP	[REDACTED]
TOTAL £	[REDACTED]
(Indexed 2022-23) TOTAL £	[REDACTED]

9.2 Forecast expenditure to Submission 2 (March 2026)

In the next 6 months to submission 2 there are significant works required to progress the design, progress through the planning process and continue the environmental assessments. With this information the cost estimate and associated schedule will be updated. The planned activities are outlined in section 5.3 and estimated to cost [REDACTED]. See summary table below.

Table 11 Forecast expenditure to Submission 2

Financial Categories	Forecast to Submission 2 costs Oct-Mar 2026
Project and Programme Management	[REDACTED]
Developed Design	[REDACTED]
Environmental Assessment	[REDACTED]
Data Collection, Sampling, and Pilot Trials	[REDACTED]
Commercial and Procurement	[REDACTED]
Planning and Land	[REDACTED]
Stakeholder Engagement	[REDACTED]
Legal	[REDACTED]
Others	[REDACTED]
Threats -SWS	[REDACTED]
Threats - DP	[REDACTED]
TOTAL £	[REDACTED]
(Indexed 2022-23) TOTAL £	[REDACTED]

9.3 Comparison against the development allowance

An AMP8 development allowance of [REDACTED] was awarded in PR24 FD for IWWRP. At Submission 2, March 2026 it is currently estimated that that [REDACTED] or [REDACTED] of this development allowance will have been spent. Between Submission 2 and funding release in April 2027 a further [REDACTED] is anticipated to be spent, this is to drive forward with critical seasonal enabling works, securing power from the Distribution Network Operator for the new WRP and commencing site preparation on the mains works contract. These have been indexed to 2022-23 prices.

Table 12 Comparison of costs against PR24 development allowance of £[REDACTED]

Price Period	Costs to Submission 1 [Table 9]	Forecast to Submission 2 [Table 11]	Forecast to Submission 2 Funding Release (Apr-Mar 27)	Total	Development Allowance	Variation
Indexed 2022-23	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

9.4 Future project costs – post development allowance

Following Submission 1 and in preparation for Submission 2 the Delivery Partner will be updating their input to the cost estimate, and CIT will provide further benchmarking. This will ensure that fully updated and assured costs are provided as part of Submission 2 to Ofwat. In order to meet our timetable to provide additional resilience by 2030-31, we have asked Ofwat to consider additional flexibility in releasing contingent funding prior to 1 April 2027 to enable award of contracts on the critical path. Our ongoing activities include advancing ground investigation surveys at site 3 and along the pipeline route, as well as continuing marine and river sampling to inform design development. We will be progressing detailed design and coordinating with stakeholders such as the IoWC and pipeline landowners for land access and acquisition. In parallel we will be undertaking ecological measures within the required windows and plan to close out any planning conditions imposed through the application process. We will be supporting early procurement of key long lead items to reduce schedule risks and delays and progress the scheme towards a mains work contract award with the Delivery Partner.

Development funding is forecast to be exhausted in May-June 2026, before the Submission 2 final decision in December 2026 when a Regulatory funding commitment to facilitate contract award for the construction phase is currently expected, releasing funding from 1 April 2027.

10. Conclusions and Recommendations

10.1 Summary of Feasibility Assessment Conclusions

The detailed feasibility assessment undertaken as part of R&V3.2 confirms that the scheme represents a technically robust, environmentally sustainable, and strategically critical intervention to secure long-term water resilience for the IoW. The preferred solution, Option

1A, has been evaluated through comprehensive technical, environmental, and stakeholder engagement processes and demonstrates clear benefits in meeting the WRMP24 objectives. Key findings from the assessment include:

- **Technical Viability:** Advanced treatment processes at a new WRP located at Site option 3, will reliably purify wastewater, enabling up to 8.5 Ml/d of new water into local supply, with a consistent minimum flow meeting regulatory and operational needs.
- **Environmental Sustainability:** The scheme supports biodiversity objectives and is being developed with a focus on minimising ecological impact, particularly given the complexities associated with the former landfill site. Environmental and ecological investigations are ongoing to ensure compliance and enhancement opportunities.
- **Stakeholder and Regulatory Engagement:** SWS have developed and implemented a proactive engagement strategy for IWWRP in consultation with relevant stakeholder's regulators and authorities to meet the requirements identified. SWS will continue to engage through the planning application determination period and during the enabling and construction phases. There are plans for continued engagement with stakeholders and the public, ensuring that concerns are addressed and that the community remains informed and involved. This approach reflects best practices in planning and community involvement, aiming to deliver a project that meets both technical requirements and community expectations.
- **Programme and Cost:** The current delivery plan shows that the IWWRP will be starting commissioning in Q1 2030 with construction due to complete in November 2030 and final commissioning forecast to be completed by September 2031. There are plans for a QSRA and collaborative planning sessions with the Delivery Partner to derisk the schedule and look for acceleration opportunities as part of Submission 2 preparations. The total estimated project cost is currently £194.8m. In parallel to the delivery plan review and QSRA an updated estimate with Delivery Partner input is being prepared. The IWWRP project team are taking every opportunity to seek out efficiencies and expedite the delivery as the project progresses and will have a full update on cost and programme for Submission 2.

10.2 Recommendations on Scheme Progression

Based on the R&V3.2 assessment and MoV outcome, the Project Sponsor recommends progressing with the preferred solution, Option 1A to Submission 2. This option provides the optimal balance of technical feasibility, environmental compliance, and cost-effectiveness, and aligns with both the WRMP24 needs statement and the SWS' Western Area water resource zone strategic resilience goals.

Providing further rationale, Option 1A is the principal option that delivers the needs statement, with a clear and manageable pathway to delivery. The design is maturing, ECI is helping de-risk key uncertainties, and stakeholders are engaged and supportive providing confidence to progress with the project and the next key milestones of planning application submission and preparation for Submission 2.

10.3 Approaches to Major Risks and Barriers

While significant progress has been made in risk identification and mitigation, some major risks and barriers require continued focus as the scheme moves forward. As outlined, activities are planned to support the mitigation of keys risks identified to schedule and delivery partner capacity which will be updated in readiness for Submission 2.

In conclusion, IWWRP remains the best available solution to secure sustainable, resilient water supplies for the IoW. The Project Sponsor is advancing Option 1A to the next submission stage, with a continued focus on risk management, stakeholder engagement, and programme acceleration to maximise the scheme's value and ensure timely delivery.

11. Supporting Documentation

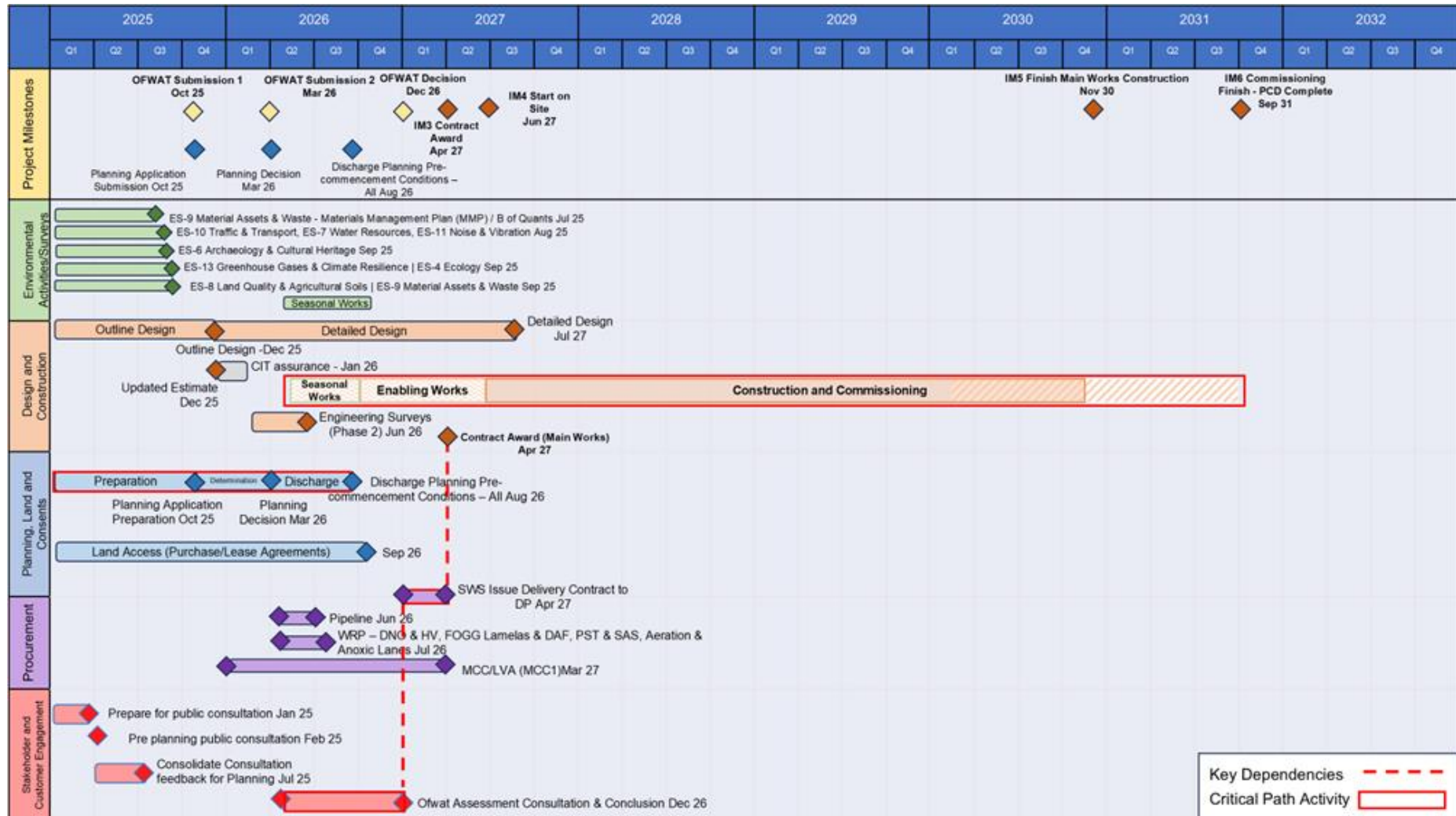
Annex A1: Cost Methodology

(See attached)

Annex C1: Delivery Plan DPW4

(See attached)

Annex C2: High Level Plan and Critical Path (Figure 7)



Annex E1: Stakeholder and Customer Engagement

(See attached)

Annex F1: Technical Assurance Report

(See attached)

Annex F2: Commercial Assurance Report

(See attached)