870523 Whitfield Growth

Annex D2

Scheme Risk Register

19 September 2025

This Annex is a live document that reflects the current risks and mitigations, together with a comparative analysis of their assessed level of threat or opportunity.

This is linked to *Section 4.3 Key risks and mitigation measures* of the main Whitfield Growth Submission 1 report.

The assessment of the risks has been undertaken in accordance with Southern Water's Capital Delivery Programme Management Office's Risk Management Framework.

Table of risks

Risk ID	Risk Description	Current Risk Score	Mitigation Action	Residual Risk Score
5	Due to the locality of Whitfield within the National Landscape, there is a risk of delays in obtaining key consents, specifically, planning application; discharge permits; marine license, due the area being designated with the National Landscape (ANOB) resulting in an increase in project costs and programme delays.	22	Stakeholder engagement plan includes prioritising engagement with local planning authority, Environment Agency, Natural England and Marine Management Organisation.	18
12	For Option 1 there is a risk that a new outfall and discharge chamber is required, as a result of the existing Broomfield Bank long sea outfall potentially not having sufficient hydraulic capacity nor meeting current environmental standards. This would lead to significant additional scope, costs and project delays.	22	Early technical assessments and dispersion modelling should be undertaken. If limitations confirmed, alternative solutions such as a new outfall and discharge chamber should be evaluated alongside budget and schedule contingencies. Early engagement with regulators will help streamline approvals reduce potential delays.	14
13	For Option 1 Broomfield Bank WTW, there is a risk that there is an underestimate of scope required to deliver the solution. For example, hydraulic capacity shortfalls as well as process capacity shortfall due to media migration and uneven aeration. This would lead to increased capital costs and delays to project delivery.	22	Further hydraulic modelling and deliverability / constructability of Option 1 - Upgrading Broomfield Bank to be undertaken to inform the Option selection process.	14
4	Due to a location for the preferred option not yet identified. There is a risk that site selection and purchasing of land requires protracted legal intervention. Resulting in delays to enabling/ecology surveys, planning submission and potentially the start of construction activities	20	Critical once final option is chosen. Draft and implement a Capital Communication Plan to determine the approach for early customer/land owner engagement.	17
15	Due to Option 1 Broomfield Bank WTW locality to the Channel Tunnel, there may be restrictions in where and how the existing treatment process can be modified which may lead to increased cost and programme delays.	20	Early engagement with the Channel Tunnel Safety Authority (CTSA) to understand restrictions and limitations on construction activities.	17
17	There is a risk the EA will not be forthcoming in their direction for a permit discharge the result of which may lead to delays in the design and construction of the solution, and/or require significant rework resulting in additional cost and time.	18	Maintain collaborative working relationship with the EA throughout the duration of the scheme via regular bi monthly mtgs to escalate concerns along side the formal Pre app process.	15

Risk ID	Risk Description	Current Risk Score	Mitigation Action	Residual Risk Score
6	There is a risk the existing attenuation tank is not of sufficient capacity to accommodate the catchment until December 2031 based on build out rates exceeding the current design parameters. As a result this will require additional design and construction activities which are over and above the current scope and design.	18	Review of the hydraulic modelling results to programme in additional design/construction activities to ensure catchment capacity is maintained past 2031.	10
11	As a result of the trenchless technique ultimately required for certain crossings potentially differing from the horizontal directional drilling (HDD) method assumed during the cost estimation phase, there is a risk that the selected method may involve higher costs or increased technical complexity, leading to impacts on feasibility and delays to the project timeline.	18	Early geotechnical investigations and site-specific feasibility studies should be conducted to validate the suitability of HDD. Engaging with experienced contractors and technical specialists during the design phase can help identify viable alternatives and refine cost estimates accordingly. Including contingency allowances in the budget and schedule for potential changes in methodology will also help manage financial and timeline impacts. Maintaining flexibility in design and procurement strategies can further support timely adaptation if a different trenchless technique becomes necessary.	10
14	There is a risk that for both assumed DWF for load standstill options (mainly river discharges) AND assumed final effluent discharge consent conditions assumed under PR19 (on which scopes are based) will change as discussions with EA progress, resulting in the need for scope revisions, potential redesigns, and increased costs or delays to project delivery.	18	Maintain collaborative working relationship with EA throughout the duration of the scheme via regular bi monthly mtgs along side the formal Pre app process.	15
16	As a result of public perception and existing opposition to previous proposals, there is a risk that significant opposition may arise to new proposals, such as changes to protected landscapes or the transfer of sewage between areas, this would lead to delays, reputational impacts, and potential changes to scope	16	The Capital Communication Plan will need to focus on early positive communication within the local community.	8
1	Due to the varying levels of maturity compared to other SWS large schemes (gated).There is a risk Ofwat will not assess the submission positively. This could lead to a re occurring monthly penalty until such time as the submission is assessed as acceptable.	14	Maintain collaborative working relationship with Ofwat throughout the duration of the Large Scheme Gated (LSG) process. Seek guidance internally with SME. Where required raise queries as early as possible via Ofwat quarterly review meetings (QRR).	10
2	Due to the evolving nature of the new Large scheme gated process, the release of guidance from Ofwat may change as time passes, which may impact the current direction of travel, which would result in scope and programme implication ultimately resulting in a delay in future submissions	14	Maintain collaborative working relationship with Ofwat throughout the duration of the Large Scheme Gated (LSG) process. Seek guidance internally with SME. Where required raise queries as early as possible via Ofwat quarterly review meetings (QRR).	10

Risk ID	Risk Description	Current Risk Score	Mitigation Action	Residual Risk Score
3	There is a risk the expected level of growth contained within in the Dover Local Plan and forecasted build out rates of WUE exceed the current design parameters, there is a risk of current design work becoming abortive resulting in design changes, increased costs and delays to programme	14	Monitor planning applications and rate of WUE development. Early engagement with Kent County Council and Local Planning Authority together with regular touchpoint meetings SWS Developer Services team.	10
7	Due to the risk of additional development at Whitfield, or catchment flows being diverted by third parties, there is a risk of the need for more treatment capacity in addition to that which has been calculated. Resulting in uncosted redesign and additional construction activities.	12	Site selection to consider land availability for expansion. Design development to consider ability for modular process capacity.	4
9	As a result of the potential presence of UXO within the Kent coastal region, there is a risk the WTW (preferred option) and infrastructure routes may prove difficult to cite. Which could lead to project delays, increased costs, and potential safety concerns for personnel.	12	Undertake desktop studies for likely ground conditions during site selection phase. Review geotechnical information where available. Engagement with MoD.	8
10	As a result of diverting the flows from the Whitfield development to a new WTW, there is an opportunity to address known network issues and alleviate risk of sewer flooding at properties under the DG5 register.	20	Incorporate a review of the DG5 register during Outline design	20
8	As a result of the need to undertake a number of crossings (main watercourses, railway line and main road(s)) There is an opportunity for innovative no dig technologies to be utilised. As a result this will maintain a reduction in disruption to the public and programme durations.	16	A rigorous site selection process required utilising specific software to model scenarios culminating in a shortlist of pipeline routing options. Engagement with Network Rail. Early engagement with the supply chain to understand innovations in technologies	16

Impact and Likelihood Assessment Matrices

Once a risk has been identified and agreed, an assessment to determine its overall profile, i.e. its potential impact and the associated likelihood of crystalising, is undertaken.

Qualitative assessment is undertaken using a 5x5 matrix whilst any quantitative assessment for cost and schedule impacts are automatically translated to the corresponding level of assessment directly within our risk information software system, Programme Insight Manager.

PROJECT		PROBABILITY				
		VL	L	M	H	VH
		Less than 11%	11 to 30%	31 to 50%	51 to 70%	Over 70%
Impact Score		Very Low (1)	Low (2)	Medium (3)	High (4)	Very High (5)
Cost	RSK – THREAT CLASSIFICATION	>0 - <=1.25% of Project Estimate to Complete (excl risk); 1.25% is VL.	>1.25% - 2.5% of Project Estimate to Complete (excl risk); 2.5% is L.	>2.5% - 5% of Project Estimate to Complete (excl risk); 5% is M.	>5% - 10% of Project Estimate to Complete (excl risk); 10% is H.	>10% of Project Estimate to Complete (excl risk); More than 10% is VH.
Time		Up to 7 days (1 week) added to key milestone date.	8 - 14 days (1 - 2 weeks) added to key milestone date.	15 - 28 days (3 - 4 weeks) added to key milestone date.	29 - 56 days (1 - 2 months) added to key milestone date.	Greater than 57 days or more (2 months) added to key milestone date and / or any impact to regulation date or project completion date.
Reputation		Insignificant reputational impact.	Local press article low running order. E.g. Operations action criticised from partner forums, local pressure groups, alleged "expert", etc.	Criticism in industry press or local press front page. E.g. Southern Water Operations proposals / outcomes receive negative reaction in the national water forums, and / or from Regulator(s).	Local TV / tabloid press low running order. E.g. Southern Water reputation impacted (e.g. incident, business performance, HR issue, etc.) and publicised negatively by Regulator(s) and water pressure groups.	National media coverage in TV and newspapers. Failure to adequately address known problem or to anticipate or prepare for unpredictable occurrence. Southern Water Group bondholder's confidence severely impacted.
Quality		Negligible requirements impact; functionality of solution / deliverable not impacted.	Some requirements impacted; functionality of solution / deliverable will be fit for purpose.	Key requirements impacted; functionality of solution / deliverable will be fit for purpose.	Key requirements will not be achieved; functionality of solution / deliverable severely impacted and / or anticipated programme outputs will not be achieved.	Solution / deliverable will not be fit for intended purpose and / or programme outputs will not be achieved.
Operational Service		Effects would be "invisible" to customers.	Small numbers of customers would be affected. Minimal degradation of Standard of Service.	Moderate numbers of customers affected. Moderate degradation of service delivery.	Large numbers of customers affected. Widespread degradation of service delivery.	Large numbers of customers affected. Widespread failure.
Whole Life Cost benefit		No impact on Whole Life Cost benefit	Immaterial impact on the Whole Life Cost benefit	May require consideration of solution against the Whole Life Cost benefit	Requirement to consider reassessment of solution selection against the Whole Life Cost benefit	Requirement to reassess solution selection against on the Whole Life Cost - Significant impact

Heat Maps


Threat
Probability
VH (5)
H (4)
M (3)
L (2)
VL (1)
11
16
20
23
25
7
12
17
21
24
4
8
13
19
22
2
5
9
14
18
1
3
6
10
15
VL (1)
L (2)
M (3)
H (4)
VH (5)
Impact (Threat)
Current Risk
Residual Risk


Opportunity
Probability
VH (5)
H (4)
M (3)
L (2)
VL (1)
11
16
20
23
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8
13
19
22
2
5
9
14
18
1
3
6
10
15
VL (1)
L (2)
M (3)
H (4)
VH (5)
Impact (Opportunity)
Current Opportunity
Potential Opportunity