UUWLGS_P2S1_02

Windermere: Package 2

Submission 1

October 2025

United Utilities

Water for the North West

Contents

1. Executive Summary 3

2. Background and Objectives 5

3. Optioneering and solution design 7

3.1 Introduction 7

3.2 Decision-making approach: Langdale 7

3.3 Decision-making approach: Hawkshead 8

3.4 Decision-making approach: Glebe Road 10

3.5 Development of outline design 11

4. Solution costs and benefits 13

4.1 Introduction 13

4.2 How we have developed and benchmarked our costs 13

4.3 Best value assessment and solution benefits 16

5. Programme and Planning 17

5.1 Introduction 17

5.2 Summary of programme 17

5.3 Risk 18

5.4 Proposed submission two activities and timelines 20

6. Customer protection 21

6.1 Introduction 21

6.2 Approach 21

6.3 Proposed PCDs 22

7. Stakeholder and customer engagement 26

7.1 Introduction 26

7.2 Principles for engagement 26

7.3 Engaging our communities 26

7.4 Examples of executing our engagement strategy in Windermere 27

7.5 Third party approvals and consents 28

8. Assurance 30

9. Efficiency of expenditure to date 30

9.1 Introduction 30

9.2 Actual and forecast expenditure 30

9.3 Comparison against development allowance 31

10. Conclusion and recommendations 31

11. Supporting Documentation 32

1. Executive Summary

Windermere, the largest lake in England, is an iconic site of significant importance to customers, communities and stakeholders. Located in the heart of the Lake District National Park, a UNESCO world heritage site area over 249 square kilometres abundant with wildlife and ecosystems. Windermere receives around seven million visitors per year and contributes over £750 million to the local economy. Due to the high societal value of its unique location, Windermere continues to be the subject of media focus, raising awareness and supporting campaigns for increased regulatory scrutiny, tighter legislation and increased drive to improve water quality in the lake.

UUW is investing at Windermere in AMP8. Several investments are already funded through Ofwat's final determination (FD) and a further 12 projects are going through Ofwat's large schemes gated process. This submission provides an update on four of those schemes going through the gated process – package two. Package two schemes comprise a mixture of phosphorus and sanitary (Hawkshead and Langdale) projects, and storm overflows projects (Glebe Road and Hawkshead).

UUW is also committed to the government's "only rainwater" vision and together with partners is progressing a feasibility study. This is a more ambitious vision that will take longer to develop, plan and deliver than the investments that form part of the gated process. These projects need to continue to improve the quality of effluent going into Windermere in the shorter term (notwithstanding the regulatory drivers) to deliver benefits for local residents, businesses and visitors to Windermere in the interim.

The Windermere gated projects were introduced into the WINEP in summer 2024 and the late inclusion in the price review process (between draft and final determinations) meant that the projects were at a relatively early stage of development, with indicative costs included in the FD based on early scoping but prior to a full options assessment. The resulting cost and scope uncertainty led these schemes to be included in the gated process as part of a Windermere programme.

In line with the process set out in Ofwat's final determination, UUW has been developing the schemes, taking them through optioneering to the point of having a preferred option for each scheme, summarised in the table below. Reflecting the stage of project development, the costs are still subject to some uncertainty as described below.

Table 1: Options summary (2022-23 CPIH prices)

Project	Preferred solution	Justification	Totex	Key risks
Submission chapter	*3*	*3*	*4*	*5*
Langdale WwTW – phosphorus and sanitary	Upgrade of the ferric dosing assets and the addition of tertiary solids removal	Only additional works necessary following delivery of Elterwater pumping station solution (not part of gated scheme)	£4.1m	Planning Land availability Ancient woodland
Hawkshead WwTW- phosphorus and sanitary	25 per cent catchment water removal, 3,000m^3 storm storage tank and increase in flow to full treatment of 5 litres/second	Only feasible option identified through optioneering	£8.1m	Planning Land availability Working restrictions
Hawkshead PS	Upgrade of assets on site: enhanced chemical dosing, a new final settlement tank and new tertiary solids removal.		£29.4m	
Glebe Road PS	Below ground 10,000m3 storage at Glebe Road	Best value option predominantly reflecting process risk and opex considerations	£36.5m	Planning Geology Working restrictions

Source: Summarised from submission chapters

At Langdale, upgrades necessitated by an increase in pass forward flow from Elterwater pumping station will be funded as part of the accelerated programme (not part of the gated process), meaning the only additional works now necessary to achieve the phosphorus and sanitary drivers for the gated scheme at Langdale are an upgrade of existing assets and the addition of tertiary solids removal.

The drivers at Glebe Road and Hawkshead require more extensive work to deliver the outputs. At Glebe Road, the preferred option is now 10,000m^3 of storm storage constructed below ground, a reduction to the volume of storage anticipated in our draft determination response. At Hawkshead, the only feasible option identified combines catchment water removal, 3,000m^3 storm storage and an increase in flow to full treatment, with the balance of these elements of the solution having been optimised since our draft determination response. This is combined with an upgrade of existing assets and the addition of tertiary solids removal to achieve the phosphorus and sanitary drivers. These solutions will be developed further in advance of submission two.

We have costed these solutions using UUW's cost estimation tool which draws on benchmarking data, with an estimated total cost of package two of £78m. The costs of the Langdale scheme are less than Ofwat's modelled allowance, and costs exceed Ofwat's modelled allowance for Glebe Road and Hawkshead. These differences are driven by site-specific factors including site geology (and the need for significant excavation given the presence of rock at or just beneath the surface) and proximity to tourist attractions. The estimates are subject to considerable uncertainty (+50%/-30%) and are therefore subject to change as the schemes continue to develop. For submission two we will provide a firmer cost estimate informed by engagement with our supply chain and greater maturity of design, and provide evidence that explains the efficient costs of schemes where the cost is higher than the FD modelled allowance.

Building on our extensive engagement in Windermere to date, as we develop the schemes, we will continue to engage with communities across the Windermere catchment and particularly those affected by site-specific plans and activity. We are also engaging with wider stakeholder groups and the Environment Agency on our plans to shape our approach and support efficient delivery of the projects.

Subject to Ofwat feedback, we will continue to develop these projects for a second submission to Ofwat in spring 2026. While our programmes currently reflect proceeding to delivery following the conclusion of Ofwat's cost change process in December 2026, we are keen to deliver at pace to realise the benefits to customers and would like to explore with Ofwat potential routes to accelerate delivery, as permitted by Ofwat's guidance. There are several land, planning and construction risks around delivery of these schemes which are described further in chapter 5. We are working to mitigate these risks and do not see any of them as a barrier to progressing to delivery.

This submission follows the template provided in Ofwat's large schemes guidance. The Windermere programme is a collection of smaller projects rather than a single large scheme. Therefore, in line with the guidance, we have applied the requirements proportionately to the size of schemes to provide the evidence required for Ofwat to review the progress of the schemes but tailoring the approach set out in the detailed requirements. For the package two schemes, this is largely in relation to optioneering, where rather than carry out a full cost benefit analysis for each scheme, we have employed a decision-making approach that takes account of the constraints of the sites as set out above.

This submission and supporting documents will be published on our website. We will also publish our first submission for Windermere package one. A third package of schemes has been deferred and the first gated submission to Ofwat for package three will be 1 October 2026.

2. Background and Objectives

2.1.1 This section outlines the objectives of the Windermere programme, including statutory compliance requirements. The information aligns with UUW's draft determination response Windermere enhancement case (UUWR78)[1] except where highlighted. This section is supported by UUWLGS_S1_10 Included Schemes which sets out all Windermere package one and two projects and WINEP drivers in full.

2.1.2 The enhancement schemes for Windermere are driven by the Water Environment (Water Framework Directive) Regulations 2017 and Environment Act 2021 statutory drivers. In addition to these statutory drivers the Environment Agency (EA) has introduced a '25-year environment plan' non statutory driver. Where supported by customers, this allows companies to go above and beyond statutory requirements for locally significant issues. Under EA guidance, nine wastewater treatment works (WwTW) enhancement schemes for Windermere have been identified in AMP8, as part of a long-term plan to reduce nutrient load into Windermere under the AMP8 WINEP driver 25YEP_IMP.

2.1.3 The twelve identified enhancement schemes have been split into three packages for the gated process to align with project timelines. Table 2 sets out the four projects included in package two.

Table 2: Windermere gated programme: package two projects

Project Name	Project Driver	Determinands	WINEP Date	Statutory / Non statutory
Langdale WwTW	WFD_ND	20mg/l Ammonia, 1mg/l phosphorus	31/03/2030	Statutory
	25YEP_IMP	0.25mg/l phosphorus (annual average)	31/03/2030	Non Statutory
Glebe Road PS (LAK0045SO)	EnvAct_IMP3, EnvAct_IMP4, EnvAct_IMP5	Improvements to reduce storm overflows that spill to designated bathing waters to protect public health. Improvements to reduce storm overflows spills so they do not discharge above an average of 10 rainfall events by 2050. Improvements to reduce storm overflow aesthetic impacts by installation of screens.	AMP9[2]	Statutory
Hawkshead WwTW	WFD_IMPg	17mg/l BOD, 25mg/l suspended solids, 4mg/l ammonia, 0.8mg/l phosphorus	31/03/2030	Statutory
	25YEP_IMP	0.25mg/l phosphorus (annual average)	31/03/2030	Non Statutory
Hawkshead PS (LAK0107SO)	EnvAct_IMP4	Improvements to reduce storm overflows spills so they do not discharge above an average of 10 rainfall events by 2050, including increase to FTFT at Hawkshead WwTW	AMP9[2]	Statutory

Source: UUW Summary

2.1.4 Package two comprises projects at two WwTWs and two wastewater pumping stations (PS):

- Langdale WwTW and Hawkshead WwTW have been identified for enhancement to meet new or more onerous phosphorus limits and additional sanitary final effluent permit requirements.
- Glebe Road pumping station has been identified for several improvements to reduce storm overflows and reduce storm overflow aesthetic impacts by installation of screens. Glebe Road pumping station was not previously profiled for completion until AMP9 but is being delivered earlier through this work.

[1] UUW (2024), "UUWR-78 PR24 Draft Determination: Enhancement Case, Windermere – Enhancement case", August 2024

[2] Delivery dates to be confirmed through subsequent WINEP development.

- Hawkshead pumping station has been identified for improvements to reduce storm overflows spills – we set out further detail below.

Hawkshead pumping station

2.1.5 UUW has three AMP8 overflows drivers at Hawkshead PS:

- **EnvAct_IMP2 driver (WINEP ID 08UU0101164):** to deliver improvements to reduce storm overflow spills to protect the environment so that they have no local adverse ecological impact. This driver formed the 'accelerated infrastructure plan' delivery project and has a WINEP completion date of 31 March 2030 and an accelerated plan date of 31 March 2028.
- **EnvAcT_IMP5 driver (WINEP ID 08UU0101164):** to deliver improvements to reduce storm overflow aesthetic impacts by installation of screens. This driver has a WINEP completion date of 31 March 2030. It was added to the WINEP in the same line as the IMP2 driver, after Ofwat had published the accelerated delivery project final decisions. It was subsequently listed in UUWR_78 – Windermere enhancement case as part of the gated process.
- **EnvAct_IMP4 driver (WINEP ID 08UU0102490):** to deliver improvements to reduce storm overflows spills so they do not discharge above an average of ten rainfall events by 2050. This driver was included in the gated process as part of UUWR_78 and has a WINEP completion date of AMP9.

2.1.6 In our Draft Determination Response (and hence in the final determination), a number of inconsistencies arose in relation to this scheme. The IMP2, IMP4 and IMP5 drivers were combined on one line (08UU101164-Hawkshead PS LAK0107SO) in data table ADD20 "WINEP Storm overflow scheme costs and cost drivers". In the final determination, the combined cost was assessed and included as part of the gated process, with six per cent development funding being provided for all three drivers. Consequently, the intended accelerated plan project to address the IMP2 driver was not included in the funding of accelerated plan schemes.

2.1.7 Therefore, in the final determination, the IMP2 driver was allowed development funding as part of the gated process, and not (as intended) funded as part of the accelerated plan. This also impacts on one PCD – the FFT PCD - whereby the volumes (5 l/s by 2030) reflect the intended delivery of the IMP2 driver in AMP8, although with delivery by 2030 (i.e. not delivery by 2028 per the accelerated plan). This means that the numbers (i.e. cost allowances and PCDs) and the text (i.e. explaining the intent of which drivers should be allocated to accelerated plan or gated mechanism) had inadvertently become misaligned within our draft determination response, and hence into the final determination.

2.1.8 Since final determinations, we have been developing solutions for all three drivers at Hawkshead PS (IMP2, IMP4 and IMP5). The development work undertaken to date indicates that it is likely to be more cost efficient to deliver a combined solution. On this basis, we are now proposing to Ofwat that **all three** of the overflows drivers at Hawkshead PS (IMP2, IMP4 and IMP5) are delivered through the gated process. This would be in line with the final determination funding position. Therefore, this would not require any *ex post* changes to the final determination, other than to document that all of the expected drivers will be delivered through the gated mechanism, and not through the accelerated plan.

2.1.9 In line with our existing commitments, we propose to maintain the accelerated delivery date of 31 March 2028 for the IMP2 driver. Although cost allowances only reflect the six per cent gated allowances, given that we are still expecting to deliver all the drivers, it would be appropriate to retain the existing PCD as it is.

2.1.10 In submission one for the Windermere gated programme, we have not treated the IMP2 driver as part of the gated process and any associated costs are excluded. We have also excluded the IMP5 driver at this stage as although it was listed in UUWR_78, it is associated with the IMP2 driver in the WINEP (the accelerated delivery project) and is not currently expected to have any associated costs. Subject to Ofwat agreement, we will move to include the IMP2 and IMP5 drivers (along with the IMP4 driver) within submission two.

3. Optioneering and solution design

3.1 Introduction

3.1.1 This section describes the optioneering process , including work to explore the feasibility of potential options, and describes the chosen solution outline design. We have followed a robust approach to decision-making to support best value for customers and the environment, tailored to the nature of the package two projects. To support the information in this section, we are submitting optioneering reports for Glebe Road and Hawkshead, and a single solution document for Langdale, as part of scheme-specific supporting documents UUWLGS_P2S1_19 to UUWLGS_P2S1_21 inclusive.

3.1.2 The focus of our package two optioneering has been the delivery of the WINEP drivers by the regulatory dates, rather than the wider set of options that will be considered in line with the longer-term "only rainwater" ambition for Windermere. The package two projects are needed to continue to improve the quality of effluent going into Windermere in the shorter term (notwithstanding the regulatory drivers), to deliver benefits for local residents, businesses and visitors to Windermere.

3.2 Decision-making approach: Langdale

Background

3.2.1 Langdale WwTW is the receiving treatment facility that treats the pass forward flows from Elterwater Pumping Station (PS), before discharge into the River Brathay. UUW has an AMP8 EnvACT_IMP4 driver for Elterwater PS to reduce storm overflow spills to no more than an average of ten events per year. This driver is in our accelerated programme and has an agreed allowance for the full delivery of the project in the final determination. The WINEP completion date is 31 March 2030, and the project has an accelerated business plan date of 30 September 2026. While this project is not part of the Windermere gated programme, the accelerated development of the "ten spills" solution has significantly influenced the development of the single solution for the phosphorus and ammonia (WFD_ND and 25YEP_IMP) drivers at Langdale WwTW, which are included in this gated process submission.

Solution for Elterwater PS (accelerated programme)

3.2.2 Elterwater PS is located underneath the National Trust car park in the village of Elterwater. The car park is a high-volume amenity, key in supporting the local tourist economy. Due to location, access, land availability and customer disruption it has not been possible to develop a solution to address spills with storm storage at the pumping station. Instead, the solution to address the spills driver is to increase the pass forward flow from Elterwater PS to Langdale WwTW by 50 per cent, thus reducing spills and delivering the no more than ten spills on average outcome.

3.2.3 The increase in pass forward flow has necessitated changes and upgrade at Langdale WwTW, which included a trial of an innovative technology, Mobile Organic Biofilm (MOB) to offset the need for construction of new civil assets for final settlement. The success of the trial will enable the delivery of the best value solution to meet the spills driver for Elterwater PS. This solution will also partially deliver some of the benefits for the Langdale WwTW ammonia and phosphorus drivers in the gated process.

Optioneering for Langdale WwTW

3.2.4 Langdale WwTW has an existing phosphorus permit of 2.0 mg/l, which is achieved by dosing ferric. Following the upgrade to Langdale WwTW to deliver the best value solution for Elterwater PS spills driver, and with the existing ferric storage and dosing assets, the only additional works necessary to deliver the WFD_ND and 25YEP_IMP drivers (20mg/l ammonia and 0.25mg/l phosphorus) is an upgrade of the ferric dosing assets and the addition of tertiary solids removal to be able to achieve the tighter permit levels. Therefore, no further optioneering was undertaken on the project.

3.3 Decision-making approach: Hawkshead

3.3.1 This section covers the drivers at both Hawkshead PS and Hawkshead WwTW (set out in section 2) for which solutions are being delivered as part of the gated process.

Background

3.3.2 Hawkshead PS currently passes forward flows of up to 14l/s to Hawkshead WwTW to be treated, before discharge into Black Beck. For the purposes of submission one, the optioneering approach set out below addresses solutions to meet the drivers EnvACT_IMP4 (no more than 10 spills on average per year) at Hawkshead PS and WFD_IMPg and 25YEP_IMP (17mg/l BOD, 25mg/suspended solids, 4mg/l ammonia, 0.25mg/l phosphorus) at Hawkshead WwTW. Subject to Ofwat confirmation and as outlined in section 2, at submission two we also propose to include the EnvAct_IMP2 and EnvACT_IMP5 drivers within the gated submission to achieve a more efficient outcome.

Optioneering Approach

3.3.3 The solution to deliver the AMP8 drivers included in the gated process for Hawkshead PS and Hawkshead WwTW is a holistic approach to meet all drivers within the solution given the system is integrated: not more than 10 spills per year on average at Hawkshead PS and final effluent improvements at Hawkshead WwTW of BOD 17mg/l, suspended solids 25mg/l, ammonia 4mg/l, phosphorus 0.25mg/l.

3.3.4 A long list of options was considered and options 1-11 in Table 3 below were rejected as described.

Table 3: Rejected options

Ref	Title	Brief Description	Reason(s) for Rejecting
1	Transfer solution	Close works and transfer to another catchment	No viable solution identified.
2	Build a new treatment works.	Build a new treatment works for FTFT > 26l/s and treat all flows passed to works required to meet spills requirements. Abandon existing works	Asset write-off and costs of new works prohibitive.
3	Full Surface water separation and upgrade works for new permit requirements	Remove sufficient infiltration to system through separation and remediation to eliminate storage requirement. Upgrade to works to meet new permit	Costs and disruption to re-sewer Hawkshead village not viable.
4	Asset performance Enhancement	Enhance operation of existing assets to meet requirements	Would not address the spills driver. Existing assets unable to achieve quality drivers.
5	Reduction in design horizon	Remove population growth from design.	Growth is insignificant.
6	Catchment nutrient balancing	Off-set phosphorus removal with catchment interventions.	Does not meet spills driver or sanitary drivers.
7	Discharge to alternative watercourse		No feasible alternative discharge points.
8	Working with trader effluent	Reduce investment required by modifying trade effluent inputs	Trade effluent is insignificant in the catchment.

Ref	Title	Brief Description	Reason(s) for Rejecting
9	Innovative technology	Nanofloc, Mobile Organic Biofilm (MOB)	Ongoing trials may offer opportunity for cost reduction but would not meet quality or spills drivers on its own.
10	Storage only solution for spills driver	No increase in FTFT to WwTW	Not possible to drain down storage volume without increasing FTFT.
11	Biological Phosphorus removal		Chemical storage and dosing assets already exist. Cost of new assets and write-off costs prohibitive.

Source: Hawkshead optioneering report (included in UUWLGS_P2S1_21 Hawkshead WwTW and PS)

3.3.5 The options taken forward for further development were a combination of removal of catchment water, storm storage tank located at Hawkshead PS, increase in pass forward flow to the WwTW and augmented treatment. We developed a shortlist with a differing balance of these solutions to test cost effectiveness and feasibility. The variations considered are summarised in Table 4 below.

3.3.6 For all options, we have included the same scope for the upgrade and augmentation of the WwTW for the quality drivers: enhanced chemical dosing, a new final settlement tank and new tertiary solids removal. Option two in Table 3 is the only alternative to the preferred approach to achieving the quality drivers, which would be to decommission the assets and build a new treatment works, which we have not considered for several reasons including constructability and value for customers.

Table 4: Considered options

Ref	Catchment water removal, %	Storm Storage volume, m3	New FTFT, l/s
1	50	4,000	19
2	50	1,000	24
3	25	3,000	24
4	0	10,000	24

Source: Hawkshead optioneering report (included in UUWLGS_P2S1_21 Hawkshead WwTW and PS)

3.3.7 We assessed the shortlisted options to screen out those that are infeasible or prohibitively disruptive:

- Options 1 and 2 have been discounted on the basis of 50 per cent catchment water removal. Firstly, as set out in the Hawkshead optioneering report, there is greater risk associated with delivering a higher proportion of catchment water removal given uncertainty around the outcome of individual interventions. Furthermore, given the availability of alternatives, indications are that this is unlikely to be preferable as the intervention would cause large-scale disruption of Hawkshead village.
- Option 4 has been discounted as storm storage of 10,000$m^3$is deemed not to be viable due to size and incapability to drain down such large volumes, and is likely to be the highest cost given the volume of storm storage required.

3.3.8 As a result option three has been identified as the single solution that has been taken forward for further development. It balances a feasible level of catchment water removal with a constructable storm storage volume. We will develop the approach to catchment water removal to achieve 25 per cent removal ahead of submission two.

Further Opportunities

3.3.9 The outcome of modelling works is that 3,000m^3 storage is required. Initial engagement has indicated that planning constraints will not allow for above ground tanks to be delivered, therefore, the project optioneering assumed that storage will be below ground. A cost saving opportunity from delivering above ground storage will be explored with the planning authority between submission one and two.

3.4 Decision-making approach: Glebe Road

Background

3.4.1 Glebe Road PS is located within a stone fronted building in the main car park on Glebe Road, Bowness-on-Windermere. This is a key tourist area with access to the marina, steamboat tours, shops, restaurant and bars. The PS is a key intercept for all flows received from pumping stations north in the catchment and gravity flows in the area. Glebe Road PS passes flows forwards to Windermere WwTW.

3.4.2 Works during AMP6 increased resilience to the network to reduce spills to 30 per year by providing additional storage and increasing passed forward flows to Windermere WwTW. The project delivered refurbishment of the pumping station with new pumps and control as well as delivering a new rising main to deliver flows directly from Glebe Road PS to Windermere WwTW.

3.4.3 Part of the gated process, the new IMP3 and IMP4 WINEP deliverables are designed to give further network resilience to reduce spills to an average of ten per calendar year and one spill per bathing water season. The WINEP also includes an IMP5 driver for six mm screening which is already in place at the Tourist Information Centre PS. It is not anticipated than any additional works will be required.

Optioneering Approach

3.4.4 Given the challenges in delivering solutions at Glebe Road, at project formation a 'solutions workshop' was held to discuss the site, the problem statement, and to exhaust possible solutions to be taken forwards. The workshop had representatives from the project team, engineering, and operation staff. In the following weeks, these ideas were investigated and expanded upon by the project team and ultimately ruled out until two primary tenable solutions remained. Table 5 sets out the initially rejected options, and Table 6 describes the options that were progressed further in the optioneering process.

Table 5: Initially Rejected Options

Ref	Title	Brief Description	Reason(s) for Rejecting
1	New outfall at Glebe	Extend spill outfall deeper into lake	This might enable spills to be sent further into the lake but would not meet the spills frequency requirements
2	New Rising Main	New pumping station and rising main at Glebe and additional work at Windermere WwTW	High cost, large programme for construction (off season only for rising main), space constraints due to AMP6 project
3	New Treatment Works	Transferring additional flows from Glebe PS and New Wastewater treatment works	High cost, Land, Planning restrictions
4	Upgrade Flow from Glebe PS	Using old storm wet well to locate additional pumps and additional work at Windermere WwTW	The invert of the well is higher than that of the main wet well. Lowering the invert would mean breaking out structural concrete not just benching. This would be a considerably high risk activity to undertake and inconceivable on a live works.
5	New Pumps Close to Glebe PS	Locating additional pumps at Glebe PS in existing manholes and additional work at Windermere WwTW	The manholes are too small, and the flow presentation is not ideal given these are in-line manholes. Low confidence of the success of this solution.
6	Storage in other areas of the network	Transfer 450l/s from Glebe, increase in FTFT at Windermere, storage at Windermere, storage at Calgarth, storage where old rising main meets gravity main	Modelling works has shown that storage at Glebe Road will be required in some form. Storage in other locations alone would be insufficient to remove the need for storage at the Glebe PS or Windermere WwTW. It remains an opportunity to see by modelling if storage at alternative locations would sufficiently reduce required storage at Glebe PS or Windermere WwTW.

Source: Glebe Road optioneering report, part of UUWLGS_P2S1_20 Glebe Road PS

3.4.5 Following investigation, two potential options remained, set out in Table 6 below.

Table 6: Options Developed to Investment Appraisal Model

Ref	Title	Brief Description
1	Below ground 10,000m3 Storage at Glebe Road	Below ground storage at the Glebe, filled by gravity with return pumps emptying the below ground storage when conditions allow. All other existing infrastructure to be retained.
2	Transfer 470l/s pass forward flow from Glebe to Windermere, 1500m3 storage at Glebe, 17,600m3 storage at Windermere, 380l/s FTFT at Windermere	Small amount of below ground storage at the Glebe, increased pass forward flow to Windermere. Significant additional above ground storm storage at Windermere WwTW. Modifications to Windermere WwTW to increase the FTFT capacity.

Source: Glebe Road optioneering report, part of UUWLGS_P2S1_20 Glebe Road PS

3.4.6 These options were cost estimated and taken to a value selection workshop. This process considered factors such as capex, opex, carbon, environment, process risk and stakeholder impacts. Both solutions deliver the drivers and therefore deliver the same environmental benefits. Some key areas include:

- **Opex:** whereas option one has higher capex than option two, on a whole life cost basis totex is lower because of lower operating costs for this option.
- **Process risk:** a solution delivering below ground storage (option one) is a reliable gravity-fed system that would still operate in certain failure conditions. In contrast, option two has multiple process interactions within the process chain including the operation of pumps and a pressurised rising main (previously not used for such large flows), and increased flow to full treatment at Windermere WwTW. Each one of these would be delivered with redundancy, however failure of any one of these links of the chain could lead to breach of consent and a failure to deliver the benefits of the scheme.

3.4.7 As a function of these considerations, this process determined below ground storage (option one) as the option offering best value and this is our preferred option to develop further.

Further Opportunities

3.4.8 The outcome of modelling works is that 10,000m^3 storage is required at Glebe Road. Initial engagement has indicated that planning constraints will not allow for above ground tanks to be delivered, therefore, optioneering assumed that storage will be below ground. A cost saving opportunity from delivering above ground storage will be explored with the planning authority between submission one and two.

3.4.9 The project team has identified other opportunities in the form of additional attenuation tanks further up the network. Further modelling works will explore these opportunities, between submission one and two, to understand whether they would deliver a net benefit to the storage required at Glebe Road.

3.5 Development of outline design

3.5.1 Table 7 summarises the preferred high-level solutions and justification as set out above. For each project, we have undertaken initial feasibility studies and design has progressed sufficiently to enable engagement with the supply chain prior to submission two.

Table 7: Summary of preferred solutions

Project	Preferred solution	Justification
Submission chapter	*3*	*3*
Langdale WwTW – phosphorus and sanitary	Upgrade of the ferric dosing assets and the addition of tertiary solids removal	Only additional works necessary following delivery of Elterwater pumping station solution (not part of gated scheme)

Project	Preferred solution	Justification
Submission chapter	*3*	*3*
Hawkshead WwTW- phosphorus and sanitary	25 per cent catchment water removal, 3,000m^3 storm storage tank and increase of 5 litres/second in flow to full treatment (14 to 19 litres/second)	Only feasible option identified through optioneering. Optioneering indicates that for a solution to be feasible, it must contain some infiltration removal and increased flow to full treatment, and this configuration is deemed to be the best balance of these variables and storm storage.
Hawkshead PS	Upgrade of assets on site: enhanced chemical dosing, a new final settlement tank and new tertiary solids removal.	
Glebe Road PS	Below ground 10,000m3 storage at Glebe Road	Best value option predominantly reflecting process risk and opex considerations

Source: Summary of information included in this chapter

3.5.2 UUW is using its Enterprise delivery model, which brings together eight industry-leading partners, working as one team bringing together expertise in design, engineering and construction. Integrated, diverse project team within the Enterprise has allowed a range of technical experts, including supply chain partners, to be engaged throughout the design process. Following project conception, each scheme undertook high level optioneering to exhaust all potential opportunities to achieve the required output. Close engagement with operations staff ensured that nuances of each site could be understood leading to better solution outcomes and investment of key stakeholders in the solutions.

3.5.3 Once potentially feasible solutions were captured, design teams proceeded investigations to develop, validate, and rule out options. This process has considered factors such as modelling, flow rates, integration with existing works, population data, topography, planning, land availability, access, and logistics.[3] Key stakeholders including operations staff were updated with developments through regular team meetings to gauge feedback. Due to the technical nature of these solutions many potential options were ruled out as non-feasible and most schemes only remained with one or two feasible solutions.

3.5.4 The final options were developed further and the best value solution selected as described above. A single solution paper was then prepared, and reviewed by the Technical Assurance Group, which includes a mixture of process, technical, design, engineering and assurance expertise. The review covered risks and opportunities, dependencies, whether the technology selected will deliver the required outcome and whether the requirements and basis of design are clear. Each SSP has also undergone commercial and programme assurance.

3.5.5 We have provided a single solution papers for Langdale as part of UUWLGS_P2S1_19 Langdale WwTW. For Glebe Road and Hawkshead we have provided optioneering reports as part of UUWLGS_P2S1_20 Glebe Road PS and UUWLGS_P2S1_21 Hawkshead WwTW and PS.

[3] Population data is based on the latest WEF annual returns dataset as a baseline and a growth model for the forecast to the end of the AMP and the design horizon 2050. The growth model used is from Edge Analytics, and includes growth data from Local Plans and planning applications submitted to Local Authorities.

4. Solution costs and benefits

4.1 Introduction

4.1.1 This section:

- Sets out the solution cost estimates for the package two projects, underpinned by the costing methodology. We will submit detailed evidence of cost efficiency for schemes where our cost estimates are above the relevant enhancement benchmark's view of cost during submission two;
- Describes UUW's approach to best value assessment and solution benefits; and
- Summarises the key changes from the solutions and costs set out in UUWR78. Changes in benefits are not described as we did not quantify benefits in UUWR78 given the early stage of development of the projects.

4.1.2 We are at the feasibility stage of project development, meaning that cost estimates will continue to change as project details become clearer and designs are finalised. We will communicate any further changes to Ofwat through future submissions.

4.1.3 All cost in this submission are provided in 2022-23 CPIH-adjusted prices.

We have attached supporting evidence to this submission

4.1.4 We also attach the following supporting documents to this submission:

(a) A change log covering the package one and two projects (UUWLGS_S1_05 Change Log); and

(b) Individual capital cost estimates for each project in package two (as part of the scheme-specific supporting documents UUWLGS_P2S1_19 to UUWLGS_P2S1_21 inclusive).

4.2 How we have developed and benchmarked our costs

UUW's estimating methodology

4.2.1 This Windermere submission has been priced using UUW's Investment Programme Estimating System (IPES) - a bespoke parametric estimating tool which we used to provide costs for the Price Review. The system provides a repository for cost data from schemes delivered in previous AMP periods and quotations from our partners to inform estimates for future projects. This ensures that our estimates are in line with schemes we have previously delivered.

4.2.2 The estimates for each scope item are compared against other water companies' estimates using Mott MacDonald's estimating database. This gives us confidence that our costs are in line with industry patterns. This process allows us to highlight and challenge scope items where there is a significant difference.

4.2.3 Given the nature of the Windermere sites, a complexity uplift has been applied to contractor costs. This will be replaced by site-specific estimation for submission two. The uplift has been calculated by assessing each scheme against a range of factors that will affect the norms contained within our estimating models. Each project was given a score against factors such as access, weather and planning considerations to generate an overall complexity factor that was scaled and used to generate a percentage uplift to contractor costs. This forms part of the capex estimates described below. This analysis is summarised by site in the figure below.

4.2.4 A risk provision has also been included as described in section 5.3, and opex costs are derived from operating plans consistent with our PR24 methodology.

Figure 1: Package two complexity analysis

	Work force availability / cost	Working hours restrictions	Temporary traffic management	Local access	Wider Access	Utilities/ Statutory Undertakers	Tourism impact	Planning permission / Stakeholder	Planning / stakeholder constraints	Temporary works technicalities	Standard Outputs	Weather	Ecology (flora/fauna)	Archaeology	Heritage	Total Complexity Factor	% Complexity Factor
Glebe Road	3	8	9	8	3	1	9	6	8	4	8	4	4	4	5	84	20.0%
Hawkshead	3	8	9	8	6	1	9	6	8	5	8	6	4	1	3	85	20.0%
Langdale	4	2	4	5	5	1	4	2	2	8	5	6	5	1	5	59	10.0%

Source: UUW analysis

4.2.5 The Association for Advancement of Cost Engineering (AACE) provides a framework to define estimates based upon project maturity. At this stage, our estimates are at stage AACE class 4, which suggests an accuracy range of +50 per cent to -30 per cent. We expect this to narrow as we further develop our programme.

Cost estimates

4.2.6 Table 8: below summarises our emerging view of totex costs at each site. As set out above, given these projects remain at the feasibility stage, there remains significant uncertainty about the costs.

Table 8: Summary of totex costs (2022-23 CPIH prices)

	Langdale WwTW – phosphorous and sanitary	Hawkshead WwTW – phosphorous and sanitary	Hawkshead PS	Glebe Road PS
Capex	£3.9m	£8.0m	£29.3m	£36.5m
Opex	£0.2m	£0.1m	£0.1m	£ - m
Totex	£4.1m	£8.1m	£29.4m	£36.5m

Source: UUW Estimating

External benchmarking: comparison to Ofwat's Final Determination enhancement models

4.2.7 We have compared the costs for each project to modelled costs calculated using Ofwat's PR24 enhancement models. We have maintained all elements of Ofwat's PR24 methodology for this submission. For example, we retain the reconciliation adjustment that corrected for differences between CWW3 and scheme level business plan data tables. We have also rebased the frontier shift efficiency challenge to the current year. We will consider whether these adjustments are necessary to include in future submissions.

4.2.8 This is set out in Table 9 below. Some schemes are delivering against multiple enhancement drivers. Where this is the case, we have summed the allowance from each separate enhancement model to calculate the total modelled allowance. We use '1' to show which enhancement models have been included in this calculation.

Table 9: Package two involves working at some sites with challenging site-specific factors

Project name	P removal	Sanitary	Network storage	FTFT	STW storage	Modelled allowance (£m)	Totex estimate (£m)
Langdale WwTW	1	1				7.3	4.1
Hawkshead WwTW	1	1				6.8	8.1
Hawkshead PS LAK0107SO			1	1		10.1	29.4

Project name	P removal	Sanitary	Network storage	FTFT	STW storage	Modelled allowance (£m)	Totex estimate (£m)
Glebe Road Pumping Station LAK0045SO			1			11.3	36.5
Total						**35.4**	**78.1**

Source: UUW analysis based on Ofwat's PR24 Final Determination

4.2.9 We are expecting costs to be significantly above the modelled cost for Glebe Road and Hawkshead. This is because ground investigations have suggested that Glebe Road and Hawkshead PS will require significant rock excavation associated with construction of underground storage, which is considerably more expensive. Glebe Road is also located in one of the busiest parts of the Lake District National Park, which will create additional site complexities.

4.2.10 We will work to mature our understanding of costs at these sites. Future submissions will draw upon this further understanding and will contain evidence to justify the costs of schemes where our view of cost is higher than the FD modelled allowance, drawing on ground investigation data.

We will ensure our final cost estimates for these schemes exclude any element of base expenditure

4.2.11 The investment drivers for these projects (as described in section 2) will require a step-change in performance at each site. As we work to develop our understanding of costs at these sites, we will continue to review the scope and associated costs to ensure that our costs relate to enhancement expenditure only and customers are not paying twice.

We have updated our view of cost since Final Determination

4.2.12 Table 10 summarises the changes to costs since Final Determination. These are indicative only as we are still at an early stage of project development. As such, there is potential for these costs to change in future submissions as designs and understanding of site risks mature.

Table 10: Summary of changes since Final Determination (2022-23 CPIH)

Scheme	Original estimate £m	Updated estimate £m	Change £m
Langdale	10.0	4.1	-6.0
Hawkshead WwTW	8.4	8.1	-0.4
Hawkshead PS	33.8	29.4	-4.4
Glebe Road	77.3	36.5	-40.8
Total	**129.6**	**78.1**	**-51.5**

Source: Original estimate: Final determination documentation; Updated estimate as Table 8

4.2.13 The key changes in cost relate to:

- Design development across all three sites leading to a change in solution:
  - At Langdale, the use of MOB as part of the Elterwater PS solution (as set out in section 3) has driven a reduction in cost;
  - Optimisation of the solution for the Hawkshead spills driver, including a balance between catchment water removal, storage and FTFT increases; and
  - A reduced storage volume at Glebe Road as a result of modelling work, significantly reducing costs;

- A reduced indirect cost percentage to align to the delivery method; and
- Streamlining of scope to remove items not necessary to meet the driver e.g. at Glebe Road, we have removed the outfall extension from the project scope.

4.2.14 We provide further commentary on these differences in our supporting document UUWLGS_S1_05 Change Log.

4.3 Best value assessment and solution benefits

4.3.1 The schemes in the Windermere gated programme all protect and enhance Windermere, England's largest lake and an iconic site of significant importance to customers, communities and stakeholders. The package two schemes will both enhance final effluent standards from wastewater treatment works and reduce spills from three storm overflows that discharge into the Windermere catchment. These enhancements offer benefits across a range of areas including amenity value, biodiversity and wider environmental outcomes.

4.3.2 The value derived by society from these enhancements is central to our approach to developing them. There is strong qualitative evidence underpinning the value placed by customers and communities on the health of Windermere, with support for maintaining the health of the lake, preventing future deterioration and reducing the impacts on plants and wildlife.[4] This support underpins going beyond statutory requirements at Windermere. While a best practice approach to value assessment captures a wide range of benefits, the particular stakeholder focus on Windermere reflects an extremely high value that is placed on this unique location. Not all of this may be easily captured by a standard approach to value assessment.

4.3.3 We are currently developing our "six capitals" based value tool to reflect the latest regulatory and Government approaches to valuations of service, the environment and amenity values, including considering its application to the unique context around Windermere. We currently expect the update to be complete and assured in time for the outputs and approach to be included in submission two.

[4] Bespoke Performance Commitments Research Report, 12 September 2023, page 53

5. Programme and Planning

5.1 Introduction

5.1.1 This section summarises the programme for each of the package two schemes, including for third party approvals and consents. It also provides an overview of the key risks faced on the package two projects.

5.1.2 To support the information provided in this section we have provided;

- As part of the scheme-specific supporting documents UUWLGS_P2S1_19 to UUWLGS_P2S1_21 inclusive:
  - A P6 programme for each scheme, which sets out programme activities in more detail,[5] and
  - A risk register for each project;
- A draft delivery plan (UUWLGS_S1_11 Draft Delivery Plan) and delivery plan commentary (UUWLGS_S1_12 Delivery Plan Commentary), in the format required by Ofwat's delivery plan guidance, covering the package two projects. We expect this to align to UUW's November delivery plan update.

5.2 Summary of programme

5.2.1 We have developed programmes within Primavera P6 using a standard approach. Planning is used as a tool to identify issues and potential risks early and proactively mitigate or escalate them.

5.2.2 The programme in Figure 2 below provides a high-level summary of the key activities remaining for each of the four package two projects. These comprise:

- Outline design;
- Revision of cost estimates;
- Preparation of contract(s);
- Continuing discussions with third party stakeholders (i.e. local planning, landowners and the EA), which will take place over a period time primarily prior to start on site, as indicated by the arrows;[6]
- Detailed design;
- Site works – including commissioning and testing; and
- Final handover and close out.

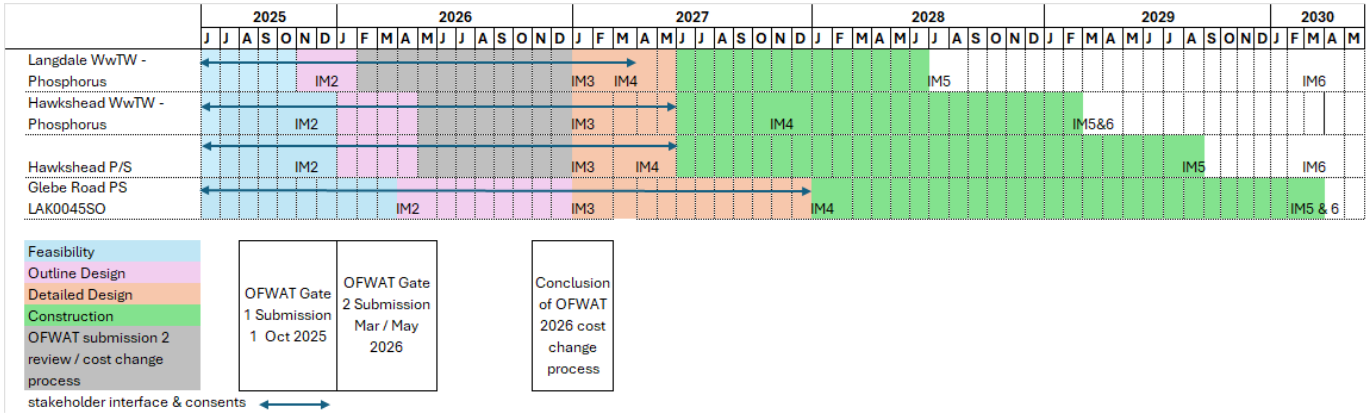
5.2.3 We have developed the project plan and strategy for delivery based on the requirements of the gated process and UUW's ambitions to deliver benefits around Windermere as quickly as possible. We intend to make submission two for package two in the 1 March – 1 May 2026 window. This shows significant ambition in the timescales for the Glebe Road and Hawkshead schemes in particular, as these projects address AMP9 WINEP drivers and there are several complex planning and stakeholder considerations.

5.2.4 The programme currently assumes that UUW proceeds to the detailed design phase following the conclusion of the Ofwat cost change process in December 2026. UUW is seeking to accelerate delivery of these schemes and would like to explore with Ofwat potential routes to proceeding to delivery earlier, as permitted by Ofwat's guidance. The proposed delivery timings will be updated in submission two.

[5] We provide separate programmes for Hawkshead WwTW and PS as these relate to the activities on the two separate sites.

[6] As each project matures and key third party interfaces are identified, the P6 programme will be developed to include specific interface milestones.

Figure 2: High-level programme: package two



Source: UUW systems.

5.3 Risk

5.3.1 Risks are managed in line with UUW's risk management procedure, which includes identifying and scoring risks for probability and severity of impact, assigning owners and developing risk mitigation plans. An assurance process is in place to assure that risks are being identified and managed effectively to allow the project to progress through the phases of delivery.

5.3.2 Given the projects in package two are at the feasibility stage, the project risk registers are at a relatively low level of maturity and will be developed further as the projects progress through the delivery lifecycle. There are three key categories of risk at this stage of project development: design risk, constructability risk and construction risk. These are set out in more detail below.

5.3.3 Design risks:

- Planning – Planning permissions for the storage solutions at Hawkshead PS and Glebe Road PS are likely to be complex, due to location. There is a risk that extended lead times on planning applications could cause significant delays, or that planning conditions could drive additional costs. We are engaging closely with planning authorities to mitigate any delays or additional costs, including submitting pre-applications.
- Solution design
  - Glebe Road PS is located in one of the busiest locations around Windermere and there are multiple customer and stakeholder considerations for solution design, including vibration considerations given the proximity of the site to a 17th century farmhouse, leading to additional costs. We plan to undertake vibration monitoring and structural assessments during design.
  - The solution at Langdale is dependent upon the successful outcome of the MOB trial. If this trial is not successful, additional land could be required beyond the current site boundary. This risk is expected to be resolved prior to submission two.
- Environmental permitting – upon delivery, as with most projects of this nature, sites will be required to have an updated environmental permit in place, solutions are dependent upon the timely agreement of new or amended environmental permit conditions. Permit changes are likely to include an increase to flow to full treatment (FTFT) at Langdale WwTW and Hawkshead WwTW. Through our regular dialogue with the EA we expect to manage this risk through early engagement and initiation of the permitting process.

5.3.4 Constructability risks:

- Accessibility – access for construction is limited at sites in package two. Glebe Road PS can only be accessed for construction via a one way system around the Glebe and access to Langdale WwTW is

very narrow, both of which may limit construction traffic with impacts on cost and programme. Glebe Road PS and Langdale WwTW both have an existing public pathway which could interface with construction, resulting in a need to divert and potential delay and increased costs. We plan to minimise the impact on the public during detailed design, including by optimising site layouts.

- Land availability and topography
  - There is limited land availability for construction at Hawkshead WwTW and Langdale WwTW, with the potential for delays or increased costs should additional land be required. We are looking to design the solutions to minimise the need for additional land, and engaging early with landowners where land purchase or lease is unavoidable to mitigate any delay.
  - Glebe Road PS is in an area of extremely high compressive strength rock, and desk top study geotechnical investigation indicates very little coverage of this rock. Construction of a below ground tank in this location is likely to be challenging and ground conditions could lead to delays. We plan to discuss mitigation with the contractor once appointed to minimise any impact.
- Environment
  - Parts of the Windermere catchment are a SSSI, project sites may require special protections for environmental habitats which will require assessment for relocation, avoidance and potentially set up of new habitats. Our current assessment of probability is low to medium, and we are undertaking ecology surveys to understand and manage these requirements.
  - Langdale WwTW is surrounded by ancient woodland and if additional land is required, would require planning permission, potentially leading to delays and increased costs. We are managing this through the design process with aim of fitting new assets within the existing site boundary.
- Power- Power requirements for the new equipment may exceed the available supply, requiring a power upgrade, which could have a significant lead time. We are engaging with Electricity North West as early as possible, and will use generators where required until power supplies are in place.

5.3.5 Construction Risk:

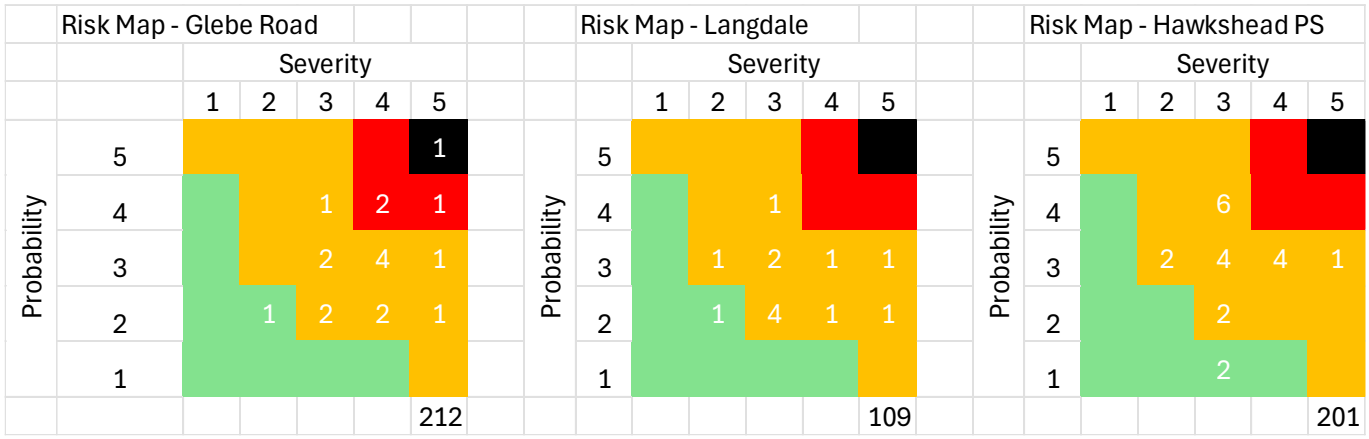
- Weather - weather conditions in the Lake District can be particularly challenging and will be a factor throughout construction.– there is a risk that construction may be impacted by weather conditions, leading to delays and additional costs. To mitigate this, ground works will be planned for drier months where possible.
- Ground conditions - unforeseen or bad ground conditions could be encountered, resulting in difficulties during construction, increased programme delay and construction costs. This is a particular concern at Glebe Road, where previous projects (e.g. new rising main delivered during AMP6), have been significantly impacted by high compressive strength rock which caused delays and additional costs. To mitigate these risks we are first undertaking ground investigation surveys and will look to address specific challenges in design. Secondly we are looking to begin works as early as possible to give the largest construction window ahead of the regulatory date.
- Stakeholders – farmers, landowners or other third-party stakeholders could be adversely affected by the construction. Due to close proximity of Glebe Road PS to highly touristed areas and the impact on businesses, the project may be forced to work in off-season periods only, leading to additional costs and delays. We are engaging closely with local stakeholders and making plans to mitigate the impact of construction (e.g. traffic management planning).
- Public interest – there is significant interest in the projects and their delivery. We expect this will lead to a high number of contacts and requirement for engagement. To mitigate this, we are undertaking significant stakeholder engagement, will share information about construction works well in advance, and will make arrangements to reduce the impact on customers and stakeholders.

5.3.6 The risks summarised above and captured in the project risk registers have been used to inform the risk provision in the cost estimate, with the total risk score used to scale the risk provision (combining the

assessment of both probability and severity).[7] Each risk map below captures the number of risks in the risk register with each combination of probability and severity. However, in line with the stage of development of the projects, the risk provision is not a bottom-up calculation based on statistical analysis of the risks. The costs associated with the risks in the risk register have been generated using a standard methodology based on likelihood and severity; these costs will be assessed by the project team on a project-specific basis for submission two.

5.3.7 Within the programmes, several of the activities allow for risk. For submission two, each of the programmes will be updated and we plan to run quantitative schedule risk analysis.

Figure 3: Risk maps for package two



5.4 Proposed submission two activities and timelines

5.4.1 The key activities prior to submission two fall into the outline design phase. This includes:

- the progression of outline design, with consideration of:
  - hazards and operability to ensure the solutions are safe to operate;
  - access, lifting and maintenance reviews, to ensure the solutions are safe to maintain;
  - further consideration of hydraulics for sizing of the new assets and safety considerations;
  - power workshops to consider options for power resilience;
- consideration of the designs for specific construction challenges for each site such as retaining walls and locations of welfare facilities for sites with limited access;
- assessing planning status including environmental screening and the need for pre-applications;
- revision of cost estimates for design developments and informed by supply chain engagement;
- updating risk registers for emerging risks and individual risk costing considering site-specific factors;
- continuing discussions with third party stakeholders (i.e. local planning, landowners and the EA as applicable to each project); and
- any other consequential updates including to the programme.

5.4.2 These activities will take place over the remainder of 2025 and early 2026, followed by the production, review and assurance of submission two over February and March, prior to submission to Ofwat in the 1 March to 1 May window.

[7] As the risk registers are live documents the risk registers included within scheme-specific supporting documents UUWLGS_P2S1_19 to UUWLGS_P2S1_21 inclusive do not fully align to the versions used to inform the risk provision in the cost estimate, which was prepared at an earlier point in the preparation of this submission. Any discrepancies will be updated as part of submission two.

6. Customer protection

6.1 Introduction

6.1.1 To safeguard customers and uphold confidence in delivering the Windermere enhancement schemes, we propose a set of Price Control Deliverables (PCDs) aligned with Ofwat's PR24 final determinations for similar areas of expenditure. They will compensate customers if we fail to deliver or are late delivering the stated improvements to customers. This chapter is supported by an Excel workbook with the new lines added to the bottom of these PR24 FD UUW PCDs (UUWLGS_S1_06 PCD workbook).

6.1.2 These proposals are draft and conditional on the proposed solutions set out in this submission; any changes may require consequential changes to the proposed PCDs.

6.2 Approach

6.2.1 Rather than creating four discrete "Windermere" PCDs, we recommend extending the existing PR24 PCDs. These are:

- Storm Overflows (PCDWW5),
- Flow to Full Treatment (PCDWW4),
- Phosphorus removal (PCDWW10) and
- Sanitary Parameters (PCDWW12).

6.2.2 This approach is preferred because it:

- Simplifies **reporting** by consolidating all comparable scheme costs and deliverables. For example, Windermere site development allowances are already included in the FD Phosphorus removal and Sanitary Parameters PCDs;
- Preserves the **flexibility** envisioned by Ofwat's PR24 PCD methodology, enabling efficient delivery within final determination parameters; and
- Retains granular **visibility**: Delivery Plans will track progress against each site-specific line, ensuring transparency for regulators and stakeholders.

6.2.3 As a result, we therefore propose to add the four schemes in Package 2 into the following PR24 FD PCDs: Storm overflows (PCDWW5), FFT (PCDWW4), Phosphorus removal (PCDWW10) and Sanitary Parameters (PCDWW12).

6.2.4 Where the scheme is part of an expenditure area where Ofwat has applied time incentives in PR24 final determinations we also set out time incentives for the PCD. The timing incentive rates are calculated in line with the FD:

- The timing underperformance rate is based on the company wholesale weighted average cost of capital (WACC) of 3.97%, multiplied by the unit allowance. For example, for Phosphorus removal, the unit allowance is "Population Equivalent".
- The timing outperformance rate is set as one third of the underperformance rate, multiplied by minus 1.

6.2.5 We have provided an accompanying Excel workbook (UUWLGS_S1_06 PCD workbook) with the new lines added to the bottom of these PR24 FD UUW PCDs. There is one line per site. Some sites have expenditure related to multiple PCDs; they are therefore added on to all relevant PCDs in the Excel workbook with the relevant proposed cost allowance for that PCD. For simplicity, we have included our proposed Totex estimate (£m) in the Excel workbook in the standard PCD column headed "Allowance post adjustment (£m)" or "Reconciled post adjustments and FS and RPEs allowance (£m)" but have not renamed the column header. Our proposed totex allowance has undergone an appropriate cost

estimation process for the level of maturity of each scheme, detailed in section 4.2 of this document, which is equivalent in rigour to the methodology used by Ofwat to determine their "Allowance post adjustment (£m)" or "Reconciled post adjustments and FS and RPEs allowance (£m)" figures.

6.2.6 Due to the addition of the new sites, the PCD non-delivery and timing incentive rates must be re-calculated. We have included the re-calculated rates in the Excel workbook for each of the PCDs. For reference, we have used the PCD workbooks published by Ofwat as of 13 June 2025 as the starting point for the FD PR24 PCD. All amendments for the Windermere sites proposed in this submission are highlighted in orange.

6.2.7 For the Phosphorus removal PCD and the Sanitary parameters PCD there are sites added from package one and package two. For the Storm Overflows and FFT PCDs, there are sites added from package two only.

6.2.8 This proposal ensures customers remain protected against non- or late-delivery, delivers regulatory alignment, and maintains clear, accountable reporting.

6.3 Proposed PCDs

Storm overflows

Approach to deliverable

6.3.1 The PCD proposed is in line with that applied in PR24 final determinations for similar areas of expenditure, related to delivery of storm overflow investments (PCDWW5). The PCD will track delivery at the scheme level for the two storm overflow schemes in package two and claw back allowed investment in the event of non-delivery, in line with the payment calculations set out in the FD Price control deliverables appendix.

6.3.2 We have included the proposed cost allowance for each scheme in the PCD, on a separate line for each scheme. The PCD will hold UUW to delivering the schemes and equivalent storage included in package two.

Flexibility across deliverables

6.3.3 We intend to deliver the proposed schemes.

6.3.4 We propose that the schemes which we include in package two will also have the delivery flexibility applied by Ofwat to storm overflow schemes included in the FD PCD. This means, for example, that we will have the flexibility to substitute delivery of schemes via green to grey solutions / grey-green hybrid and vice versa.

6.3.5 If we identify the need to substitute any of the agreed schemes, we will obtain the approval of the Environment Agency for this substitution and ensure it is reflected in the updated WINEP.

Time incentives

6.3.6 We propose time incentives in the same way as at final determinations, i.e. applied on the profile of equivalent storage (in m3) and litres per second (l/s) at an aggregate level across all solution types. The whole programme comprises those schemes included in the FD PCD with the addition of these proposed Windermere schemes. Applying timing incentives at an aggregate level provides flexibility and the management of delivery risks across UUW's storm overflows programme.

6.3.7 We propose a delivery profile for the PCD which is in line with the planned delivery of the specific Windermere schemes. Ofwat applied a standardised delivery profile for storm overflow schemes in the timing incentive element of the storm overflow and FFT PCDs at PR24 FD (see table 6 and 7 in 9.6-PR24-final-determinations-Price-control-deliverables-appendix_Redacted-1.pdf). This used the assumption that companies should deliver about two thirds of equivalent storage by the end of year 4 (2028-29) of the price control period. We do not consider that this assumption is appropriate for the Windermere schemes given that they will commence later than the majority of the industry's AMP8 storm overflow schemes as they are part of a large gated scheme, rather than the original PR24 FD. We have therefore

proposed a delivery profile (as included in the Excel spreadsheet UUWLGS_S1_06 PCD workbook) which is specific to the Windermere schemes. This is detailed in the table below. These values have been added to the FD delivery profile in PCDWW5 Excel line 20 "Equivalent storage".

Table 11: Proposed PCDWW5 delivery profile for Windermere package two

PCD outputs (cumulative)	Unit	2025-26	2026-27	2027-28	2028-29	2029-30
Equivalent storage – Package 2	m3	0	0	0	0	13,000
Equivalent storage – FD PCDWW5 line 20	m3	0	39,903	279,321	478,836	798,060
Equivalent storage – Revised PCDWW5 (FD plus Package 2)	**m3**	**0**	**39,903**	**279,321**	**478,836**	**811,060**

Source: accompanying Excel spreadsheet UUWLGS_S1_06 PCD workbook

Flow to Full Treatment

Approach to deliverable

6.3.8 The PCD proposed is in line with that applied in PR24 final determinations for similar areas of expenditure, related to delivery of flow to full treatment investments (PCDWW4). The PCD will track delivery at the scheme level for the FFT scheme (part of the Hawkshead scheme, the other part is included in the storm overflows PCD) in package two and claw back allowed investment in the event of non-delivery, in line with the payment calculations set out in the FD Price control deliverables appendix.

6.3.9 We have included the proposed cost allowance for the scheme in the PCD, on a separate line highlighted in orange at the bottom of the PCD. The PCD will hold UUW to delivering the scheme and flow included in package two.

Flexibility across deliverables

6.3.10 We intend to deliver the proposed schemes.

6.3.11 We propose that the scheme which we include in package two will also have the delivery flexibility applied by Ofwat to flow to full treatment schemes included in the FD PCD.

6.3.12 If we identify the need to substitute the agreed scheme, we will obtain the approval of the Environment Agency for this substitution and ensure it is reflected in the updated WINEP.

Time incentives

6.3.13 We propose time incentives in the same way as at final determinations, i.e. applied on the profile of equivalent storage (in m3) and litres per second (l/s) at an aggregate level across all solution types. The whole programme comprises those schemes included in the FD PCD with the addition of these proposed Windermere schemes. Applying timing incentives at an aggregate level provides flexibility and the management of delivery risks across UUW's FFT programme.

6.3.14 We propose a delivery profile for the PCD which is in line with the planned delivery of the specific Windermere scheme. Ofwat applied a standardised delivery profile for storm overflow schemes in the timing incentive element of the storm overflow and FFT PCDs at PR24 FD (see table 6 and 7 in 9.6-PR24-final-determinations-Price-control-deliverables-appendix_Redacted-1.pdf). This used the assumption that companies should deliver about two thirds of capacity by the end of year 4 (2028-29) of the price control period. We do not consider that this assumption is appropriate for the Windermere schemes given that they will commence later than the majority of the industry's AMP8 storm overflow schemes as they are part of a large gated scheme, rather than the original PR24 FD. We have therefore proposed a delivery profile (as included in the Excel spreadsheet UUWLGS_S1_06 PCD workbook) which is specific to the Windermere schemes. This is detailed in the table below. These values have been added to the FD delivery profile in PCDWW4 Excel line 20 "Litres per second".

Table 12: Proposed PCDWW4 delivery profile for Windermere package two

PCD outputs (cumulative)	Unit	2025-26	2026-27	2027-28	2028-29	2029-30
Litres per second – Package 2	m3	0	0	0	0	5.00
Litres per second – FD PCDWW4 line 20	m3	0	54.385	380.70	652.62	1,087.70
Equivalent storage – Revised PCDWW4 (FD plus Package 2)	**m3**	**0**	**54.39**	**380.70**	**652.62**	**1,092.70**

Source: accompanying Excel spreadsheet UUWLGS_S1_06 PCD workbook

Phosphorus removal

Approach to deliverable

6.3.15 The PCD proposed is in line with that applied in PR24 final determinations for similar areas of expenditure, related to achieving enhanced permits (consents) for phosphorus removal schemes (PCDWW10). The PCD will track delivery at the scheme level for the four Phosphorus projects in package two and claw back allowed investment in the event of non-delivery, in line with the payment calculations set out in the FD Price control deliverables appendix.

6.3.16 We have included the proposed cost allowance for each scheme in the PCD, on a separate line for each scheme. The PCD will hold UUW to delivering the schemes included in package two to meet tightened permit conditions (consents) for the enhanced permit of phosphorus removal schemes.

Flexibility across deliverables

6.3.17 We intend to deliver the proposed schemes. If we identify the need to substitute any of the agreed schemes, we will obtain the approval of the Environment Agency for this substitution and explain the reasons for any significant substitutions in our annual regulatory reporting. Regular Programme updates will also be provided to Ofwat in our delivery plan submissions.

Time incentives

6.3.18 We propose time incentives on the cumulative PE (population equivalent) served in the same way as at final determinations, i.e. applied at an aggregate level across the whole programme. The whole programme comprises those schemes included in the FD PCD with the addition of these proposed Windermere schemes. Applying timing incentives at an aggregate level provides flexibility and the management of delivery risks across UUW's phosphorus removal programme.

6.3.19 We propose a delivery profile for the PCD that reflects the planned timing of the Windermere schemes. Ofwat's PR24 final determination applied a standardised profile for Phosphorus schemes, assuming around two-thirds of cumulative Population Equivalent (PE) served would be delivered by year 4 (2028–29) (see table 8 in 9.6-PR24-final-determinations-Price-control-deliverables-appendix_Redacted-1.pdf). This assumption is not appropriate for Windermere, where schemes will start later than most AMP8 Phosphorus programmes due to their inclusion in a large gated scheme. Accordingly we have proposed a Windermere-specific delivery profile, detailed in the accompanying Excel spreadsheet UUWLGS_S1_06 PCD workbook, and incorporated into the PR24 FD delivery profile in PCDWW10 Excel line 20 ("Population equivalent served"). This is detailed in the table below.

Table 13: Proposed PCDWW10 delivery profile for Windermere packages one and two

PCD outputs (cumulative)	Unit	2025-26	2026-27	2027-28	2028-29	2029-30
Population equivalent served – Package 1	000s	0.00	0.00	0.00	0.00	10.40
Population equivalent served – Package 2	000s	0.00	0.00	0.00	0.95	2.00
Population equivalent served – Packages 1 and 2 total	000s	0.00	0.00	0.00	0.95	12.40

PCD outputs (cumulative)	Unit	2025-26	2026-27	2027-28	2028-29	2029-30
Population equivalent served – FD PCDWW10 line 20	000s	0.00	15.13	762.28	1,829.48	3,049.14
Population equivalent served – Revised PCDWW10 (FD plus Packages 1 and 2)	**000s**	**0.00**	**15.13**	**762.28**	**1,830.43**	**3,061.54**

Source: accompanying Excel spreadsheet UUWLGS_S1_06 PCD workbook

6.3.20 Sanitary parameters

Approach to deliverable

6.3.21 The PCD proposed is in line with that applied in PR24 final determinations for similar areas of expenditure, related to delivery of sanitary parameters enhancement schemes (PCDWW12). The PCD will track delivery at the scheme level for the two sanitary projects in package two and claw back allowed investment in the event of non-delivery, in line with the payment calculations set out in the FD Price control deliverables appendix.

6.3.22 We have included the proposed cost allowance for each scheme in the PCD, on a separate line for each scheme. The PCD will hold UUW to delivering the schemes included in package two to tightened permit conditions for one or more sanitary parameters.

6.3.23 The deliverables for the schemes (measured by Population Equivalent) are already included and measured in the FD PCD (Excel cells I37 to I41). This relates to the development allowance. To avoid counting the same deliverable twice, we have not included the Population Equivalent again for these accelerated schemes in the revised PCD (see Excel cells I50 to I54).

Flexibility across deliverables

6.3.24 We intend to deliver the proposed schemes. If we identify the need to substitute any of the agreed schemes, we will obtain the approval of the Environment Agency for this substitution and explain the reasons for any significant substitutions in our annual regulatory reporting. Regular programme updates will also be provided to Ofwat in our Delivery Plan submissions.

Time incentives

6.3.25 We do not propose time incentives for these schemes. This is in line with the FD PCD, PCDWW12.

7. Stakeholder and customer engagement

7.1 Introduction

7.1.1 United Utilities has a clear stakeholder and community engagement plan and dedicated resources within the community to execute that engagement across the Windermere catchment, with the objective of being a trusted partner, demonstrating it is delivering on the community's priorities, understands the community's needs and expectations and is able to work effectively and constructively with others to mitigate the impact of any its activities. This engagement plan has been in place prior to business plan submission and will underpin delivery throughout AMP8.

7.1.2 This section outlines the approach to stakeholder engagement for the Windermere programme. To support the overview provided in this section, we provide our Customer and Stakeholder Engagement Plan (CSEP) (UUWLGS_S1_07 Engagement Plan).

7.2 Principles for engagement

7.2.1 Customers across the North West supported UUW's business plan proposals and where it had strengthened its commitments in issues of high concern, such as pollution. Notwithstanding that support and its importance to delivering on those improvements in Windermere for communities and visitors, it is important we can deliver on those commitments in a way which minimises the disruption to the daily lives of all who live, work or visit the catchment. Demonstrating progress against those plans and benefits being realised is also key. Therefore, core principles which underpin the engagement strategy overall and through the lifecycle of each project include:

- **Raising awareness** of what we are planning and are doing among the community and how this will support their priorities in terms of the service they expect and pay for from United Utilities and how improvements will contribute to the broader health and wellbeing of Windermere
- **Supporting those customers and communities** throughout the lifecycle of a project with help and information and opportunities for them to raise their concerns and issues directly with us
- **Executing a proactive programme of contact** with key stakeholders, community campaigners and the local MP
- **Being visible among the community**, through our physical presence with an information centre in Windermere, at community events and through open access for them to come and see for themselves how we treat and manage wastewater at our site
- **Gathering feedback in order to adapt and improve** what we do and how we do it, underpinned by a Windermere specific brand survey conducted on a quarterly basis with households and businesses in the catchment

7.2.2 The team leading that engagement includes a dedicated area engagement lead who manages stakeholder relationships with key local authorities, MPs and other strategic bodies across Cumbria and in Windermere; a Windermere specific catchment manager responsible for the liaison and consultation with regulators; and a third party and communications team who work within the local communities where we are making the investment and carrying out the work to consult, inform, support and help mitigate any risks caused by that work. This team works closely with broader colleagues accountable for planning and land management and the capital delivery and construction teams to ensure there is a cohesive and proactive programme of engagement.

7.3 Engaging our communities

7.3.1 The approach to engaging the community across the Windermere catchment and those with a particular interest in Windermere is driven by an 'always on' element to our wider communications – so alongside

having a physical presence in Windermere where updates and information are available, we have, since 2023, produced a regular newsletter which is issued to residents which highlights our ongoing work and the colleagues delivering that and our future plans, as well as demonstrating examples of how we are working with others to improve water quality in Windermere.

7.3.2 We run monthly tours of Windermere WwTW so the community, wider public and stakeholder groups can see how we treat wastewater and to highlight improvements to be made in future. A dedicated education programme specifically tailored for schools in the catchment is also being trialled with a Windermere primary school and being delivered in partnership with the Lake District National Park.

7.3.3 The 'always on' activity includes regular attendance at community led events across the calendar year where there is an opportunity to engage with the public, alongside use of other channels such as social media, to share updates and information. We use partner channels to expand the reach, for example, we use the Love Windermere partnership which has representatives from organisations such as Westmorland and Furness Council, the Lake District National Park Authority, Cumbria Tourism, businesses, the National Trust and Lake District Foundation to help inform, update and gather feedback.

7.3.4 In addition, we have an Action Windermere multi-media campaign running which highlights the investment and improvements we are committed to delivering and examples of how that is to be delivered and achieved. Alongside this we run a quarterly brand survey with residents and business in the Windermere catchment to measure sentiment of United Utilities and awareness of and feedback on information promoted to them to help drive improvements in our activities.

7.3.5 In terms of wider stakeholder engagement, there is an ongoing schedule of updates and meetings held with key organisations, elected members and officials and the local MP, which, for example, has most recently included a visit (in August) by the MP to our Windermere WwTW where we discussed the investment plan, its intended outcomes and its timelines.

7.3.6 Engagement also extends to interested bodies and campaigning groups, such as Love Windermere, Save Windermere and Ambleside Action for a Fairer Future and groups like the Lake District Hoteliers Association and a business sub-group of the Love Windermere partnership with whom we have had regular meetings. Details can be found in the CSEP and specific examples are provided below.

7.3.7 Future engagement plans will include continuation of the 'always on' approach, with an ongoing physical presence in our Windermere information centre, regular newsletters to the community, attendance at community led events, scheduled stakeholder updates, and tours of our WwTWs all forming how we intend to actively engage customers throughout delivery of the programme.

7.4 Examples of executing our engagement strategy in Windermere

7.4.1 When it comes to executing our engagement with those affected by site specific plans and activity, more detailed stakeholder mapping is undertaken to ensure we are liaising with all those affected or interested in a particular location. This includes reaching out to existing stakeholders and community groups to sense check we are including everyone that will have an interest.

7.4.2 That engagement is helping us to shape and adapt our plans and mitigate the impact on the community or sensitive locations:

- **Langdale** – the site is adjacent to ancient woodland and our engagement with the community and key stakeholders has focused on showcasing the trial of the innovative technology, Mobile Organic Biofilm to demonstrate how we are embracing new technology to deliver the step change in performance while offsetting the need for construction and engineering on a sensitive site. This engagement has included the production of a film to showcase the technology and the benefits it can bring which has been shared through our community updates. The trial has also been featured by key local media, including regional TV and we have held a series of stakeholder visits to the site to demonstrate how this can help achieve the improvements needed. The team has also so far hosted

site visits from Ofwat's outcomes team, members of the regional Environment Agency team; and most recently the Environment Agency's chair, Alan Lovell, in September.

- **Hawkshead** – updates on our plans and the drivers for the improvements at Hawkshead have been shared more broadly with the community, including customers, key community and campaign groups, Lakes Parish Council and the MP as part of highlighting what the AMP8 programme will deliver across the catchment. The community is particularly interested in innovation, highlighted in the most recent August 2025 results of the Windermere catchment brand tracker survey, and so we have highlighted another example of where, by using solutions, such as a new ferrous based chemical, Nanofloc, to increase the performance of the final settlement tanks, we can deliver improvements without the need to build further on the site. Arrangements are currently being made for key regional media outlets to cover the Hawkshead example and the success of the trial will be shared through the monthly version of the community newsletter.
- **Glebe Road** – this is another sensitive location given it sits at the heart of where many visitors to Windermere gather to board the lake cruises, as well as visit many of the other attractions within Bowness itself. It is a busy car and bus parking area and close by are also other sensitive locations, such as a cemetery. It has also been a focal point for campaigner and media scrutiny over storm overflow spills given the location and visibility of the outfall in that location. While engagement with the broader community about the plans for the Glebe are at an early stage, we are very clear that there will be considerable interest in what happens in this location from a wide cross section of the community and businesses and so that communication and continuous dialogue is key. The business and tourist focused operators will be concerned about any impact on them, in terms of traffic or disruption from any construction or engineering activity. So far, engagement with the planning authority and notable landowners, such as the National Trust, has been positive and revealed requirements for overflow parking facilities to be kept available. These have now been incorporated into the solution layout.

7.4.3 The approach above is being replicated across each location where investment and work is being undertaken. A full list of all the interactions to date is set out by scheme in the CSEP.

7.5 Third party approvals and consents

Planning engagement

7.5.1 We have been engaging with the Lake District National Planning Authority (LDNPA) and its officers on the Windermere programme since June 2023, firstly on the accelerated schemes and since then on the full programme of works across the catchment. In these meetings we have provided a general overview of the scope of each of the schemes, the programme of works and agreed next steps. This has ranged from sites such as Hawkshead where we have submitted a formal planning pre-application enquiry to other sites where LDNPA has not expressed any particular concerns. We have then worked towards submission of either an Environmental Impact Assessment Screening Opinion or planning application.

7.5.2 We have continued with this engagement throughout 2025, providing updates on programme and scope, discussing any concerns and agreeing next steps. Where required, due to changes in scope or requirements or new information , we have also arranged ad-hoc meetings with the planning teams, for example this has covered topics such as the suitability of the above ground tanks at the Glebe.

7.5.3 We have programme level agreements for a paid-pre application advice service with Natural England and the Environment Agency. This includes for regular update meetings on programme and scope of works. A recent example of this is where we discussed the need for a Habitat Regulations Assessment for site investigation works on the existing sewer network at Langdale and sought approval for the works. We have also carried out a review with Natural England to determine the requirement for Habitat Regulations Assessment across the programme where there is the potential to impact designated sites and also for any surveys or other information required to support these applications.

7.5.4 Where applicable, we have sought a formal written pre-application response and pre-applications have been put forward for the Glebe and Langdale, with a pre-application for Hawkshead to follow in October.

7.5.5 There have also been regular meetings with Friends of the Lake District, a well-known body which represents the national charity Campaign for the Protection of Rural England in Cumbria to discuss the Windermere programme. These meetings have provided them with updates as well as an opportunity to discuss any potentially contentious schemes.

7.5.6 As described in other areas of this document, in advance of submitting planning applications we have and will continue to undertake engagement with the relevant parish council and local community via attendance at meetings and organisation of public drop in events. Examples can be found in the CSEP

Environment Agency engagement

7.5.7 In addition to customers, stakeholders, planning authorities and wider communities, UUW has clear plans in place to engage the key organisations, such as the Environment Agency, on our plans. We have established a fortnightly EA liaison meeting to facilitate discussions with the Cumbria area team. These meetings have been used to confirm project drivers, provide an overview of outline solutions and discuss the progress of individual schemes and as a programme overall. These meetings are also an opportunity to support risk management through early identification of challenges to enable us to work constructively with the EA to manage and resolve locally where possible.

7.5.8 For points that require broader governance or escalated challenges requiring national EA support or sign off, UUW has used the existing water quality sub-group meetings as a further engagement mechanism.

7.5.9 In addition to these regular meetings, in early September 2025, UUW facilitated an extended ‘deep dive’ session with the EA to review the programme in detail, discuss solution designs and outline proposed way forward for securing required permits. The meeting covered a review of requirements and proposed solutions for schemes in packages one and two.

7.5.10 The review was attended by a range of teams and included permitting teams from both the EA and UUW. As such, we have been able to discuss proposed permitting approaches for schemes.

7.5.11 We plan to sustain engagement with the EA and will use the existing fortnightly review meetings to progress actions and ensure the EA is sighted on developments. During the ‘deep dive’ we developed a set of collective actions for projects that both organisations will progress to support with the permitting process. We will monitor through our regular engagement sessions.

Table 14: Summary of UUW engagement with the Environment Agency (up to and including 18/09)

Date	Meeting Overview
09/04/2025	UUW and EA Directors, introduction to the Windermere programme and Gated submission process.
06/08/2025	UUW and EA senior leaders, to initiate fortnightly meeting. Overview of the Windermere programme and review of specific requirements, such as regulatory commitments.
21/08/2025	Recurring fortnightly session with key leads from organisations. Review of the Windermere programme and introduction to proposed solutions. Planning for ‘deep dive’ session on 04/09.
04/09/2025	Extended deep dive session with key teams from UUW and EA. Detailed review of individual projects including requirements, proposed solutions and permitting approach.
08/09/2025	Session with EA – summary of 04/09 session and discussion on next steps and actions.
18/09/2025	Recurring session with EA to discuss progress and confirm actions.

Source: UUW records

8. Assurance

8.1.1 This section summarises UUW's approach to assuring this submission and the outcomes of the third party assurance. It is supported by UUWLGS_S1_03 Technical Assurance Report and UUWLGS_S1_04 Commercial Assurance Report, our third party assurance reports.

8.1.2 Ofwat requires gated submissions to include a third-party assurance report in line with the requirements set out in PR24 final determinations: Expenditure allowances - assurance requirements for delivery of enhancement schemes appendix. This includes technical and commercial assurance across the content of the gated submission, including assurance of material change included in the change log.

8.1.3 Since confirmation of the gated submission requirements in the June 2025 large schemes guidance (refined in August 2025), UUW has developed an approach to meeting these requirements and assuring each element of the submission. This includes risk assessing each chapter of the submission and each supporting document to determine assurance requirements. We are following our standard three lines of assurance approach to produce, review and sign off each element of the gated submission. The third line assurance will be provided by Jacobs in line with Ofwat's requirement for a third party assurance report.

8.1.4 Jacobs has provided two final reports covering its technical and commercial assurance with the following high-level conclusions:

- **Technical assurance**: Jacobs concluded that the packages met the criteria with only non-material concerns remaining regarding specific schemes and solution maturity. In relation to package two, Jacobs noted that most assurance criteria have been met and its assessment did not identify any material concerns with the programme at this stage.
- **Commercial assurance**: Jacobs did not identify any material issues and only made non-material improvement recommendations.

8.1.5 Further details of Jacob's approach and findings can be found in UUWLGS_S1_03 Technical Assurance Report and UUWLGS_S1_04 Commercial Assurance Report.

9. Efficiency of expenditure to date

9.1 Introduction

9.1.1 This section sets out a breakdown of costs incurred so far in the development phase of submission one, in respect of package two. We provide an aggregated view of cost across all four package two projects and a forecast of the development costs we will incur as part of submission two.

9.1.2 We have been careful to ensure that there is no overlap between the reported costs for submission one and submission two – given submission one is a progress update on the same workstreams that will feed in to submission two, we have not recorded any early submission two expenditure and see all expenditure to date as being in support of submission one.

9.2 Actual and forecast expenditure

9.2.1 Table 15 below shows submission one costs incurred to date for package two, disaggregated by cost type. In order to report only actual costs, the position below reflects the August 2025 month end position, and September 2025 expenditure will be reported in submission two. The final column sets out forecast expenditure to submission two.

Table 15: Actual and forecast development costs aggregated across all four package two projects (22-23 CPIH prices)

Ref	Scope item	Scope description	Cost incurred to date (£m)	Forecast costs (£m)
1	Main Contractor (Direct)	Contractor costs to complete project feasibility work to date	0.19	3.08
2	Resource	UUW staff costs to complete project feasibility work to date	0.44	0.74
3	Surveys	Surveys to determine the solution e.g. ground investigation and ecology surveys	0.09	0.28
4	Third party (other)	Planning / licences and legal fees (etc)	0.04	0
	Total		**0.76**	**4.09**

Source: Actuals - UUW finance data, forecasts - UUW estimating data

9.3 Comparison against development allowance

9.3.1 UUW's costs for submission one of £0.76m are significantly less than the development allowance for package two of £8.20m, and including costs to complete submission two are likely to remain less than the development allowance. This reflects that there is a fixed element of project development costs that does not vary with the size of the project, and package two projects are large relative to the smaller package one projects.

9.3.2 Overall, the combined costs for packages one and two are currently well within the combined development allowance, and currently forecast to remain within the development allowance at submission two.

10. Conclusion and recommendations

10.1.1 UUW has developed and assessed options for the package two schemes as described in this submission, reaching a preferred option for each scheme. Outline design has been developed for these options based on a series of feasibility considerations, and the resulting solutions have been costed, although the schemes are less mature than those in package one. All schemes will deliver the required outputs and on this basis we propose all schemes in package two should progress to submission two.

10.1.2 We have developed the project plan and strategy for delivery on the basis of the requirements of the gated process and UUW's ambitions to deliver benefits around Windermere as quickly as possible. The Hawkshead and Glebe Road overflows schemes have AMP9 WINEP drivers; UUW is progressing the projects as quickly as possible in order to deliver benefits for customers.

10.1.3 One of the risks with the potential to delay progress at Langdale is the success of the MOB trial, as if unsuccessful, other solutions may need to be trialled leading to delays and increased costs. Initial results from the trial are positive and formal endorsement of the solution is expected in November 2025, in advance of submission two.

10.1.4 The other top risks to the progression of the package two projects fall into the categories of land, planning and construction risk:

- Land – the need to acquire land means there is a risk of extended negotiations. During construction, ground conditions on the sites (namely hard rock in the area) generate a risk that construction is more difficult than anticipated, leading to delays in completion. We are factoring this into the construction programme to allow additional time. There is also a risk that working in close proximity to RAMSAR and SSSI sites may impose additional constraints on the approach to construction

leading to extra costs. We are looking to use existing land as far as possible to minimise any delays in land acquisition and avoid sensitive habitats.

- Planning – there is a risk that given the sensitive locations of the sites, there are planning conditions imposed which are more onerous than we currently anticipate, leading to delays and additional costs. As described in section 7.5, we are engaging regularly with planning authorities to mitigate this risk.
- Construction – given the location of the sites, there is a risk that adverse weather conditions delay or extend construction and lead to additional costs. We are addressing these risks by planning to begin construction in drier months. There may also be working hours restrictions at some sites (e.g. Glebe Road) due to the proximity to tourist sites, which could lead to additional costs and extended construction duration. We will work with planning authorities to minimise this risk.

10.1.5 These risks are all well-understood and being managed to mitigate any risk to the completion of the projects.

10.1.6 There is a wider strategic risk around the political and media focus on Windermere, and the potential for longer term goals to distract from the short-term benefits being delivered by these projects. As described above, UUW is committed to the government's only rainwater vision, but as this will take significantly longer to deliver than the short-term improvements described in this submission we strongly believe the package one schemes need to go ahead as quickly as possible. This will deliver benefits for residents, businesses and visitors to Windermere while longer term plans are formed.

11. Supporting Documentation

11.1.1 To support this submission, we are providing several documents as indicated in the chapters above.

11.1.2 These comprise:

- A glossary (UUWLGS_S1_09 Glossary of terms);
- Schemes included within package one and two of the Windermere gated programme (UUWLGS_S1_10 Included Schemes);
- Change log covering all package one and two projects (UUWLGS_S1_05 Change Log);
- Draft delivery plan covering all package one, two and three projects (UUWLGS_S1_11 Draft Delivery Plan);
- PCD workbook covering package one and two (UUWLGS_S1_06 PCD workbook);
- Customer and stakeholder engagement plan covering all package one and two projects (UUWLGS_S1_07 Engagement Plan);
- Third party assurance reports (UUWLGS_S1_03 Technical Assurance Report and UUWLGS_S1_04 Commercial Assurance Report);
- Submission requirements clarification (UUWLGS_S1_08 Requirements Clarification); and
- A package of site-specific documents for each scheme (Langdale, Hawkshead and Glebe Rd) comprising:
  - A single solution paper for Langdale and optioneering reports for Glebe Road and Hawkshead;
  - Cost estimate;
  - Risk register;
  - P6 programme, with a separate programme for the two sites at Hawkshead.

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