

**WSX-D04 –
Commentary on
data table changes
– Costs wholesale
wastewater**

Response to
Ofwat's PR24 draft
determination



Wessex Water
YTL GROUP

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WSX-D04 – Commentary on data table changes – Costs wholesale wastewater

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This document is part of Wessex Water's response to Ofwat's PR24 draft determination.

More information can be found at wessexwater.co.uk

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1. Introduction

Our original data table commentary for the Costs Wholesale wastewater tables accompanying our business plan submission in October 2023 is available here: [WSX50 - Costs wholesale waste water tables commentary](#).

Data table changes since that submission are summarised in this commentary.

2. CWW1 – Totex analysis - wastewater network+ and bioresources (post frontier shift and real price effects)

Line no.	Line description	Change
CWW1.1	Base operating expenditure	Updated 23-24 for actuals and 24-25 to updated board approved budget position. Further changes noted in ADD6
CWW1.2	Enhancement operating expenditure	Proposed cost allowance increased. Refer to detailed breakdown and rationale in CWW3.
CWW1.3	Developer services operating expenditure	Updated 23-24 for actuals and 24-25 to updated board approved budget position. AMP 8 changes covered in ADD13
CWW1.4	Total operating expenditure excluding third party services	See above
CWW1.5	Third party services	See CWW11
CWW1.6	Total operating expenditure	See above
CWW1.7	Grants and contributions - operating expenditure	Updated 23-24 for actuals, see DS1e for any other changes.
CWW1.8	Base capital expenditure	Scope review resulted in additional efficiency challenges and deferral of some costs into AMP9.
CWW1.9	Enhancement capital expenditure	Proposed cost allowance increased. Refer to detailed breakdown and rationale in CWW3.
CWW1.10	Developer services capital expenditure	Updated 23-24 for actuals and 24-25 to updated board approved budget position.
CWW1.11	Total gross capital expenditure excluding third party services	These figures reflect the change above.
CWW1.12	Third party services	No changes

Line no.	Line description	Change
CWW1.13	Total gross capital expenditure	These figures reflect the change above.
CWW1.14	Grants and contributions - Capital expenditure	No change
CWW1.15	Net totex	These figures reflect the change above.
CWW1.16	Pension deficit recovery payments	Updated 23-24 for actuals and 24-25 £nil. No further changes
CWW1.17	Other cash items	No change
CWW1.18	Totex including cash items	These figures reflect the change above.

3. CWW1a – Totex analysis - wastewater network+ and bioresources

This table is equivalent to CWW1 but reflects capex and opex pre-frontier shift and real price effects. Further information on frontier shift and real price effects can be found in the commentary for SUP11 in WSX-D10, and commentary on the individual lines for this table is reflected above.

4. CWW2 – Base expenditure analysis - wastewater network + and bioresources

Line no.	Line description	Change
CWW2.1	Power	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW2.2	Income treated as negative expenditure	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW2.3	Bulk Supply/Bulk discharge	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW2.4	Renewals expensed in year (infrastructure)	Increased costs due to pollution reduction being transferred from enhancement
CWW2.5	Renewals expensed in year (non-infrastructure)	No change

Line no.	Line description	Change
CWW2.6	Other operating expenditure	Updated 23-24 for actuals and 24-25 to updated board approved budget position. Increase to base opex due to change in treatment of pollution prevention opex from enhancement
CWW2.7	Local authority and Cumulo rates	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW2.8	Canal & River Trust abstraction charges/ discharge consents	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW2.9	EA / NRW abstraction charges/ discharge consents	Updated 23-24 for actuals and 24-25 to updated board approved budget position. Increase due to increased charges confirmed with EA
CWW2.10	Other abstraction charges/ discharge consents	No change
CWW2.11	Costs associated with Traffic Management Act	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW2.12	Costs associated with lane rental schemes	No change
CWW2.13	Cost associated with the Industrial Emissions Directive	No change
CWW2.14	Total base operating expenditure	See above
CWW2.15	Maintaining the long term capability of the assets - infra	Increased costs due to pollution reduction being transferred from enhancement
CWW2.16	Maintaining the long term capability of the assets - non-infra	Scope review resulted in additional efficiency challenges and deferral of some costs into AMP9
CWW2.17	Total base capital expenditure	See above
CWW2.18	Projects incurring costs associated with Traffic Management Act	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change

5. CWW3 – Enhancement expenditure - wastewater network+ and bioresources

5.1. Lines 1-130: EA/NRW environmental programme wastewater (WINEP/NEP)

Line no.	Line description	Change
CWW3.1-3	Event duration monitoring at intermittent discharges (WINEP/NEP) wastewater	Minor increase in costs. Refer to commentary on CWW20.52-55 for a breakdown of costs and sites against the different solution types (permit/meter/civils).
CWW3.4-6	Flow monitoring at sewage treatment works; (WINEP/NEP) wastewater	Increase in costs. Refer to commentary on CWW20.32-35 for a breakdown of costs and sites against the different solution types (permit/meter/civils). For more details refer to WSX-C09.
CWW3.7-9	Continuous river water quality monitoring (WINEP/NEP) wastewater	Reduction in costs. Refer to WSX-M02 (Section 2.4) for further details.
CWW3.10-12	MCERTs monitoring at emergency sewage pumping station overflows (WINEP/NEP) wastewater	No changes.
CWW3.13-15	Increase flow to full treatment; (WINEP/NEP) wastewater	<p>Costs in our AMP7 programme have decreased across 2023-2025 and moved to future years due to reprofiling of expenditure on schemes at Halstock and Salford which are subject of Major Amendments to their Regulatory Dates into AMP8.</p> <p>AMP7 carryover spend into AMP8 is not captured in CWW3 table. Refer to CWW9 for cumulative costs to complete.</p>
CWW3.16-18	Increase storm tank capacity at STWs - grey solution; (WINEP/NEP) wastewater	WW3 purpose split differs from the original PCDWW5 costs. Refer to table in WSX-C11 Section 3 Table 3 for more details of differences between the previous submission (CWW3 and PCDWW5). CWW3 updated to reflect PCD costs. There is also an increase in PCD costs due to 2 extra schemes due to inland bathing water and Poole Harbour shellfish drivers.
CWW3.19-21	Increase storm system attenuation / treatment on a STW - green solution; (WINEP/NEP) wastewater	No material change. Refer to table in WSX-C11 Section 3 for more details.

Line no.	Line description	Change
CWW3.22-24	Storage schemes to reduce spill frequency at CSOs etc - grey solution; (WINEP/NEP) wastewater	Significant Change. CWW3 purpose split differs from the PCDWW5 costs. Refer to table in WSX-C11 Section 3 for more details of differences between the previous submission (CWW3 and PCDWW5). The increase in PCD costs is due to 3 removed schemes and 3 extra schemes due to inland bathing water and 11 new due to Poole Harbour shellfish drivers. Existing schemes are also larger so for the shellfish drivers, so extra costs.
CWW3.25-27	Storage to reduce spill frequency at CSOs etc - green solution; (WINEP/NEP) wastewater	No change in the PCD costs. CWW3 purpose split differs from the PCDWW5 costs. Refer to table in WSX-C11 Section 3 for more details of differences between the previous submission (CWW3 and PCDWW5). CWW3 updated to reflect PCD costs.
CWW3.28-30	Storm overflow - discharge relocation (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.31-33	Storm overflow - increase in combined sewer / trunk sewer capacity; (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.34-36	Storm overflow - sustainable drainage / attenuation in the network; (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.37-39	Storm overflow - source surface water separation; (WINEP/NEP) wastewater	No change in the PCD costs. CWW3 purpose split differs from the PCDWW5 costs. Refer to table in WSX-C11 Section 3 for more details of differences between the previous submission (CWW3 and PCDWW5). CWW3 updated to reflect PCD costs.
CWW3.40-42	Storm overflow - infiltration management: wastewater	Reg driver not used. No change.
CWW3.43-45	Storm overflow - sewer flow management and control; (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.46-48	Storm overflow - new / upgraded screens (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.49-51	Treatment for chemical removal (WINEP/NEP) wastewater	Increase in costs. Purpose splits for schemes with other drivers (i.e. phosphorus) have been amended to more appropriately reflect the scope/costs to meet the chemical removal requirements. Refer to WSX-C09 for further details.
CWW3.52-54	Chemicals and emerging contaminants monitoring, investigations, options appraisals; (WINEP/NEP) wastewater	No major changes. Re-categorisation of capex to opex.

Line no.	Line description	Change
CWW3.55-57	Treatment for total nitrogen removal (chemical) (WINEP/NEP) wastewater	We have continued to develop our solutions and costs for our nitrogen removal programme since our business plan submission. This has resulted in some changes to scope, and corresponding changes to costs. Delivery of schemes have also been reprofiled. Refer to WSX-C09 for more details, and CWW19 for detailed list of schemes.
CWW3.58-60	Treatment for total nitrogen removal (biological) (WINEP/NEP) wastewater	Reg driver no longer used. Costs for single scheme originally against this line (Dorchester) now assigned to CWW3.55-57, as disaggregation of costs between chemical and biological treatment not possible, with Ofwat themselves assessing together for draft determination modelling.
CWW3.61-63	Nitrogen technically achievable limit monitoring, investigation or options appraisal; (WINEP/NEP) wastewater	23-24 updated for actuals and 24-25 updated per board approved budget.
CWW3.64-66	Treatment for phosphorus removal (chemical) (WINEP/NEP) wastewater	Updated to reflect latest WINEP. We have also continued to develop our solutions and costs for our phosphorus removal programme since our business plan submission. This has resulted in some changes to scope, and corresponding changes to costs. Delivery of schemes has also been re-profiled. Refer to WSX-C09 for more details, and CWW19 for detailed list of schemes.
CWW3.67-69	Treatment for phosphorus removal (biological) (WINEP/NEP) wastewater	Reg driver no longer used. Costs for single scheme originally against this line (Dorchester) now assigned to CWW3.64-67, as disaggregation of costs between chemical and biological treatment not possible, with Ofwat themselves assessing together for draft determination modelling.
CWW3.70-72	Treatment for nutrients (N or P) and / or sanitary determinands, nature based solution (WINEP/NEP) wastewater	Updated to reflect latest WINEP, with a single NbS scheme for phosphorus removal (East Harptree). Refer to WSX-C09 for more details, and CWW19 for scheme details.
CWW3.73-75	Treatment for tightening of sanitary parameters (WINEP/NEP) wastewater	Updated to reflect latest WINEP. We have also continued to develop our solutions and costs for our sanitary removal programme since our business plan submission. This has resulted in some changes to scope, and corresponding changes to costs. Delivery of schemes has also been reprofiled. Refer to WSX-C09 for more details.
CWW3.76-78	Catchment management - chemicals source control; (WINEP/NEP) wastewater	Costs previously submitted were for just 1 AMP7 scheme (wetland in Nailsea, Bristol). Category has changed and costs now reported in line for habitat restoration.
CWW3.79-81	Catchment management - nutrient balancing; (WINEP/NEP) wastewater	These costs are for AMP7 only schemes. 2023/24 updated to actuals which was less than estimated last year. We anticipate an increased spend in 2024/25 due to an expected uptake of the measures by farmers.

Line no.	Line description	Change
CWW3.82-84	Catchment management - catchment permitting; (WINEP/NEP) wastewater	2024/25 expenditure on an AMP7 scheme for permitting investigations in the Stour and Parrett catchments. This year's spend was previously categorised as Investigations, WINEP/NEP survey, monitoring or simple modelling.
CWW3.85-87	Catchment management - habitat restoration; (WINEP/NEP) wastewater	No major changes. Re-categorisation of capex to opex.
CWW3.88-90	Microbiological treatment - bathing waters, coastal and inland (WINEP/NEP) wastewater	Updated to reflect latest WINEP following the designation of new inland bathing waters within our region. Refer to WSX-C09 for more details.
CWW3.91-93	Septic tank replacements - treatment solution; (WINEP/NEP) wastewater	Reg driver no longer used. Updated to reflect latest WINEP.
CWW3.94-96	Septic tank replacements - flow diversion; (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.97-99	Fish outfall screens; (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.100-102	25 year environment plan; (WINEP/NEP) wastewater	No major changes. Re-categorisation of capex to opex.
CWW3.103-105	Investigations, other (WINEP/NEP) - desk-based studies only wastewater	No major changes. Re-categorisation of capex to opex.
CWW3.106-108	Investigations, other (WINEP/NEP) - survey, monitoring or simple modelling wastewater	Reduction in costs due to a reduction in anticipated WINEP requirements for storm overflows investigations. See WSX-C11 Section 3.2.
CWW3.109-111	Investigations, other (WINEP/NEP) - multiple surveys, and/or monitoring locations, and/or complex modelling wastewater	No major changes. Re-categorisation of capex to opex.
CWW3.112-114	Investigations, total; (WINEP/NEP) wastewater	These figures reflect the changes above.
CWW3.115-117	Contribution to third party schemes under WINEP/NEP only (not covered elsewhere) wastewater	Reg driver not used. No change.
CWW3.118-120	River connectivity (e.g. for fish passage); (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW3.121-123	Restoration management (marine conservation zones etc) (WINEP/NEP) wastewater	Cost reprofiling to align with latest delivery, including alignment with other schemes at same sites.

Line no.	Line description	Change
CWW3.124-126	Access and amenity for WINEP/NEP only (not covered elsewhere) wastewater	Expenditure previously submitted was for an AMP7 only scheme investigating bathing waters at Warleigh Weir in Bath. The 2023/24 and 2024/25 costs have been re-categorised to Investigations, WINEP/NEP multiple surveys, and/or monitoring locations, and/or complex modelling as it better aligns to this category. The costs are reported against the Investigations category in the APR.
CWW3.127-129	Advanced WINEP (not covered elsewhere) wastewater	Reg driver not used. No change.
CWW3.130	Total environmental programme expenditure; (WINEP/NEP) wastewater	These figures reflect the changes above.

5.2. Lines 131-152: EA/NRW environmental programme bioresources (WINEP/NEP)

Line no.	Line description	Change
CWW3.131-133	Sludge storage -Tanks (pre-thickening, pre-dewatering or untreated); (WINEP/NEP)	Reg driver not used. No change.
CWW3.134-136	Sludge storage - Tanks (thickened/dewatered or treated); (WINEP/NEP)	Reg driver not used. No change.
CWW3.137-139	Sludge storage - Cake pads / bays /other; (WINEP/NEP) bioresources	No change.
CWW3.140-142	Sludge treatment - Anaerobic digestion and/or advanced anaerobic digestion; (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW3.143-145	Sludge treatment - Thickening and/or dewatering; (WINEP/NEP)	AMP7 opex for IED permitting has now been moved against the Sludge Enhancement (Quality) line in CWW3.188.
CWW3.146-148	Sludge treatment -Other; (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW3.149-151	Sludge investigations and monitoring (NEP only) bioresources	Reg driver not used. No change.
CWW3.152	Total environmental programme expenditure; (WINEP/NEP) bioresources	No change.

5.3. Lines 153-192: Other enhancement

Line no.	Line description	Change
CWW3.153-155	Growth at sewage treatment works (excluding sludge treatment); enhancement	Increase in costs due to revised programme scope. Refer to WSX-C10 for further details.
CWW3.156-158	Reduce flooding risk for properties; enhancement	Costs moved to base maintenance to align with PR24 Draft Determination.
CWW3.159-161	First time sewerage; enhancement	23-24 updated for actuals and 24-25 updated per board approved budget. AMP8 no change.
CWW3.162-164	Sludge enhancement (growth); enhancement	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>Changes to values in years 2023-24 and 2024-25 are due to updated expenditure in our AMP7 bioresources growth schemes at Berry Hill and Avonmouth.</p> <p>Our bioresources growth enhancement totex for years 2025-26 to 2029-30 has been revised to £21.441m due to site rationalisation in AMP8. Please refer to WSX-C18 – Bioresources and the Industrial Emissions Directive (IED), Section 6 for further details on the changes in our bioresources growth submission.</p>
CWW3.165-167	Odour and other nuisance; enhancement	Reg driver not used. No change.
CWW3.168-170	Resilience; enhancement wastewater	23-24 updated for actuals and 24-25 updated per board approved budget. Refer to WSX-C13 for further details.
CWW3.171-173	Security - SEMD; enhancement wastewater	Reg driver not used. No change.
CWW3.174-176	Security - cyber; enhancement wastewater	Reg driver not used. No change.
CWW3.177-179	Greenhouse gas reduction (net zero); enhancement wastewater	No changes.
CWW3.180	Total other enhancement wastewater/bioresources expenditure	These figures reflect the changes above.
CWW3.181-182	AMP7 lines; enhancement wastewater/bioresources	Updated to reflect 2023/24 actuals and current estimate of 2024/25 spend. These lines cover: Biodiversity and conservation, Storm overflow improvement (not storage) - non WINEP, North Bristol Strategic Sewers, Network Growth (SPS adoptions), Security - Non SEMD, Partnership Working.

Line no.	Line description	Change
CWW3.183-184	Biodiversity and conservation; enhancement wastewater/bioresources	<p>Expenditure in relation to WINEP 08WW100070a Habitat improvements for swallows, swifts and martins included, unchanged. Please refer to 'Section 1: WINEP biodiversity and conservation' of WSX-C17.</p> <p>Opex funding allocation revised to remove costs associated with Wessex Water's public interest commitment on tree planting as per Ofwat's Draft Determination. Remaining opex required to deliver the biodiversity performance commitment and related biodiversity enhancements to Wessex Water's landholding. Refer to Section 2 of WSX-C17 for further details.</p>
CWW3.185-186	Data and AI; enhancement wastewater/bioresources	Reg driver no longer used.
CWW3.187-188	Sludge enhancement (quality); enhancement wastewater/bioresources	<p>Values for years 2023-24 to 2029-30 have been revised.</p> <p>The investments that are allocated in CWW3.187-188 are:</p> <ul style="list-style-type: none"> Industrial Emissions Directive (IED) compliance – totex of £117.500m for the years 2023-24 to 2029-30 Environmental Permitting Regulations (EPR) / "non-IED" waste permit compliance – totex of £29.964m for the years 2023-24 to 2029-30. <p>The line total reported in CWW3.187-188 for years 2023-24 to 2029-30 is £147.463m. AMP8 transition costs for 2023/24 and 2024/25 have been reported in 2025/26.</p> <p>Please note the following:</p> <ul style="list-style-type: none"> The total IED enhancement cost reported in Table ADD14 aligns with the IED enhancement cost reported in CWW3.187-188 (£117.5m totex) There is £3.532m of IED transitional expenditure that we have reported in 2025/26 in CWW3.187-188 and the relevant lines in Table ADD14. The reason for this is that there is no bioresources category in CWW12 to allow transitional expenditure for bioresources to be reported in 2023/24 and 2024/25. <p>Please refer to:</p> <ul style="list-style-type: none"> WSX-C18 – Bioresources and the Industrial Emissions Directive (IED), Sections 4 and 5 for further detail on the revision of costs for IED compliance and EPR / "non-IED" waste permit compliance WSX-D13 – Data tables commentary – Additional tables for further detail on the IED compliance costs reported in AMP7.

Line no.	Line description	Change
CWW3.189-190	Pollution reduction strategy; enhancement wastewater/bioresources	Costs moved to base maintenance to align with PR24 Draft Determination.
CWW3.191	Total other enhancement freeform lines wastewater/bioresources expenditure	These figures reflect the changes above.
CWW3.192	Total other enhancement wastewater/bioresources expenditure	These figures reflect the changes above.

5.4. Lines 193-195: Total enhancement

Line no.	Line description	Change
CWW3.193	Total enhancement expenditure; wastewater/bioresources capex	Refer to commentary above.
CWW3.194	Total enhancement expenditure; wastewater/bioresources opex	Refer to commentary above.
CWW3.195	Total enhancement expenditure; wastewater/bioresources totex	Refer to commentary above.

6. CWW4 – Wastewater network+ - Functional expenditure

Line no.	Line description	Change
CWW4.1-14	All rows	Updated 23-24 for actuals and 24-25 to updated board approved budget position. AMP8 years are consequently updated to reflect the increased costs in Sewage treatment in ADD6.

7. CWW5 – Wastewater network+ - Large sewage treatment works

Line no.	Line description	Change
CWW5.1-10, 17	Explanatory variables	Updated 23-24 for actuals. Population/load forecasts amended if/as appropriate. Future permit limits updated to reflect latest WINEP and scheme delivery profiling.
CWW5.11-16	Functional expenditure (all rows)	Updated 23-24 for actuals and 24-25 to updated board approved budget position. AMP8 updated in line with CWW4.

8. CWW6 – Wastewater network+ - Sewer and volume data

Line no.	Line description	Change
CWW6.1 - CWW6.10, CWW6.12, CWW6.13, CWW6.16 - CWW6.22	Multiple	Updated 2023 - 24 with actuals and line forecasts amended as appropriate.
CWW6.11, CWW6.14, CWW6.15	Sewer age profile, gravity sewer & rising main rehab.	AMP8 forecast for gravity sewer and rising main rehab reduced to reflect board approved budget. Sewer age profile updated to reflect reduced rehab forecast.

9. CWW6a – Transition and accelerated programme - Wastewater network+ - Sewer and volume data

Line no.	Line description	Change
CWW6a.1 - CWW6a.22	All lines	No changes.

10. CWW7a – Wastewater network+ - Sewage treatment works; size and consents

Line no.	Line description	Change
CWW7a.1-7 & 9-15	Load received and number of sewage treatment works (all rows)	Updated 23-24 to align with APR24. Load forecasts amended if/as appropriate. Future permit limits updated to reflect latest WINEP and scheme delivery profiling.

11. CWW7b – Wastewater network+ - Sewage treatment works data; UV permits

Line no.	Line description	Change
CWW7b.1-6	UV treatment at sewage treatment works	Addition of UV disinfection at Rode (size band 3 STW) in 2029/30, to reflect latest WINEP following the designation of new inland bathing waters within our region. Refer to WSX-C09 for more details.

12. CWW7c – Wastewater network+ - Sewage treatment works data; treatment type

Line no.	Line description	Change
CWW7c.1-8 & 9-15	Load received and number of sewage treatment works (all rows)	Updated 23-24 to align with APR24. Load forecasts amended if/as appropriate. Future treatment types updated to reflect latest WINEP and scheme delivery profiling.

13. CWW8 – Wastewater network+ - Energy consumption and other data

Line no.	Line description	Change
CWW8.1	Total sewerage catchment area	Updated 2023 - 24 with actual and line forecast amended as appropriate.
CWW8.2	Designated coastal bathing waters	No changes.
CWW8.3	Designated inland bathing waters	3 inland bathing waters were Designated in May 2024, Farleigh Hungerford, Fordingbridge, and French Weir Park. These are reported from 2024/25 onwards.
CWW8.4 & CWW8.5	Intermittent discharge EDMs & flow monitors at STWs	Number and profiling updated to reflect latest PR24 WINEP and scheme delivery. See CWW20 Commentary for more detail.
CWW8.6	Number of odour related complaints	Updated 2023 - 24 with actual and line forecast amended as appropriate.

14. CWW8a – Transition and accelerated programme - Wastewater network+ - Energy consumption and other data

Line no.	Line description	Change
CWW8a.1 - 3, CWW8a.6	Multiple lines	No changes.
CWW8a.4 & CWW8a.5	Intermittent discharge EDMs & flow monitors at STWs	Number and profiling updated to reflect latest scheme delivery. Refer to WSX-C09 for more details.

15. CWW9 – Enhancement expenditure (cumulative) - wastewater network+ and bioresources

15.1. Enhancement expenditure (cumulative)

This table includes costs for AMP7 projects which will be completed in AMP8, and costs for AMP8 projects completing either within the transition period or AMP8 period.

AMP7

For costs reported in 2022/23 and 2023/24, we have directly taken the cumulative expenditure reported in our APR table 4M where the regulatory drivers are the same as the ones used in CWW9.

AMP7 Additional line

Due to a shortage of space in the table we have bundled all the AMP7 costs assigned to AMP7 freeform lines into single capex and opex lines. Freeform lines have been used for this expenditure as there were no appropriate standard categories, and for the reporting to be consistent with APR reporting of costs against PR19 allowed expenditure.

AMP8

Our AMP8 projects totex programme is a combination of programmes of work and individual projects. Schemes are reported as completed when they come into beneficial use i.e. when benefits are fulfilled. The year the project comes into beneficial use is not always the same as the financial close of a scheme, and there may be additional costs incurred. These additional costs are reported in table CWW3.

Our assumptions to determine when projects come into beneficial use are:

- For individual projects, beneficial use is in the first year of operation (when opex costs are incurred).
- For programmes of activity (capital &/or opex) beneficial use is in the first year of expenditure. For projects that have only enhancement opex or enhancement capex, they come into beneficial use on the first year of the spend. For individual projects, beneficial use is in the first year of operation (when opex costs are incurred).
- For programmes of activity (capital &/or opex) beneficial use is in the first year of expenditure.

16. CWW10 – Wholesale wastewater local authority rates

Line no.	Line description	Change
CWW11.1	Rechargeable opex - third party damage	Amended from initial submission in query process. Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change

Line no.	Line description	Change
CWW11.2	Rechargeable opex - build over	No change
CWW11.3	Other rechargeable opex	No change
CWW11.4	Third party wastewater price control opex excluding developer services	As per the above rows
CWW11.5	Diversions - NRSWA - opex	No change
CWW11.6	Diversions - other non-section 185 diversions - opex	No change
CWW11.7	Total third party wastewater service costs ~ price control (operating expenditure)	As per the above rows
CWW11.8	Bulk supplies (wastewater) opex	No change
CWW11.9	Reception and disposal of waste opex	No change
CWW11.10	Other excluded charge opex	No change
CWW11.11	Third party wastewater non-price control opex excluding developer services	No change
CWW11.12	Diversions - s185 - opex	Updated 23-24 for actuals and 24-25 to updated board approved budget position. No further change
CWW11.13	Total third party wastewater service costs ~ non price control (operating expenditure)	As per the above rows
CWW11.14-26	Third party costs ~ price control (capital expenditure); Third party costs ~ non price control (capital expenditure)	No change

17. CWW12 – Transitional expenditure - wastewater network+ and bioresources

Following external audit, minor discrepancies have been identified with the costs we are reporting in CWW12 for 2023/24 compared to those reported in APR 2023/24. The below table identifies the reg drivers where the discrepancies exist (total difference = £1.686m). The costs indicated below are the correct costs that we should have been reporting in CWW12 to match APR 2023/24:

Line no.	Reg Driver	Costs
CWW12.4-6	Flow monitoring at sewage treatment works; (WINEP/NEP) wastewater	£5.302m
CWW12.16-18	Increase storm tank capacity at STWs - grey solution; (WINEP/NEP) wastewater	£0.109m
CWW12.19-21	Increase storm system attenuation / treatment on a STW - green solution; (WINEP/NEP) wastewater	£1.205m
CWW12.22-24	Storage schemes to reduce spill frequency at CSOs etc - grey solution; (WINEP/NEP) wastewater	£0.132m
CWW12.25-27	Storage to reduce spill frequency at CSOs etc - green solution; (WINEP/NEP) wastewater	£0.418m
CWW12.49-51	Treatment for chemical removal (WINEP/NEP) wastewater	£0.077m
CWW12.37-39	Storm overflow - source surface water separation; (WINEP/NEP) wastewater	£0.000m
CWW12.52-54	Chemicals and emerging contaminants monitoring, investigations, options appraisals; (WINEP/NEP) wastewater	£0.290m
CWW12.64-66	Treatment for phosphorus removal (chemical) (WINEP/NEP) wastewater	£5.238m
CWW12.70-72	Treatment for nutrients (N or P) and / or sanitary determinands, nature based solution (WINEP/NEP) wastewater	£0.005m
CWW12.73-75	Treatment for tightening of sanitary parameters (WINEP/NEP) wastewater	£0.564m
CWW12.100-102	25 year environment plan; (WINEP/NEP) wastewater	£0.000m
CWW12.112-114	Investigations, total; (WINEP/NEP) wastewater	£1.437m

The costs for 2024/25 we are submitting have increased substantially compared to our initial submission in October. This is due to advanced works in preparation for the scaling up of our AMP8 programme, particularly for storm overflows and nutrient programme.

18. CWW13 & CWW14 – Best value analysis (enhancement expenditure) – wastewater network+ and bioresources

The data table for CWW13 is identical to that of CWW14. This decision reflects that our best value plan is now the same as our alternative option plan. This convergence is driven by several reasons.

Majority of our planned investments are necessitated by regulatory requirements. These obligations limit flexibility in our investment strategy, and the one plan we are submitting reflects extensive further optioneering analysis since our previous submission.

The remaining planned investments are essential to our long-term delivery plans and are critical to ensuring sustainable operations and fulfilling strategic objectives. They also include investments that we need to make as part of our commitment to wider industry goals.

The current plan represents the optimal balance between cost efficiency and value delivery, and our overarching approach to investment decision-making remains the same as when we originally submitted our plan in October.

As such, the below information provides a commentary for both CWW13 and CWW14.

18.1. Lines 1-172: EA/NRW environmental programme (WINEP/NEP)

Line no.	Line description	Change
CWW13.1-4	Event duration monitoring at intermittent discharges; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.5-8	Flow monitoring at sewage treatment works; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.9-12	Continuous river water quality monitoring; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.13-16	MCERTs monitoring at emergency sewage pumping station overflows; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs are recorded as zero, however, some additional opex will be required. This will be under review as DEFRA may increase the number of installations in AMP8 to 50% or 100%.
CWW13.17-20	Increase flow to full treatment; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.21-24	Increase storm tank capacity - grey solution; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.25-28	Increase storm system attenuation / treatment on a STW - green solution; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.29-32	Storage schemes to reduce spill frequency at CSOs etc - grey solution; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.33-36	Storage to reduce spill frequency at CSOs etc - green solution; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.37-40	Storm overflow - discharge relocation; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.

Line no.	Line description	Change
CWW13.41-44	Storm overflow - increase in combined sewer / trunk sewer capacity; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.45-48	Storm overflow - sustainable drainage / attenuation in the network; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.49-52	Storm overflow - source surface water separation; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.53-56	Storm overflow - infiltration management; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.57-60	Storm overflow - sewer flow management and control; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.61-64	Storm overflow - new / upgraded screens; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.65-68	Treatment for chemical removal; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.69-72	Chemicals and emerging contaminants monitoring/ investigations/ options appraisals; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.73-76	Treatment for total nitrogen removal (chemical); BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.77-80	Treatment for total nitrogen removal (biological); BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.81-84	Nitrogen technically achievable limit monitoring, investigation or options appraisal; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3.
CWW13.85-88	Treatment for phosphorus removal (chemical); BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect closeout costs of AMP8 projects and the completion of one scheme with a 2033 regulatory date.
CWW13.89-92	Treatment for phosphorus removal (biological); BVA (WINEP/NEP) wastewater	Reg driver not used. No change.

Line no.	Line description	Change
CWW13.93-96	Treatment for nutrients (N or P) and / or sanitary determinands, nature based solution; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.97-100	Treatment for tightening of sanitary parameters; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.101-104	Catchment management - chemicals source control; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.105-108	Catchment management - nutrient balancing; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.109-112	Catchment management - catchment permitting; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.113-116	Catchment management - habitat restoration; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. No ongoing costs required in AMP9.
CWW13.117-120	Microbiological treatment - bathing waters, coastal and inland; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.121-124	Septic tank replacements - treatment solution; BVA (WINEP/NEP) wastewater	Removed from AMP8 WINEP so no spend as per CWW3 in AMP8. Anticipated to be required in AMP9 so spend deferred.
CWW13.125-128	Septic tank replacements - flow diversion; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.129-132	Fish outfall screens; BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.133-136	25 year environment plan; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.137-140	Investigations, other - desk-based studies only; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. No ongoing costs required in AMP9.
CWW13.141-144	Investigations, other - survey, monitoring or simple modelling; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. No ongoing costs required in AMP9.
CWW13.145-148	Investigations, other - multiple surveys, and/or monitoring locations, and/or complex modelling; BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. No ongoing costs required in AMP9.

Line no.	Line description	Change
CWW13.149-152	Contribution to third party schemes under WINEP/NEP only (not covered elsewhere); BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.153-156	River connectivity (e.g. for fish passage); BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.157-160	Restoration management (marine conservation zones etc); BVA (WINEP/NEP) wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.161-164	Access and amenity for WINEP/NEP only (not covered elsewhere); BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.165-168	Advanced WINEP (not covered elsewhere); BVA (WINEP/NEP) wastewater	Reg driver not used. No change.
CWW13.169-172	Total environmental programme expenditure; BVA (WINEP/NEP) wastewater	Total of above changes

18.2. Lines 173-204: EA/NRW environmental programme bioresources (WINEP/NEP)

Line no.	Line description	Change
CWW13.173-176	Sludge storage -Tanks (pre-thickening, pre-dewatering or untreated); BVA (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW13.177-180	Sludge storage - Tanks (thickened/dewatered or treated); BVA (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW13.181-184	Sludge storage - Cake pads / bays;BVA (WINEP/NEP) bioresources	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.185-188	Sludge treatment - Anaerobic digestion and/or advanced anaerobic digestion; BVA (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW13.189-192	Sludge treatment - Thickening and/or dewatering; BVA (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW13.193-196	Sludge treatment - Other; BVA (WINEP/NEP) bioresources	Reg driver not used. No change.

Line no.	Line description	Change
CWW13.197-200	Sludge investigations and monitoring; BVA (WINEP/NEP) bioresources	Reg driver not used. No change.
CWW13.201-204	Total bioresources programme expenditure; BVA (WINEP/NEP) bioresources	Sum of above rows.

18.3. Lines 205-264: Other enhancement

Line no.	Line description	Change
CWW13.205-208	Growth at sewage treatment works (excluding sludge treatment); BVA wastewater	AMP8 costs as per CWW3. AMP9 reflects anticipated Growth schemes as detailed in ADD19.
CWW13.209-212	Reduce flooding risk for properties; BVA wastewater	Reg driver not used. No change.
CWW13.213-216	First time sewerage; BVA wastewater	AMP8 costs as per CWW3. AMP9 capex costs reflect ongoing nature of this programme.
CWW13.217-220	Sludge enhancement (growth); BVA wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.221-224	Odour and other nuisance; BVA wastewater	Reg driver not used. No change.
CWW13.225-228	Resilience; BVA wastewater	AMP8 costs as per CWW3. AMP9 capex costs reflect continuation of programme to 2033 when 2G will cease to exist. AMP9 opex reflects ongoing opex cost to maintain additional fixed standby generators.
CWW13.229-232	Security - SEMD; BVA wastewater	Reg driver not used. No change.
CWW13.233-236	Security - cyber; BVA wastewater	Reg driver not used. No change.
CWW13.237-240	Greenhouse gas reduction (net zero); BVA wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex saving of implementing AMP8 projects.
CWW13.241-244	AMP7 lines; BVA wastewater	Reg driver not used. No change.
CWW13.245-248	Biodiversity and conservation; BVA wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.
CWW13.249-252	Data and AI; BVA wastewater	Reg driver not used. No change.
CWW13.253-256	Sludge enhancement (quality); BVA wastewater	AMP8 costs as per CWW3. AMP9 costs reflect ongoing opex of AMP8 project.

Line no.	Line description	Change
CWW13.257-260	Pollution Reduction Strategy; BVA wastewater	Reg driver not used. No change.
CWW13.261-264	Total other expenditure; BVA wastewater	Sum of above rows.

18.4. Lines 265-268: Total enhancement

Line no.	Line description	Change
CWW13.265	Total enhancement expenditure; BVA wastewater capex	Refer to commentary above.
CWW13.266	Total enhancement expenditure; BVA wastewater opex	Refer to commentary above.
CWW13.267	Total enhancement expenditure; BVA wastewater totex	Refer to commentary above.
CWW13.268	Total enhancement expenditure; BVA wastewater third party contributions	We are not reporting any third party contributions for this table.

19. CWW15 & CWW16 – Best value analysis (benefits) – wastewater network+ and bioresources

The CWW15 table is identical to CWW16 This decision reflects that our best value plan is now the same as our alternative option plan. This convergence is driven by several reasons.

Majority of our planned investments are necessitated by regulatory requirements. These obligations limit flexibility in our investment strategy, and the one plan we are submitting reflects extensive further optioneering analysis since our previous submission.

The remaining planned investments are essential to our long-term delivery plans and are critical to ensuring sustainable operations and fulfilling strategic objectives. They also include investments that we need to make as part of our commitment to wider industry goals.

The current plan represents the optimal balance between cost efficiency and value delivery, and our overarching approach to investment decision-making remains the same as when we originally submitted our plan in October.

19.1. Lines 1-463: EA/NRW environmental programme (WINEP/NEP)

Line no.	Line description	Change
CWW15.1-11	Event Duration Monitoring at intermittent discharges	Activity reprofiled giving revised figures for units of benefit, generating updated total value of benefit and present value figures. Please see further changes and breakdown in CWW20.52-55.
CWW15.12-22	Flow monitoring at sewage treatment works	Revised figures for units of benefit, generating updated total value of benefit and present value figures. For further details refer to WSX-C09.
CWW15.23-33	Continuous river water quality monitoring	No change to benefits profile.
CWW15.34-44	MCERTs monitoring at emergency sewage pumping station overflows	No change to benefits profile.
CWW15.45-55	Increase flow to full treatment	No change to benefits profile.
CWW15.56-66	Increase storm tank capacity -grey solution	Minor changes due to reprofiling. Changes to carbon benefits and updated figures provided for benefit to river quality (km) and Storm Overflow PC. Please note that a total benefit value and present value is not provided for Storm Overflow PC since this would be double counting benefit captured elsewhere. i.e. River Quality (km) benefit. Land-use impact (dis-benefit) also captured.
CWW15.67-77	Increase storm system attenuation / treatment on a STW - green solution	Minor changes due to reprofiling. Storm overflow PC impact captured however as above total value of benefits and present value not captured as this would be double counting. Land-use impact (dis-benefit) also captured.
CWW15.78-88	Storage schemes to reduce spill frequency at CSOs etc - grey solution	Minor changes due to reprofiling. Storm overflow PC impact captured, please see comment above. Land-use impact (dis-benefit) also captured.
CWW15.89-99	Storage to reduce spill frequency at CSOs etc - green solution	Minor changes due to reprofiling. Storm overflow PC impact captured, please see comment above. Land-use impact (dis-benefit) also captured.
CWW15.100-110	Storm overflow - discharge relocation	Reg Driver not used. No Change.
CWW15.111-121	Storm overflow - increase in combined sewer / trunk sewer capacity	Reg Driver not used. No Change.
CWW15.122-132	Storm overflow - sustainable drainage / attenuation in the network	Reg Driver not used. No Change.

Line no.	Line description	Change
CWW15.133-143	Storm overflow - source surface water separation	Minor changes due to reprofiling. Storm overflow PC impact captured, please see comment above. Land-use impact (dis-benefit) also captured.
CWW15.144-154	Storm overflow - infiltration management	Reg Driver not used. No Change.
CWW15.155-165	Storm overflow - sewer flow management and control	Reg Driver not used. No Change.
CWW15.166-176	Storm overflow - new / upgraded screens	Reg Driver not used. No Change.
CWW15.177-187	Treatment for chemical removal	Activity has been reprofiled against other drivers. Carbon benefit values have changed. Please refer to WSX-C09 for further details.
CWW15.188-198	Chemicals and emerging contaminants monitoring/ investigations/ options appraisals	No change.
CWW15.199-209	Treatment for total nitrogen removal (chemical)	Solutions and costs for our nitrogen removal programme since our business plan submission have been reviewed. This has resulted in some changes to scope, and corresponding changes to benefits (e.g. embodied carbon). Delivery of schemes has also been re-profiled, which will also have an impact of benefits. Refer to WSX-C09 for more details.
CWW15.210-220	Treatment for total nitrogen removal (biological)	Reg Driver no longer used. Costs for single scheme originally against this line (Dorchester) now assigned to CWW3.55-57, as disaggregation of costs between chemical and biological treatment not possible, with Ofwat themselves assessing together for draft determination modelling.
CWW15.221-231	Nitrogen Technically Achievable Limit monitoring, investigation or options appraisal	Reg Driver not used. No change.

Line no.	Line description	Change
CWW15.232-242	Treatment for phosphorus removal (chemical)	<p>Updated to reflect latest WINEP. We have also continued to develop our solutions and costs for our phosphorus removal programme since our business plan submission. Activity has been reprofiled with changes to units of benefit provided. The River water Quality (phos) kg per year benefit has been updated.</p> <p>As per QAA response. We use a phosphorus removal benefit in our decision-making process that aligns with the Environment Agency methodology, this is based on financial year reporting, includes all sites and is based on design/permitted flows.</p> <p>We have also identified the performance benefits for phosphorus removal enhancement expenditure in CWW15. However, there is a marginal difference to the OUT tables. The difference is due to the reporting years being in financial, not calendar year and the benefit in CWW15 is only accounted for once the EA has signed off the site. However, the River Water Quality performance commitment captures the benefit following successful commissioning</p> <p>Please also note that total benefit value and present value of benefits have not been provided against the PC since this is captured by other reported benefits and would be double counted.</p>
CWW15.243-253	Treatment for phosphorus removal (biological)	No longer used. Costs for single scheme originally against this line (Dorchester) now assigned to CWW3.55-57, as disaggregation of costs between chemical and biological treatment not possible, with Ofwat themselves assessing together for draft determination modelling. Refer to WSX-C09 for more details.
CWW15.254-264	Treatment for nutrients (N or P) and / or sanitary determinands, nature based solution	Updated to reflect latest WINEP. Solutions and costs have been reviewed with updated values of units of benefit. Please refer to WSX-C09 for more details.
CWW15.265-275	Treatment for tightening of sanitary parameters	Updated to reflect latest WINEP. Solutions and costs have been reviewed with updated values of units of benefit. Please refer to WSX-C09 for more details.
CWW15.276-286	Catchment management - chemicals source control	Reg Driver not used. No Change.
CWW15.287-297	Catchment management - nutrient balancing	Reg Driver not used. No Change.
CWW15.298-308	Catchment management - catchment permitting	Reg Driver not used. No Change.
CWW15.309-319	Catchment management - habitat restoration	Reg Driver not used. No Change.

Line no.	Line description	Change
CWW15.320-330	Microbiological treatment - bathing waters, coastal and inland	Updated to reflect latest WINEP following the designation of new inland bathing waters within our region. Following review of solutions and costs. Please refer to WSX-C09 for more details.
CWW15.331-341	Septic Tank Replacements - Treatment Solution	Minor changes due to reprofiling
CWW15.342-352	Septic Tank Replacements - Flow diversion	Reg Driver not used. No Change.
CWW15.353-363	Fish Outfall screens	Reg Driver not used. No Change.
CWW15.364-374	25 Year Environment Plan	Reg Driver not used. No Change.
CWW15.375-385	Investigations, other (WINEP/NEP) - desk-based studies only	Reg Driver not used. No Change.
CWW15.386-396	Investigations, other - survey, monitoring or simple modelling	Reg Driver not used. No Change.
CWW15.397-407	Investigations, other - multiple surveys, and/or monitoring locations, and/or complex modelling	Reg Driver not used. No Change.
CWW15.408-418	Contribution to third party schemes under WINEP/NEP only (not covered elsewhere)	Reg Driver not used. No Change.
CWW15.419-429	River connectivity (e.g. for fish passage)	Reg Driver not used. No Change.
CWW15.430-440	Restoration management (marine conservation zones etc)	Change to profile. Please refer to WSX-C09 for more details.
CWW15.441-451	Access and amenity for WINEP/NEP only (not covered elsewhere)	Reg Driver not used. No Change.
CWW15.452-462	Advanced WINEP (not covered elsewhere)	Reg Driver not used. No Change.
CWW15.463	Total environmental programme benefit	Changes reflect changes to units of benefit values as above.

19.2. Lines 464-541: EA/NRW environmental programme bioresources (WINEP/NEP)

Line no.	Line description	Change
CWW15.464-474	Sludge storage -Tanks (pre-thickening, pre-dewatering or untreated)	Reg Driver not used. No Change.
CWW15.475-485	Sludge storage -Tanks (thickened/dewatered or treated)	Reg Driver not used. No Change.
CWW15.486-496	Sludge storage - Cake pads / bays	Change to Yr1 benefits. Please refer to WSX-C18 for more details.
CWW15.497-507	Sludge treatment - Anaerobic digestion and/or advanced anaerobic digestion	Reg Driver not used. No Change.
CWW15.508-518	Sludge treatment - Thickening and/or dewatering	Reg Driver no longer used. Please refer to WSX-C18 for more details.
CWW15.519-529	Sludge treatment - Other	Reg Driver not used. No Change.
CWW15.530-540	Sludge investigations and monitoring	Reg Driver not used. No Change.
CWW15.541	Total bioresources programme benefit	Reg Driver not used. No Change.

19.3. Lines 542-696: Other enhancement

Line no.	Line description	Change
CWW15.542-552	Growth at sewage treatment works (excluding sludge treatment)	Solutions and costs since our business plan submission have been reviewed. This has resulted in some changes to scope, and corresponding changes to benefits. Refer to WSX-C10 for more details.
CWW15.553-563	Reduce flooding risk for properties	This activity is now being funded from Base expenditure to align with PR24 Draft Determination.
CWW15.564-574	First time sewerage	Reg Driver not used. No Change.
CWW15.575-585	Sludge enhancement (growth)	Solutions and costs since our business plan submission have been reviewed. This has resulted in some changes to scope, and corresponding changes to benefits. Refer to WSX-C18 for more details.
CWW15.586-596	Odour and other nuisance	Reg Driver not used. No Change.

Line no.	Line description	Change
CWW15.597-607	Resilience	The solutions and benefits for this Reg driver have been reviewed and updated. The costs associated with the in-sewer monitoring have since been moved to Base expenditure as such there has been adjustments to the Benefits that are being captured. Please see WSX-C12 and WSX-C13 for further details.
CWW15.608-618	Security - SEMD	Reg Driver not used. No Change.
CWW15.619-629	Security Cyber	Reg Driver not used. No Change.
CWW15.630-640	Greenhouse gas reduction (net zero)	No change since previous submission.
CWW15.641-651	Additional line 1	No change since previous submission.
CWW15.652-662	Additional line 2	The solution and benefits for the biodiversity and conservation activities captured in Additional line 2 have been reviewed and benefits updated. In addition, a calculation of the benefit to the Biodiversity PC has been provided in however please note that there is no associated Total benefit value or PV with this as this would be double counting from other benefits.
CWW15.663-673	Additional line 3	Additional line 3 - No longer used.
CWW15.674-684	Additional line 4	Solutions and benefits for this Sludge Enhancement (quality) for Additional Line 4 have been reviewed and benefits have been updated.
CWW15.685-695	Additional line 5	As referenced in WSX-C12, pollution and flooding activities have been moved to base expenditure to align with PR24 Draft Determination. As a result, Additional Line 5 is no longer used.
CWW15.696	Total other enhancement benefit	Changes in Total Benefit reflect the changes to units of benefit above.

19.4. Line 697: Total enhancement

Line no.	Line description	Change
CWW15.697	Total enhancement expenditure	Changes in Total Benefit reflect the changes to units of benefit above.

20. CWW17 – Accelerated programme expenditure - wastewater network+ and bioresources

We do not have any approved accelerated schemes.

21. CWW18 – Cost adjustment claims - base expenditure: wastewater network+ and bioresources

Our representation is made up of two cost adjustment claims - we retain our catchment and nature-based solutions cost adjustment and include our new “step up in capital maintenance / base costs” cost adjustment. Our new cost adjustment claim has been introduced to reflect feedback from and engagement with Ofwat. On this basis, it has replaced, or superseded some of the claims included in our business plan (although we note, many of the considerations included in those claims continue to apply, and drive the need for this new claim).

We provide further information in WSX-C20.

22. CWW19 – Wastewater network+ - WINEP nutrient removal (phosphorus and nitrogen) scheme costs and cost drivers

Significant changes to whole table (phosphorus and nitrogen), to reflect latest WINEP and latest view of scope, costs and delivery profiling. Refer to WSX-C09 for more details.

Costs:

- Updated 23-24 for actuals and 24-25 to updated board approved budget position. As noted in WSX50 data table commentary for Business Plan submission and APR24 commentary for corresponding 7F table, early year costs include the distribution of upfront programme-level activities – such as technology trials and design standardisation, environmental impact and land purchasing reviews etc. – across individual projects.
- The table includes some capex costs profiled beyond 2029/30 to complete schemes after the output has been delivered (e.g. landscaping works). Also included are costs beyond 2029/30 for Holdenhurst WRC, which has a 31/03/2033 regulatory date in the WINEP.

Population Equivalents:

- Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate, but scheme design PE generally retained as per Business Plan submission, recognising year-on-year variability.

23. CWW20 – Wastewater network+ - Sewage treatment works population, capacity and network data

Line no.	Line description	Change
CWW20.1	Current population equivalent served by STWs	Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate.
CWW20.2	Current population equivalent served by STWs with tightened/new P permits	Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate, and updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 and CWW19 for more details.
CWW20.3	Current population equivalent served by STWs with tightened/new N permits	Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate, and updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 and CWW19 for more details.
CWW20.4	Current population equivalent served by STWs with tightened/new sanitary parameter permits	Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate, and updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 for more details.
CWW20.5	Current population equivalent served by STWs with tightened/new microbiological standards	Addition of UV disinfection at Rode in 2029/30, to reflect latest WINEP following the designation of new inland bathing waters within our region. Refer to WSX-C09 for more details.
CWW20.6	Population equivalent served by STWs with enhanced treatment capacity	Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate, and to reflect latest scheme delivery profiling. Refer to WSX-C10 for more details.
CWW20.7	Current population equivalent served by STWs with tightened/new permits for chemicals / hazardous substances	Updated 23-24 to align with APR24. PE forecasts amended if/as appropriate. Future permit limits updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 for more details.
CWW20.8	Current population equivalent served by septic tank replacement projects	No septic tank replacements in latest WINEP.
CWW20.9	Number of new wetland treatment solutions for tightened sanitary or nutrient (N or P) permits	Updated to reflect latest WINEP – single NbS for phosphorus removal. Refer to CWW19 for scheme details.

Line no.	Line description	Change
CWW20.10	Total area of new wetlands for tightened sanitary or nutrient (N or P) permits	Updated to reflect latest WINEP – single NbS for phosphorus removal. Refer to CWW19 for scheme details.
CWW20.11	Total number of septic tank replacement projects	No septic tank replacements in latest WINEP.
CWW20.12	Total number of STW outfall screens	No change.
CWW20.13	Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity	No change. Includes FFT being provided by AMP7 carryover schemes (Halstock and Saltford), as well as Avonmouth. See WSX-C09 for more details of the latter.
CWW20.14	Additional storm tank capacity provided at STWs - grey infrastructure	Includes 2 extra improvements (1 inland bathing water and 1 Poole harbour shellfish). Refer to WSX-C11.
CWW20.15	Additional volume of effective storm storage at STWs - nature based/green solution	No change.
CWW20.16 and CWW20.17	Total number of STW sites where additional storage has been delivered	Includes 2 extra improvements (1 inland bathing water and 1 Poole harbour shellfish). Refer to WSX-C11.
CWW20.18	Number of STW sites benefitting from green infrastructure replacing the need for storm tank storage	No change.
CWW20.19	Total number of schemes with tightened / new P permits (met by biological treatment)	No change
CWW20.20	Total number of schemes with tightened / new P permits (met by chemical treatment)	Updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 and CWW19 for more details. 2026/27 includes 2 carryover schemes from AMP7 (Blagdon and Ubley). Does not include completion of Holdenhurst (2033/34).
CWW20.21	Total number of schemes with tightened / new N permits (met by biological treatment)	No change.
CWW20.22	Total number of schemes with tightened / new N permits (met by chemical treatment)	Updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 and CWW19 for more details.
CWW20.23	Total number of schemes with tightened/new sanitary parameter permits	Updated to reflect latest WINEP and scheme delivery profiling. Refer to WSX-C09 for more details.
CWW20.24	Total number of schemes with tightened/new microbiological standards (UV, ozone etc)	Addition of UV disinfection at Rode in 2029/30, to reflect latest WINEP following the designation of new inland bathing waters within our region. Refer to WSX-C09 for more details.

Line no.	Line description	Change
CWW20.25	Total number of STWs with microbiological treatment - new and existing (UV, ozone etc)	Addition of UV disinfection at Rode in 2029/30, to reflect latest WINEP following the designation of new inland bathing waters within our region. Refer to WSX-C09 for more details.
CWW20.26	Total number of schemes with tightened/new chemicals/hazardous substances permits	No change.
CWW20.27	Total number of schemes with new chemical dosing installations	Updated to reflect latest WINEP and scheme delivery profiling.
CWW20.28	Volume of chemical dosing storage installed (m3)	Updated to reflect latest WINEP and scheme delivery profiling.
CWW20.29	Total number of schemes with new tertiary solids removal	Updated to reflect latest WINEP and scheme delivery profiling.
CWW20.30	Volume to water treated through tertiary solids removal (m3/day)	Updated to reflect latest WINEP and scheme delivery profiling.
CWW20.31	Total number of N-TAL trials	No change.
CWW20.32-35	Number of STW flow monitors installed	Number and profiling updated to reflect latest PR24 WINEP (additional 1no. U_MON4 since BP) and scheme delivery. See at the end of this table for a breakdown of costs and sites against the different solution types (permit/meter/civils). For more details refer to WSX-C09.
CWW20.36	Additional volume of network storage at CSOs etc to reduce spill frequency - grey infrastructure	Significant change. Includes some new scheme improvements in Poole Harbour shellfish and inland bathing waters. Refer to WSX-C11.
CWW20.37	Additional volume of effective network storage to reduce CSO spill frequency - nature based/green solution	No change.
CWW20.38 and CWW20.39	Number of individual sites delivering additional network storage - grey infrastructure	Significant change. Includes some new scheme improvements in Poole Harbour shellfish, inland bathing waters and other minor changes. Refer to WSX-C11.
CWW20.40	Number of individual sites delivering additional network storage through green infrastructure	No change.
CWW20.41	Surface water separation drainage area removed	No change.
CWW20.42	Total number of surface water separation schemes to reduce storm overflows	2 schemes added for storm overflows located at STW, but the solution is a grey network separation scheme. These schemes were in the original PCD but not accounted for in CWW20.
CWW20.43	Sustainable drainage / attenuation schemes (green) area removed / attenuated	No change.

Line no.	Line description	Change
CWW20.44	Total number of sustainable drainage / attenuation schemes	No change.
CWW20.45	Flow rate diverted to reduce storm overflow spills	No change.
CWW20.46	Total number of sewer flow management / control schemes to reduce storm overflow spills	No change.
CWW20.47	Total storm overflow spill volume avoided	5% increase.
CWW20.48	Total number of new storm overflow screens installed	No change.
CWW20.49	Number of continuous water quality monitor installations	No change.
CWW20.50	Number of new MCERTs event duration monitors installed at SPS emergency overflows	No change. This is the 25% monitoring scenario.
CWW20.51	Number of new MCERTs flow monitors (PFF) installed at SPSs with combined emergency and storm overflows.	No change. This is the 25% monitoring scenario.
CWW20.52-55	Number of EDMs installed	Number and profiling updated to reflect latest PR24 WINEP (additional 1no. U_MON3 since BP) and scheme delivery. See at the end of this table for a breakdown of costs and sites against the different solution types (permit/meter/civils).
CWW20.56	Total number of storm overflow discharge relocation schemes	No change.
CWW20.57	Total number of schemes to increase combined or trunk sewer capacity to reduce storm overflow spills	No change.
CWW20.58	Total number of infiltration management schemes to reduce storm overflow spills	No change.
CWW20.59	Length of new rising main installed to reduce storm overflow spills (km)	No change.
CWW20.60	Total length of sewer installed to reduce storm overflow spills (km)	10% increase to allow for additional schemes.
CWW20.61-64	Number of WINEP/NEP investigations	Amendments to reflect latest WINEP – numbers and delivery profiling. Refer to WSX-C16 for details.
CWW20.65	Total number of catchment management chemical source control schemes	No schemes (no change).

Line no.	Line description	Change
CWW20.66	Total number of catchment management nutrient balancing schemes	No schemes (no change).
CWW20.67	Total number of catchment management catchment permitting schemes	No schemes (no change).
CWW20.68	Total number of catchment management habitat restoration schemes	Chew Valley Partnership - Primary driver changed from HD_IMP to SSSI_IMP. Secondary driver remains 25YEP_IMP
CWW20.69	Number of river connectivity schemes (fish passes etc)	No schemes (no change).
CWW20.70	Number of marine conservation zones (new and existing)	No schemes (no change).
CWW20.71	Total number of contribution to 3rd party WINEP/NEP schemes	No schemes (no change).
CWW20.72	Total number of 25 yr Environment Plan schemes	No change.

23.1. Lines 32-35: Flow Monitoring at STWs

An additional site has been added to the WINEP requiring flow monitoring (U_MON4) since the September snapshot used for our October Business Plan.

We recognise that the overlap between AMP7 and PR24 delivery mean is not possible to determine from either the APR or PR24 data tables the exact nature of the PR24 flow monitoring schemes, for example in the cases of AMP7 U_MON4 schemes requiring complex civil installations but then also delivering the PR24 U_MON4 permit changes only at the same time. In these cases, we only included schemes once to avoid double counting. However, they are captured in CWW20a for transitional delivery under their PR24 solution rather, hence numbers / solution types being different from CWW20.

In the below table we provide a breakdown of the relevant number of schemes and costs against these lines, for which we are seeking funding through PR24. We acknowledge that some schemes have changed solution category, as we have progressed with their design. As identified in our original submission and in line with our APR reporting, we state the number of schemes rather than the number of monitors, recognising that many sites will require two or more new monitors to meet the U_MON4 requirements.

STW Flow Monitoring	Number of Sites	Capex (£m)	In-AMP Opex (£m)	In-AMP Totex (£m)
Permit Changes only	134	0.753	0.115	0.868
Simple meter Installations	22	1.395	0.250	1.645
Complex civils installations	92	23.362	3.876	27.238

	248	25.510	4.241	29.751
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The total number of U_MON4 action lines in our PR24 WINEP is 248. Our total number of PR24 flow monitoring sites can be derived by summing the values in CWW20a (2023-24 & 24-25) with those in CWW20 (2025 onwards).

23.2. Lines 52-55: Event Duration Monitoring

An additional site has been added to the WINEP requiring event duration monitoring (U_MON3) since the September snapshot used for our October Business Plan.

We recognise that the overlap between AMP7 and PR24 delivery mean is not possible to determine from either the APR or PR24 data tables the exact nature of the PR24 event duration monitoring schemes, for example in the cases of AMP7 U_MON3 schemes requiring complex civil installations but then also delivering the PR24 U_MON3 permit changes only at the same time. In these cases, we only included schemes once to avoid double counting. However, they are captured in CWW20a for transitional delivery under their PR24 solution rather, hence numbers / solution types being different from CWW20.

The total number of U_MON3 action lines in our PR24 WINEP is 276. We have delivered 87 EDMS where through our AMP7 work to date we will meet the required output, although the AMP8 outputs have not been signed off with the Environment Agency.

This can be derived by summing the values in CWW20a (2023-24 & 24-25) with those in CWW20 (2025 onwards), plus 87 EDMs where through our AMP7 work to date we will meet the required output (although the AMP8 outputs have not been signed off with the Environment Agency, pending release of AMP8 WINEP sign off procedure), and the exception of one additional site captured in CWW20 (for 2025/26). This is an AMP7 scheme (Halstock) with a date extension as agreed with the Environment Agency.

Event Duration Monitoring	Number of Sites	Capex (£m)	In-AMP Opex (£m)	In-AMP Totex (£m)
Permit Changes only	114+87	0.337	0.134	0.471
Simple meter Installations	36	0.122	0.02	0.142
Complex civils installations	39	1.549	0.189	1.738
	276	2.008	0.343	2.351

24. CWW20a – Transition and accelerated programme - Wastewater network+ - Sewage treatment works population, capacity and network data

Line no.	Line description	Change
CWW20a.1	Current population equivalent served by STWs	Updated 23-24 to align with APR24. PE forecast for 24-25 amended appropriate.
CWW20a.32-35	Number of STW flow monitors installed	Number and profiling updated to reflect latest scheme delivery. Refer to WSX-C09 for more details.
CWW20a.52-55	Number of EDMs installed	Number and profiling updated to reflect latest scheme delivery. Refer to WSX-C09 for more details.

25. CWW22 – Wastewater - net zero enhancement schemes

Line no.	Line description	Change
CWW22_4	Decarbonised fleet infrastructure	The only change made to CWW22 since the original submission was the inclusion of electric vehicle charging infrastructure. This was made in response to an Ofwat query.