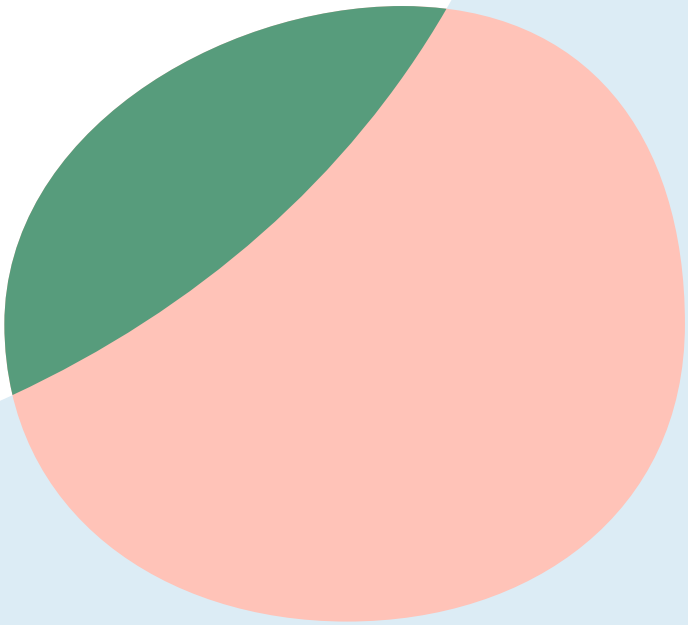
May 2023

PR24 Final Methodology submission table guidance – section 4: Costs (wholesale) – wastewater



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About this document

Version control

Version	Date published	Description
V1	7/7/2022	Draft methodology
V2	12/2022	Final methodology **Changes from V1;** CWW1 and CWW1a – swapped the tables round so that costs reported in CW1 are post RPE and frontier shift and costs in CW1a are pre RPE and frontier shift. CWW1a – updated commentary requirement for equity issuance costs CWW2 – updated commentary requirement for equity issuance costs CWW2.13 – updated definition of costs to be included under Industrial Emissions Directive. CWW7a-c – CWW7 has been split into three tables CWW21 – new table 'Wastewater sewers – asset condition'. CWW22 – new table 'Net zero enhancement schemes'.
V3	7/2/2023	Changes from V2: CW1a and CWW1a – update line definition cross references to other tables and RAG4 CWW9 – additional guidance added. CWW17 – new table "accelerated programme expenditure – wastewater network+" CWW3 – new lines added (particularly for WINEP/NEP storm overflow-related drivers) and some minor amendments to existing line descriptions. CWW8 – minor amendment to EDM line description in line with APR (now asking for nr of EDM monitors not sites) CWW12 -transition expenditure – updated commentary to reflect final methodology guidance. CWW13 – updated commentary to reflect final methodology guidance. CWW14 – updated commentary to reflect final methodology guidance. CWW15 – updated commentary to reflect final methodology guidance. CWW16 - updated commentary to reflect final methodology guidance.CWW17 – new table "accelerated programme expenditure – wastewater network+" CWW18 – updated commentary to provide additional guidance. CWW20 – new lines added, and rearranged into 3 blocks (sewage treatment data, network/storm overflow data, and other data) CWW21 – guidance added CWW5 – includes clarification that the data needs to be provided for each year 2022-30 to enable the calculation of the disaggregated economies of scale measures for cost assessment purposes
V4	31/5/2023	CW1 and CW1a – links to developer services and third party services tables corrected. CWW2 – cross-references updated CWW3 – minor updates to various line titles and guidance to provide additional clarity

		CWW3 – additional expenditure ('freeform') lines renamed to cover both wastewater and bioresources. CWW3 – request for providing additional commentary for growth at STWs CWW3 – removed lines CWW3. 100 – 102, as these are superseded by the bioresources lines CWW4 – clarification that companies should consider principal use of assets, sludge liquors, energy generation and overheads guidance and should ensure table reconcile to same information in other tables CWW5 – clarification that table should be consistent with most up to date WINEP/NEP and principal use of assets, sludge liquors, energy generation and overheads guidance CWW6 – additional commentary requirement in relation to items relevant to PR24 cost assessment CWW7a - clarification that table should be consistent with most up to date WINEP/NEP and additional commentary requirement in relation to load forecasts and changes to number of STWs CW10 – updated definition for line 1 CWW11 – diversions added to third party services cost table. CWW14 – updated commentary to clarify scope of data being requested. CWW16 – updated commentary to clarify scope of data being requested. CWW19 – updates to align to guidance for table 7F in RAG4.11 CWW21 - additional guidance added specifically in relation to completion of the cohort analysis supporting .xls. This includes a link to an example .xls.

Contents

1. Summary purpose of the data tables

What data are we collecting?

1.1 In this section we are collecting companies' forecast costs and associated drivers from 2022-23 onwards. Some tables cover the period 2022-30 while others ask for longer-term forecasts. This reflects our approach to long-term delivery strategies.

Why are we collecting the data?

1.2 This data forms the basis for us to set cost allowances at PR24. It covers base, enhancement, developer services and best value data which we will use in our cost assessment models.

How is the data aligned with the annual performance report (APR)?

1.3 Where possible tables in this section are the same as the equivalent APR tables and, as such, we expect 2022-23 data to reflect companies' 2022-23 APRs. In some case we have included additional lines. This is primarily to reflect changing requirements, such as WINEP obligations, and associated drivers. These tables will then form the basis of APR tables from 2025 onwards.

1.4 Some tables are not included within the APR as we only need this information at price reviews, such as table CWW12 – transition expenditure.

1. General guidance

Jointly used or owned assets – Reporting guidance change for 2025-26 onwards

1.5 Following concerns we have received over different reporting of expenditure on joint use assets (assets that are owned jointly or operated on a joint agreement) and requests for clarity in this area we propose to introduce guidance into RAG2 and RAG4 which will apply from 2025-26 onwards. It should therefore also be followed when preparing your PR24 business plan.

1.6 For both capex and opex, we require that in the cost tables (ie APR sections 4-8 and 10) companies report only their share of the totex.

1.7 This means that where a company takes the lead on any expenditure and is due a corresponding payment from the asset partner, that such income effectively 'nets off' the gross cost of the expenditure. Accordingly, we also require that such income is adjusted in table 1A from the statutory treatment of income and is instead recognised as a negative adjustment to costs in the regulatory accounts. This ensures that any such income will not become a component of actual regulatory income and so will not impact on reconciliation mechanisms.

1.8 The other company, who is simply making a payment to the lead company for its share of the costs, will show this as a regular totex cost as if the payment was to any ordinary supplier.

Direct procurement for customers

1.9 We expect companies to include in their business plans forecasts of expenditure they will incur in the planning and administration of their expected DPC schemes. These are the development, procurement and contract management costs. These costs should be included in tables CWW1, CWW2, CWW3 and CWW12 as appropriate. Companies should not include in the wholesale expenditure tables any costs forecast to be incurred by the competitively appointed provider.

Price base and Indexation

The base year for the business plan is 2022-23.

The price base for financial cost information is base year prices indexed using the financial year average Consumer Price Index (including housing costs) ie 2022-23 prices FYA (CPIH deflated).

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

Table CWW1 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW1.1	Base operating expenditure	Operating expenditure excluding third party opex to deliver base levels of service.	4E.1
CWW1.2	Enhancement operating expenditure	Total enhancement operating expenditure excluding third party opex.	4E.2
CWW1.3	Developer services operating expenditure	Total developer services operating expenditure excluding diversions. This line should equal the sum of lines DS3.2 and DS3.10.	4E.3
CWW1.4	Total operating expenditure excluding third party services	Total operating costs excluding third party services. The sum of lines CWW1.1 to CWW1.3.	4E.4
CWW1.5	Total third party services	Operating expenditure for providing third party services including developer services third party services. See appendix 1.	4E.5
CWW1.6	Total operating expenditure	Total operating expenditure for the wholesale business only within each business category. The sum of lines CWW1.4 and CWW1.5.	4E.6
CWW1.7	Grants and contributions - operating expenditure	Grants and contributions – operating expenditure. The operating expenditure element of the wastewater n+ grants and contributions reported in line DS1e.29 or DS1w.27. Input as a positive number.	4E.7
CWW1.8	Base capital expenditure	Capital expenditure excluding third party capex to maintain the long-term capability of assets and to deliver base levels of service. Where projects have drivers both of enhancement and capital maintenance, companies should apply a method of proportional allocation to allocate costs between enhancement and capital maintenance.	4E.8
CWW1.9	Enhancement capital expenditure	Total enhancement capital expenditure excluding third party capex.	4E.9
CWW1.10	Developer services capital expenditure	Total developer services capital expenditure excluding diversions. This line should equal the sum of lines DS3.1 and DS3.6.	4E.10
CWW1.11	Total gross capital expenditure excluding third party services	Total gross capital expenditure excluding third party services - the sum of lines CWW1.8 to CWW1.10.	4E.11
CWW1.12	Third party services	Capital expenditure for providing third party services including developer services third party services. See appendix 1	4E.12
CWW1.13	Total gross capital expenditure	The sum of lines CWW1.11 and CWW1.12.	4E.13

Line	Title	Definition	RAG 4.11 line reference
CWW1.14	Grants & contributions - capital expenditure	Grants and contributions – capital expenditure. The capital expenditure element of the wastewater n+ grants and contributions reported in line DS1e.29 or DS1w.27. Input as a positive number.	4E.14
CWW1.15	Net totex	The sum of lines CWW1.6 and CWW1.13 less the sum of CWW1.7 and CWW1.14.	4E.15
CWW1.16	Pension deficit recovery payments	2022-23 to 2024-25 - Actual pension deficit recovery payments including costs capitalised and any group recharges for pension deficit costs. Companies that report under FRS102 should include the element of the statutory charge attributable to deficit payments in this line rather than block A above. 2025-26 to 2029-30 – Pension deficit recovery payments to be funded through price limits, in accordance with IN 13/17.	
CWW1.17	Other cash items	Other cash items not included in totex.	4E.17
CWW1.18	Totex including cash items	The sum of lines CWW1.15 to CWW1.17.	4E.18
CWW1.19	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	4E.19
CWW1.20	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	4E.20
CWW1.21	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	4E.21
CWW1.22	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	4E.22
CWW1.23	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these	4E.23

Line	Title	Definition	RAG 4.11 line reference
		items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	
CWW1.24	Total atypical expenditure	Total atypical expenditure. Calculated as the sum of lines CWW1.19 to CWW1.23.	4E.24

CWW1 Additional guidance

2.1 Operating expenditure should be reported net of the principal use recharges between the price control units so that the costs at a price control level can be properly recorded.

2.2 If companies choose to forecast atypical items they must provide details in their commentary. Companies must also clearly explain whether the nature of the atypical item is an operating or capital expense. For forecast years (2023-24 onwards) companies must clearly explain why the item disclosed in Block D is atypical and why it is appropriate not to include it in the previous lines.

2.3 Where applicable please ensure values are consistent elsewhere within the cost assessment wholesale wastewater tables.

2.4 This table contains inputs needed for populating the PR19 Cost reconciliation model and calculating the end of period revenue and RCV adjustments to be applied at PR24.

2.5 Companies should prepare this table taking into account the guidance on improving cost allocation between the sewage treatment and bioresources units in relation to sludge liquors1, energy generation2 and overheads3. Please note that this is different to the RAG4.11 approach for table 4E which contains reporting prior to the updated guidance.

CWW1 Commentary requirement

2.6 Companies should include the following commentary to this table;

[1] Reporting-of-sludge-liquor-treatment-costs-final-decisions.pdf (ofwat.gov.uk)
[2] Bioresources_Cost_Allocation_Energy_Generation_Odour_Control_Final_Decision.pdf (ofwat.gov.uk)
[3] RAG-2.09---Guideline-for-classification-of-costs-across-the-price-controls.pdf (ofwat.gov.uk)

- An explanation of any costs categorised as atypical, and which cost line(s) they are included in (eg atypical cost item 1 is included in CWW1.1).
- An explanation of the nature and extent of 'principal use' recharges between business units.
- An explanation for any significant changes in costs over the period.
- A breakdown of which lines and business units any equity issuance costs (from table RR4 line 72) have been included in.

3. CWW1a – Totex analysis – wastewater network + and bioresouces (pre frontier shift and real price effects)

Table CWW1a line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW1a.1	Base operating expenditure	Operating expenditure excluding third party opex to deliver base levels of service. This line should equal line CWW2.14.	
CWW1a.2	Enhancement operating expenditure	Total enhancement operating expenditure excluding third party opex. This line should equal line CWW3.194.	
CWW1a.3	Developer services operating expenditure	Total developer services operating expenditure including third party opex.	
CWW1a.4	Total operating expenditure excluding third party services	Total operating costs excluding third party services. The sum of lines CWW1.1 to CWW1.3.	
CWW1a.5	Total third party services	Operating expenditure for providing third party services. See RAG4 appendix 1. The sum of lines CWW11.17 and CWW11.13.	
CWW1a.6	Total operating expenditure	Total operating expenditure for the wholesale business only within each business category. The sum of lines CWW1.4 and CWW1.5.	
CWW1a.7	Grants and contributions - operating expenditure	Grants and contributions – operating expenditure. Input as a positive number.	
CWW1a.8	Base capital expenditure	Capital expenditure excluding third party capex to maintain the long-term capability of assets and to deliver base levels of service. Where projects have drivers both of enhancement and capital maintenance, companies should apply a method of proportional allocation to allocate costs between enhancement and capital maintenance.	
CWW1a.9	Enhancement capital expenditure	Total enhancement capital expenditure excluding third party capex. This line should equal line CWW3.193.	
CWW1a.10	Developer services capital expenditure	Total developer services capital expenditure including third party capex.	
CWW1a.11	Total gross capital expenditure excluding third party services	Total gross capital expenditure excluding third party services - the sum of lines CWW1.8 to CWW1.10.	
CWW1a.12	Third party services	Capital expenditure for providing third party services. See RAG4 appendix 1. The sum of lines CWW11.20 and CWW11.26.	
CWW1a.13	Total gross capital expenditure	The sum of lines CWW1.11 and CWW1.12.	
CWW1a.14	Grants & contributions - capital expenditure	Grants and contributions – capital expenditure. Input as a positive number.	
CWW1a.15	Net totex	The sum of lines CWW1.6 and CWW1.13 less the sum of CWW1.7 and CWW1.14.	
CWW1a.16	Pension deficit recovery payments	2022-23 to 2024-25 - Actual pension deficit recovery payments including costs capitalised and any group	

Line	Title	Definition	RAG 4.11 line reference
		recharges for pension deficit costs. Companies that report under FRS102 should include the element of the statutory charge attributable to deficit payments in this line rather than block A above. 2025-26 to 2029-30 – Pension deficit recovery payments to be funded through price limits, in accordance with IN 13/17.	
CWW1a.17	Other cash items	Other cash items not included in totex.	
CWW1a.18	Totex including cash items	The sum of lines CWW1.15 to CWW1.17.	
CWW1a.19	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	
CWW1a.20	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	
CWW1a.21	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	
CWW1a.22	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	
CWW1a.23	Atypical expenditure items	Atypical items are defined as unusual items outside ordinary activities. This would include items such as office moves and one-off reorganisations. For avoidance of doubt these items should be included in lines 1 to 18 above but in the item description state the line that it is included in. Costs should be entered as a positive number and any income/rebates entered as a negative number.	
CWW1a.24	Total atypical expenditure	Total atypical expenditure. Calculated as the sum of lines CWW1.19 to CWW1.23.	

CWW1a Additional guidance

3.1 Operating expenditure should be reported **net of the principal use recharges** between the price control units so that the costs at a price control level can be properly recorded.

3.2 If companies choose to forecast atypical items they must provide details in their commentary. Companies must also clearly explain whether the nature of the atypical item is an operating or capital expense. For forecast years (2023-24 onwards) companies must clearly explain why the item disclosed in Block D is atypical and why it is appropriate not to include it in the previous lines.

3.3 Where applicable please ensure values are consistent elsewhere within the cost assessment wholesale wastewater tables.

Companies should prepare this table taking into account the guidance on improving cost allocation between the sewage treatment and bioresources units in relation to sludge liquors[4], energy generation[5] and overheads[6].CWW1a Commentary requirement

3.4 Companies should include the following commentary to this table:

- An explanation of any costs categorised as atypical, and which cost line(s) they are included in (eg atypical cost item 1 is included in CWW1.1).
- An explanation of the nature and extent of 'principal use' recharges between business units.
- An explanation for any significant changes in costs over the period.
- A breakdown of which lines and business units any equity issuance costs (from table RR4 line 72) have been included in.

[4] Reporting-of-sludge-liquor-treatment-costs-final-decisions.pdf (ofwat.gov.uk)
[5] Bioresources_Cost_Allocation_Energy_Generation_Odour_Control_Final_Decision.pdf (ofwat.gov.uk)
[6] RAG-2.09---Guideline-for-classification-of-costs-across-the-price-controls.pdf (ofwat.gov.uk)

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

Table CWW2 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW2.1	Power	All energy costs, including the climate change levy and the carbon reduction commitment. Any cost savings from power generated internally should be netted off these costs. This should include the cost to wastewater network plus of purchasing energy from bioresources, as set out in our guidance for the allocation of revenues / costs associated with energy generation in the bioresources control in RAG 2.	4K.19
CWW2.2	Income treated as negative expenditure	Income received from sales which are external to the appointed business and which directly relate to the water and wastewater processes. It should be input as a negative number. This will include; • Electricity sales from sources such as Hydro, PV, wind and CHP to external parties. • Electricity sales from back-up generators under arrangements such as the National Grid 'STOR', "frequency response" and "dynamic demand". • Bio-methane gas sales to the National Grid. • Sludge and sludge products such as cake, granules etc. to external parties. This should include the income received by bioresources due to a sale of energy to wastewater network plus, as set out in our guidance for the allocation of revenues / costs associated with energy generation in the bioresources control in RAG 2.	4K.20
CWW2.3	Bulk Supply/Bulk discharge	Total payments for bulk imports/exports. Where a company jointly owns a supply, the costs associated with it should not be reported here but in the appropriate cost line.	4K.3
CWW2.4	Renewals expensed in year (Infrastructure)	Infrastructure renewals which are expensed rather than capitalised in the statutory accounts. 'Renewals' are generally planned activities to replace significant lengths of pipework or parts of an asset. These are targeted at improving network performance or solving ongoing problems and restores an asset to full capability.	4K.4
CWW2.5	Renewals expensed in year (Non- Infrastructure)	Non-infrastructure renewals which are expensed rather than capitalised in the statutory accounts. 'Renewals' are generally planned activities targeted at improving network performance or solving ongoing problems and restores an asset to full capability.	4K.5

Line	Title	Definition	RAG 4.11 line reference
CWW2.6	Other operating expenditure	Other operating costs not covered by 4K.4 and 4K.5. This should exclude finance charges associated with operating leases.	4K.6
CWW2.7	Local authority and Cumulo rates	The cost of local authority rates. This should include both the local authority rates, cumulo rates and sewerage site rates (where appropriate).	4K.7
CWW2.8	Canal & River Trust abstraction charges/ discharge consents	Costs associated with the Canal & River Trust service charges and discharge consents.	4K.8
CWW2.9	EA / NRW abstraction charges/ discharge consents	Costs associated with Environment Agency / Natural Resources Wales service charges/ discharge consents.	4K.9
CWW2.10	Other abstraction charges/ discharge consents	Costs associated with other service charges/ discharge consents.	4K.10
CWW2.11	Costs associated with Traffic Management Act	Costs directly related to permit schemes made pursuant to the Traffic Management Act excluding penalties or fines incurred by the company. TMA costs incurred in the delivery of developer services should be included in developer services expenditure (CWW1.3 and DS4) and not in this line.	4K.11
CWW2.12	Costs associated with lane rental schemes	Costs directly associated with lane rental schemes excluding penalties or fines incurred by the company. Lane rental scheme costs incurred in the delivery of developer services should be included in developer services expenditure (CWW1.3 and DS3) and not in this line.	4K.12
CWW2.13	Costs associated with Industrial emissions directive	Costs associated with Industrial emissions directive permits from the Environment Agency and Natural Resources Wales, and administration costs.	4K.13
CWW2.14	Total base operating expenditure	The sum of lines CWW2.1 to 13.	4K.14
CWW2.15	Maintaining the long term capability of the assets – infra	Capital expenditure on infrastructure assets excluding third party capex to maintain the long term capability of assets and to deliver base levels of service. Where projects have drivers both of enhancement and capital maintenance, companies should apply a method of proportional allocation to allocate costs between enhancement and capital maintenance.	4K.15
CWW2.16	Maintaining the long term capability of the assets – non-infra	Capital expenditure on non-infrastructure assets excluding third party capex to maintain the long term capability of assets and to deliver base levels of service. Where projects have drivers both of enhancement and capital maintenance, companies should apply a method of proportional allocation to allocate costs between enhancement and capital maintenance.	4K.16
CWW2.17	Total base capital expenditure	The sum of lines CWW2.15 and CWW2.16.	4K.17

Line	Title	Definition	RAG 4.11 line reference
CWW2.18	Projects incurring costs associated with Traffic Management Act	The number of jobs that required a permit for which the costs that have been reported in CWW2.11 have been incurred.	4K.18

CWW2 Additional guidance

4.1 Operating expenditure should be reported **net of the principal use recharges** between the price control units so that the costs at a price control level can be properly recorded.

4.2 Companies should prepare this table taking into account the guidance on improving cost allocation between the sewage treatment and bioresources units in relation to sludge liquors[7], energy generation[8] and overheads[9]. Please note that this is different to the RAG4.11 approach for table 4K which contains reporting prior to the updated guidance.

CWW2 Commentary requirement

4.3 Companies should include the following commentary to this table:

- An explanation for any significant changes between actual and forecast costs.
- An explanation of any material year-on-year variations in costs.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures from previous reporting years.
- A breakdown of which lines and business units any equity issuance costs (from table RR4 line 72) have been included in.

[7] Reporting-of-sludge-liquor-treatment-costs-final-decisions.pdf (ofwat.gov.uk)
[8] Bioresources_Cost_Allocation_Energy_Generation_Odour_Control_Final_Decision.pdf (ofwat.gov.uk)
[9] RAG-2.09---Guideline-for-classification-of-costs-across-the-price-controls.pdf (ofwat.gov.uk)

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

Table CWW3 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW3.1–CWW3.3	Event Duration Monitoring at intermittent discharges	Expenditure on schemes listed in WINEP/NEP to provide new discharge operation monitoring at sewage treatment works storm tanks (under driver code U_MON3 / W_U_MON3). This line should also be used for any event duration monitoring required under the storm overflow drivers (e.g. W_U_O_MON, EnvAct_IMP2-4 etc). Companies should clearly set out in their table commentary how much of the costs for these lines are for i) permit changes only, ii) simple meter installations or iii) more complex civils installations / works. Line 3 equals the sum of lines 1 and 2.	4M.4–4M.6
CWW3.4–CWW3.6	Flow monitoring at sewage treatment works	Expenditure on schemes listed in the WINEP/NEP to provide MCERTs flow monitoring at sewage treatment works or last in line sewage pumping stations (under driver codes including U_MON3 to 4 / W_U_MON3 to 4, and EPR_MON1 etc). Companies should clearly set out in their table commentary how much of the costs for these lines are for i) permit changes only, ii) simple meter installations or iii) more complex civils installations / works. Line 6 equals the sum of lines 4 and 5.	4M.7–4M.9
CWW3.7–CWW3.9	Continuous river water quality monitoring	Expenditure on schemes listed in the WINEP/NEP to provide continuous river water quality monitoring (under driver codes EnvAct_MON1 to MON5) Companies should clearly set out in their table commentary how much of the costs for these lines are for i) providing near real-time data, ii) simple monitor installations or iii) more complex civils installations / works. Line 9 equals the sum of lines 7 and 8.	

Line	Title	Definition	RAG 4.11 line reference
CWW3.10–CWW3.12	MCERTs monitoring at emergency sewage pumping station overflow	Expenditure on schemes listed in the WINEP/NEP to provide MCERTs monitoring at emergency sewage pumping station overflows (under driver code U_MON6 / W_U_MON6). Companies should clearly set out in their table commentary how costs for this line are split between the following sub-categories: a) MCERTS EDM only b) MCERTS EDM and civils c) MCERTS EDM and pass forward flow monitor d) MCERTS EDM and pass forward flow monitor and civils e) Permit change only 'Civils' refers to the provision of MCERTs EDM or PFF monitoring that requires new permanent civils structure(s) to be built (for example hydraulic gauging structures – flumes or weirs). This excludes simple installations e.g. standard monitor installations, whereby a monitor is fixed to a chamber with standard fixings or those requiring only minor adjustments / modifications. Line 12 equals the sum of lines 10 and 11.	
CWW3.13–CWW3.15	Increase flow to full treatment	Expenditure on schemes listed in the WINEP/NEP to increase the flow to full treatment (under driver code U_IMP5 / W_U_IMP5). Line 15 equals the sum of lines 13 and 14.	4M.10–4M.12
CWW3.16–CWW3.18	Increase storm tank capacity at STWs – grey solution	Expenditure on grey (conventional) schemes listed in the WINEP/NEP to increase the storm tank capacity to required standards to address Environment Act drivers relating to the reduction in storm overflow spills (EnvAct_IMP2 to EnvAct_IMP4), and/or to provide adequate settlement and detention for deferred PR19 U_IMP6 / W_U_IMP6 schemes, and/ or for other WINEP/NEP drivers, including BW / W_BW, SW / W_WFD_Shell etc. Line 18 equals the sum of lines 16 and 17.	4M.13–4M.15
CWW3.19–CWW3.21	Increase storm system attenuation / treatment on a STW - green solution	Expenditure on green / nature-based solutions (e.g. non-conventional or nature-based, which may include wetlands, SUDs, and catchment management) listed in WINEP/NEP to increase storm storage or reduce the need for conventional storm tanks on a STW site (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 21 equals the sum of lines 19 and 20.	4M.16–4M.18
CWW3.22–CWW3.24	Storage schemes to reduce spill frequency at CSOs, etc - grey solution	Expenditure on grey (conventional) new or additional storage solutions listed in the WINEP/NEP where the objective is to meet new or tightened spill frequency objectives at network assets, e.g. CSOs, whether or not there is an explicit spill frequency requirement (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 24 equals the sum of lines 22 and 23.	4M.19–4M.21

Line	Title	Definition	RAG 4.11 line reference
CWW3.25-CWW3.27	Storage to reduce spill frequency at CSOs etc - green solution	Expenditure on green / nature based new or additional storage solutions listed in the WINEP / NEP to meet new or tightened spill frequency objectives at network assets, e.g. CSOs, whether or not there is an explicit spill frequency requirement (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 27 equals the sum of lines 25 and 26.	4M.19-4M.21
CWW3.28-CWW3.30	Storm overflow – discharge relocation	Expenditure on schemes listed in WINEP/NEP to relocate storm overflow discharges (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 30 equals the sum of lines 28 and 29.	
CWW3.31-CWW3.33	Storm overflow - increase in combined sewer / trunk sewer capacity	Expenditure on schemes listed in the WINEP/NEP to increase the capacity in combined sewers / trunk sewers to reduce storm overflow spills (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 33 equals the sum of lines 31 and 32.	
CWW3.34-CWW3.36	Storm overflow - sustainable drainage / attenuation in the network	Expenditure on schemes listed in the WINEP/NEP to provide sustainable drainage / attenuation schemes to reduce storm overflow spills (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 36 equals the sum of lines 34 and 35.	
CWW3.37-CWW3.39	Storm overflow – Source surface water separation	Expenditure on surface water separation schemes (at source) to manage network flows to reduce storm overflow spills (under drivers including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 39 equals the sum of lines 37 and 38.	
CWW3.40-CWW3.42	Storm overflow – infiltration management	Expenditure on innovative solutions that provide a step-change in service levels (i.e. that go beyond base activities) to reduce infiltration in to the network for the purpose of reducing storm overflow spills. Line 42 equals the sum of lines 40 and 41.	
CWW3.43-CWW3.45	Storm overflow - sewer flow management and control	Expenditure on schemes listed in the WINEP/NEP to improve the management and control of sewer flows and operation to reduce storm overflow spills (under driver codes including EnvAct_IMP2 to 4 and W_U_O_IMP1 to 2). Line 45 equals the sum of lines 43 and 44.	
CWW3.46-CWW3.48	Storm overflow – new / upgraded screens	Expenditure on schemes listed in the WINEP/NEP to provide new or upgraded screening to storm overflows (under driver code EnvAct_IMP5). Line 48 equals the sum of lines 46 and 47.	

Line	Title	Definition	RAG 4.11 line reference
CWW3.49–CWW3.51	Treatment for chemical removal	Expenditure on improvements listed in the WINEP/NEP to achieve good chemical status or to prevent deterioration in chemical status or to achieve standstill limits for chemicals (under driver codes including WFD_IMP_CHEM, WFD_NDLS_CHEM1 to 2, WFD_ND_CHEM3 to 4, W_WFD_CHEM_ND2, BW / W_BW, SW / W_WFD_Shell etc). Companies should clearly set out in their table commentary how costs for this line are split between the following sub-categories: a.) Treatment solutions b.) Permitting changes; including Operating Technique Agreements (OTAs), standstill limits in permit and permit trading within catchments Line 51 equals the sum of lines 49 and 50.	4M.26–4M.28
CWW3.52–CWW3.54	Chemicals and emerging contaminants monitoring / investigations / options appraisals	Expenditure on the monitoring, investigation and options appraisal of chemicals and emerging contaminants (including microplastics and other Chemical investigation Programme 4 contaminants) listed in the WINEP/NEP (under driver codes WFD_INV_CHEM, WFD_INV_MP and W_WFD_CHEM_INV1). Line 54 equals the sum of lines 52 and 53.	4M.29–4M.31
CWW3.55–CWW3.57	Treatment for total nitrogen removal (chemical)	Expenditure on schemes listed in the WINEP/NEP where the primary objective is to meet new or tightened permit conditions for total nitrogen using chemical treatment (under driver codes including U_IMP1 to 3 / W_U_IMP1 to 3, WFD_IMP, WFD_ND, BW / W_BW, SW / W_WFD_Shell, and HD_IMP_NN etc). Line 57 equals the sum of lines 55 and 56. This is a subset of RAG4.11 lines 4M.32–34	4M.32–4M.34
CWW3.58–CWW3.60	Treatment for total nitrogen removal (biological)	Expenditure on schemes listed in the WINEP/NEP where the primary objective is to meet new or tightened permit conditions for total nitrogen using biological treatment (under driver codes including U_IMP1 to 3 / W_U_IMP1 to 3, WFD_IMP, WFD_ND, BW / W_BW, SW / W_WFD_Shell, and HD_IMP_NN etc). Line 60 equals the sum of lines 58 and 59. This is a subset of RAG4.11 lines 4M.32–34	4M.32–4M.34

Line	Title	Definition	RAG 4.11 line reference
CWW3.61-CWW3.63	Nitrogen Technically Achievable Limit (TAL) monitoring, investigation, or options appraisals	Expenditure on nitrogen technically achievable limit (TAL) monitoring, investigation and options appraisal (under driver code WFD_INV_N-TAL / W_WFD_NTal_INV1). Companies should include details in their table commentary of the solutions implemented. Line 63 equals the sum of lines 61 and 62.	
CWW3.64-CWW3.66	Treatment for phosphorus removal (chemical)	Expenditure on schemes listed in the WINEP/NEP to deliver solutions to meet new or tightened permit conditions for phosphorus using chemical treatment (under driver codes including U_IMP1 to 3 / W_U_IMP1 to 3, WFD_IMP / W_HR_IMP, WFD_ND / W_HR_NDIMP, HD_IMP_NN, BW / W_BW, SW / W_WFD_Shell, EnvAct_IMP1 / W_HR_P_IMP, W_HR_P_NDIMP, WFDGW_ND / W_WFDGW_NDIMP, WFDGW_IMP / W_WFDGW_IMP1_ etc). Line 66 equals the sum of lines 64 and 65. This is a subset of RAG4.11 lines 4M.35-37	4M.35-4M.37
CWW3.67-CWW3.69	Treatment for phosphorus removal (biological)	Expenditure on schemes listed in the WINEP/NEP to deliver solutions to meet new or tightened permit conditions for phosphorus using biological treatment (under driver codes including U_IMP1 to 3 / W_U_IMP1 to 3, WFD_IMP / W_HR_IMP, WFD_ND / W_HR_NDIMP, HD_IMP_NN, BW / W_BW, SW / W_WFD_Shell, EnvAct_IMP1 / W_HR_P_IMP, W_HR_P_NDIMP, WFDGW_ND / W_WFDGW_NDIMP, WFDGW_IMP / W_WFDGW_IMP1_ etc). Line 69 equals the sum of lines 67 and 68. This is a subset of RAG4.11 lines 4M.35-37	4M.35-4M.37
CWW3.70-CWW3.72	Treatment for nutrients (N or P) and / or sanitary determinands, - nature-based solution	Expenditure on green solutions (e.g. non-conventional or nature-based schemes including wetlands, reactive media, algae treatment, catchment nutrient balancing, etc) listed in the WINEP/NEP to meet new or tightened permit conditions for phosphorus, nitrogen or sanitary determinands (under driver codes including U_IMP1 to 3 / W_U_IMP1 to 3, WFD_IMP / W_HR_IMP, WFD_ND / W_HR_NDIMP, HD_IMP_NN, BW / W_BW, SW / W_WFD_Shell, EnvAct_IMP1 / W_HR_P_IMP, W_HR_P_NDIMP, WFDGW_ND / W_WFDGW_NDIMP, WFDGW_IMP / W_WFDGW_IMP1_ etc).Line 72 equals the sum of lines 70 and 71. This is a subset of RAG4.11 lines 4M.32 -40	4M.32-4M.34 4M.35-4M.37 4M.38-4M.40

Line	Title	Definition	RAG 4.11 line reference
CWW3.73-CWW3.75	Treatment for tightening of sanitary parameters	Expenditure on grey (conventional) solutions listed in the WINEP/NEP to meet tightened permit conditions for one or more of the sanitary parameters (under driver codes including WFD_IMP, WFD_ND, WFD_IMP_MOD, W_WFD_AMM/BOD/PG/Minor, W_HR_AMM/BOD/SS, BW / W_BW, SW / W_WFD_Shell etc), unless the objective is associated with a specific cost driver code for which there is a dedicated line elsewhere in this table. In such cases costs should be excluded from this line and entered in the line for the relevant cost driver code. Line 75 equals the sum of lines 73 and 74.	4M.38-4M.40
CWW3.76-CWW3.78	Catchment management - chemicals source control	Expenditure on schemes listed in the WINEP/NEP for the source control of chemicals in catchments (under driver codes including WFD_IMP_CHEM, WFD_NDLS_CHEM1 to 2, WFD_ND_CHEM3 to 4, W_WFD_CHEM_ND2, DrWPA / W_DrWPA, BW / W_BW, SW / W_WFD_Shell etc). Line 78 equals the sum of lines 76 and 77.	
CWW3.79-CWW3.81	Catchment management - nutrient balancing	Expenditure on schemes listed in the WINEP/NEP for nutrient balancing in catchments (under driver codes including WFD_IMP / W_HR_IMP, WFD_ND / W_HR_NDIMP, DrWPA / W_DrWPA, BW / W_BW, SW / W_WFD_Shell, WFDGW /W_WFD_GW etc). Line 81 equals the sum of lines 79 and 80.	
CWW3.82-CWW3.84	Catchment management – catchment permitting	Expenditure on schemes listed in the WINEP/NEP to provide catchment-scale permitting (under driver codes including NERC_IMP and W_BIOD_IMP1 etc). Line 84 equals the sum of lines 82 and 83.	
CWW3.85-CWW3.87	Catchment management – habitat restoration	Expenditure on schemes listed in the WINEP/NEP for the restoration of habitats in catchments (under driver codes including HD / W_HR, SSSI / W_SSSI, NERC / W_BIOD, INNS / W_INNS, MCZ / W_HR_MWQ, WFDGW /W_WFD_GW etc). Line 87 equals the sum of lines 85 and 86. This is a subset of RAG4.11 lines 1-3	4M.1-4M.3
CWW3.88-CWW3.90	Microbiological treatment – bathing waters, coastal and inland	Expenditure for coastal or inland bathing water schemes listed in the WINEP/NEP to meet new or tightened permit conditions for microbiological parameters (under driver codes BW / W_BW or SW / W_WFD_SHELL). Solutions may include UV, nano filtration, ozonation and other chemical treatments. Please provide explanation in your commentary on the type of treatment. Line 90 equals the sum of lines 88 and 89.	4M.41-4M.43
CWW3.91-CWW3.93	Septic tank replacements – treatment solution	Expenditure under WINEP/NEP to replace septic tanks with a treatment solution or drainage field (under driver code U_IMP7 / W_U_IMP7). Line 93 equals the sum of lines 91 and 92.	

Line	Title	Definition	RAG 4.11 line reference
CWW3.94-CWW3.96	Septic tank replacements – flow diversion	Expenditure under WINEP/NEP to divert flows from a septic tank site to another sewage treatment works and for any additional storm treatment (under driver code U_IMP7 / W_U_IMP7). Line 96 equals the sum of lines 94 and 95.	
CWW3.97-CWW3.99	Fish outfall screens	Expenditure under WINEP/NEP to install outfall screens at sewage treatment works to prevent fish entrainment (under driver codes SAFFA_IMP / W_FISH_IMP1, W_FISH_MON1, and WFD_IMP_PHYS HAB). Line 99 equals the sum of lines 97 and 98.	
CWW3.100-CWW3.102	25 Year Environment Plan	Expenditure under WINEP/NEP on locally significant environmental measures (driver code 25YEP_IMP) not eligible under any other driver, and with clear evidence of customer support. Line 102 equals the sum of lines 100 and 101.	
CWW3.103-CWW3.105	Investigations, other – desk based studies only	Expenditure under WINEP/NEP on investigations requiring desk-based studies only to confirm / identify actions / determine impacts or the costs and technical feasibility of meeting required targets (under driver codes containing _INV and _NDINV). Costs should be included for all WINEP/NEP wastewater-related investigations, except for chemicals and emerging contaminants and nitrogen technically achievable limits which are listed elsewhere in the table. For Wales only, bioresources / sludge investigations costs under NEP are also to be reported separately in the bioresources block and not included in these lines. Investigations have been separated out to capture those that are desk-based, those that require a survey, some monitoring or simple modelling, or those requiring multiple surveys and/or monitoring, and/or complex modelling. Line 105 equals the sum of lines 103 and 104. This is a subset of RAG4.11 lines 4M.44-46	4M.44-4M.46

Line	Title	Definition	RAG 4.11 line reference
CWW3.106-CWW3.108	Investigations, other – survey, monitoring or simple modelling	Expenditure under WINEP/NEP on investigations requiring a survey, monitoring or simple modelling to confirm / identify actions / determine impacts or the costs and technical feasibility of meeting required targets (under driver codes _INV and _NDINV). Costs should be included for all WINEP/NEP wastewater-related investigations, except for chemicals and emerging contaminants and nitrogen technically achievable limits which are listed elsewhere in the table. For Wales only, bioresources / sludge investigations costs under NEP are also to be reported separately in the bioresources block and not included in these lines. Investigations have been separated out to capture those that are desk-based, those that require a survey, some monitoring or simple modelling, or those requiring multiple surveys and/or monitoring, and/or complex modelling. Line 108 equals the sum of lines 106 and 107. This is a subset of RAG4.11 lines 4M.44-46	4M.44-4M.46
CWW3.109-CWW3.111	Investigations, other – multiple surveys, and/or monitoring locations, and/or complex modelling	Expenditure under WINEP/NEP on investigations requiring multiple surveys and/or monitoring locations, and/or complex modelling to confirm / identify actions / determine impacts or the costs and technical feasibility of meeting required targets (under driver codes _INV and _NDINV). Costs should be included for all WINEP/NEP wastewater-related investigations, except for chemicals and emerging contaminants and nitrogen technically achievable limits which are listed elsewhere in the table. For Wales only, bioresources / sludge investigations costs under NEP are also to be reported separately in the bioresources block and not included in these lines. Investigations have been separated out to capture those that are desk-based, those that require a survey, some monitoring or simple modelling, or those requiring multiple surveys and/or monitoring, and/or complex modelling. Line 111 equals the sum of lines 109 and 110. This is a subset of RAG4.11 lines 4M.44-46	4M.44-4M.46

Line	Title	Definition	RAG 4.11 line reference
CWW3.112-CWW3.114	Investigations, total	Calculated totals for capex, opex and totex for all investigations, other (CWW3.103 to CWW3.111) Line 112 equals the sum of lines 103, 106 and 109. Line 113 equals the sum of lines 104, 107 and 110. Line 114 equals the sum of lines 112 and 113. This is the equivalent of the total for 4M.44-4M.66 in RAG4.11	4M.44-4M.46
CWW3.115-CWW3.117	Contribution to third party schemes under WINEP/NEP only	Expenditure under WINEP/NEP only for water company contribution(s) to third party schemes. Line 117 equals the sum of lines 115 and 116.	
CWW3.118-CWW3.120	River connectivity (eg for fish passage)	Expenditure under WINEP/NEP for river connectivity schemes such as fish passages (under driver codes SAFFA_IMP / W_FISH_IMP and WFD_IMP_PHYS HAB). Line 120 equals the sum of lines 118 and 119. This is a subset of RAG4.11 lines 1-3	4M.1-4M.3
CWW3.121-CWW3.123	Restoration management (marine conservation zones etc)	Expenditure under WINEP/NEP for restoration management schemes such as marine conservation zones etc (under driver codes including MCZ / W_MWQ, HD / W_HR, SSSI / W_SSSI, NERC / W_BIOD, and INNS / W_INNS etc, WFDGW /W_WFD_GW). Line 123 equals the sum of lines 121 and 122. This is a subset of RAG4.11 lines 1-3	4M.1-4M.3
CWW3.124-CWW3.126	Access and amenity for WINEP/NEP only (not covered elsewhere)	Expenditure for access and amenity schemes for WINEP/NEP only that is not covered by any other enhancement line. Line 126 equals the sum of lines 124 and 125.	
CWW3.127-CWW3.129	Advanced WINEP (not covered elsewhere)	Expenditure for advanced WINEP schemes that is not covered by any other enhancement line. Line 129 equals the sum of lines 127 and 128. Please add further detail of any Advanced WINEP schemes in your commentary.	
CWW3.130	Total environmental programme expenditure WINEP/NEP – wastewater totex	The sum of each category's totex lines between CWW3.1 and CWW3.132. The sum of lines 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 54, 57, 60, 63, 66, 69, 72, 75, 78, 81, 84, 87, 90, 93, 96, 99, 102, 114, 120, 123, 126 and 129.	
CWW3.131-CWW3.133	Sludge storage – Tanks (pre-thickening, pre-dewatering or untreated)	Expenditure for new / additional storage tanks to accommodate pre-thickened, pre-dewatered or untreated sludge (under driver codes SUiAR_IMP / W_SUiAR_IMP1 and SUiAR_ND / W_SUiAR_NDIMP1). Line 133 equals the sum of lines 131 and 132.	

Line	Title	Definition	RAG 4.11 line reference
CWW3.134–CWW3.136	Sludge storage – Tanks (thickened / dewatered or treated)	Expenditure under WINEP/NEP for storage tanks for thickened, dewatered or treated sludge (under driver codes SUiAR_IMP / W_SUiAR_IMP1 and SUiAR_ND / W_SUiAR_NDIMP1). Line 136 equals the sum of lines 134 and 135.	
CWW3.137–CWW3.139	Sludge storage – Cake pads / bays / other	Expenditure under WINEP/NEP for storage of sludge in cake pads, bays or other storage facilities (under driver codes SUiAR_IMP / W_SUiAR_IMP1 and SUiAR_ND / W_SUiAR_NDIMP1). Line 139 equals the sum of lines 137 and 138.	
CWW3.140–CWW3.142	Sludge treatment – Anaerobic digestion and/or advanced anaerobic digestion	Expenditure under WINEP/NEP for the treatment of sludge using anaerobic digestion and/or advanced anaerobic digestion (under driver codes SUiAR_IMP / W_SUiAR_IMP1 and SUiAR_ND / W_SUiAR_NDIMP1). Line 142 equals the sum of lines 140 and 141.	
CWW3.143–CWW3.145	Sludge treatment – Thickening and/or dewatering	Expenditure under WINEP/NEP for treatment processes to thicken and/or dewater sludge (under driver codes SUiAR_IMP / W_SUiAR_IMP1 and SUiAR_ND / W_SUiAR_NDIMP1). Line 145 equals the sum of lines 143 and 144.	
CWW3.146–CWW3.148	Sludge treatment – other	Expenditure under WINEP/NEP for other sludge treatment processes not covered by other lines in the table (under driver codes SUiAR_IMP / W_SUiAR_IMP1 and SUiAR_ND / W_SUiAR_NDIMP1). Line 148 equals the sum of lines 146 and 147.	
CWW3.149–CWW3.151	Sludge investigations and monitoring	Expenditure for Wales under NEP only for sludge investigations or monitoring (related to driver code W_SUiAR_INV1). Line 151 equals the sum of lines 148 and 149.	
CWW3.152	Total environmental programme expenditure WINEP/NEP – bioresources totex	Sum of each category's totex lines between CWW3.131 and CWW3.151 The sum of lines 133, 136, 139, 142, 145, 148 and 151.	
CWW3.153–CWW3.155	Growth at sewage treatment works (excluding sludge treatment)	Expenditure associated with meeting or offsetting changes in demand from new and existing customers at sewage treatment works but excluding sludge treatment centres. Expenditure associated with meeting or offsetting changes in demand from new and existing customers at sludge treatment centres should be reported in CWW3.162 to CWW3.164. Line 155 equals the sum of lines 153 and 154.	4M.48– 4M.50

Line	Title	Definition	RAG 4.11 line reference
CWW3.156- CWW3.158	Reducing flooding risk for properties	Expenditure for the purpose of enhancing the public sewerage system to reduce the risk to properties and external areas of flooding from sewers. Exclude expenditure on enhancement activities already covered by other enhancement lines that reduce sewer flooding risk as a secondary benefit (eg surface water separation). Exclude base costs for maintaining the long-term capability of the assets and expenditure to maintain base levels of service included in CWW2. Exclude expenditure associated with the provision of new sewers for new development and such other on-site expenditure required in consequence of the new development that should be reported in CWW1.3 and CWW1.10. Line 158 equals the sum of lines 157 and 156.	4M.51- 4M.53
CWW3.159- CWW3.161	First time sewerage	Expenditure for new and additional sewage treatment and sewerage assets for first time sewerage schemes to meet the duty under s101A of the Water Industry Act 1991. Line 159 equals the sum of lines 160 and 161.	4M.54- 4M.56
CWW3.162- CWW3.164	Sludge enhancement (growth)	Expenditure on sludge treatment and disposal assets and associated biogas treatment for providing new capacity for growth. This is for both infrastructure and non- infrastructure assets. Line 164 equals the sum of lines 162 and 163.	4M.60- 4M.62
CWW3.165 – CWW3.167	Odour and other nuisance	Expenditure on schemes where the primary objective is to deliver a step-change improvement above base standards. This could include odour, noise, flies and other nuisance expenditure. Line 167 equals the sum of lines 165 and 166.	4M.63- 4M.65
CWW3.168- CWW3.170	Resilience	Expenditure to enhance resilience. This relates to expenditure to manage increasing risks of failing to give consumers an appropriate level of service and protection from events caused by hazards that are beyond their control, excluding those covered by other areas of enhancement and base expenditure (CWW2). Line 170 equals the sum of lines 168 and 169.	4M66- 4M.68
CWW3.171- CWW3.173	Security – SEMD (wastewater)	Expenditure to comply with the requirements of Security and Emergency Measures Direction (SEMD) 2022. To include schemes to protect CNI and NI assets and assessments of further improvements to comply with industry protective security and emergency planning guidance documents. Line 173 equals the sum of lines 171 and 172.	
CWW3.174- CWW3.176	Security - cyber (wastewater)	Expenditure on schemes to enhance the security of network and information systems to comply with NIS Regulation 2018. Line 176 equals the sum of lines 174 and 175.	

Line	Title	Definition	RAG 4.11 line reference
CWW3.177-CWW3.179	Greenhouse gas reduction (net zero)	Expenditure on schemes where the primary driver is to reduce greenhouse gas emissions. Line 179 equals the sum of lines 177 and 178.	
CWW3.180	Total other enhancement wastewater/bioresources expenditure	The sum of lines 155, 158, 161, 164, 167, 170, 173, 176 and 179.	
CWW3.181-CWW3.191	Additional lines 1-5	Other expenditure by purpose for wastewater and/or bioresources. Where possible companies should maintain consistency with corresponding lines in previous data submissions when using these lines.	
CWW3.192	Total other enhancement expenditure – wastewater totex	The sum of each category's totex lines between CWW3.153 and CWW3.191 The sum of lines 155, 158, 161, 164, 167, 170, 173, 176, 179 and 191.	
CWW3.193	Total enhancement expenditure - capex	The sum of each category's capex lines. The sum of lines 153, 156, 159, 162, 165, 168, 171, 174, 177, 181, 183, 185, 187 and 189.	
CWW3.194	Total enhancement expenditure - opex	The sum of each category's opex lines. The sum of lines 154, 157, 160, 163, 166, 169, 172, 175, 178, 182, 184, 186, 188 and 190.	
CWW3.195	Total enhancement expenditure	The sum of lines CWW3.193 and CWW3.194	4M.88

CWW3 Additional guidance

5.1 This table has been updated since PR19 in accordance with the PR24 WINEP/NEP driver guidance. It includes new lines for some of the new driver codes. The titles for some lines have been amended to align with PR24 driver titles.

5.2 Expenditure included within third party services in table CWW1 should not be included in this table.

5.3 New lines have been added to specify costs separately for several drivers where green solutions are proposed. These solutions could include wetlands, reactive media, SUDS, algal treatment, catchment nutrient balancing and other non-conventional, nature-based type solutions.

5.4 Any expenditure should only be included in one line in CWW3.

Resilience enhancement

5.5 We have refined the resilience enhancement line definition for PR24 to mitigate some of the issues faced at PR19. For example, the PR19 resilience definition overlapped with other enhancement areas and was not explicit on what hazards this covers.

5.6 Companies can request investment under the resilience enhancement line to manage increasing risks from hazards that are beyond their control and not covered by other enhancement areas.

5.7 Examples of hazards include source water pollution, fluvial flooding of company assets and mitigating failures of other infrastructure systems such as power networks. It is essential that the company fully sets out the hazard the investment is addressing.

5.8 This investment category does not cover the failure of assets that are managed through maintenance. These are funded through base costs and are not within scope.

5.9 We provide additional guidance below for companies to follow when developing their PR24 business plans:

(1) The two specific categories of hazards we are open to consider funding in this area are **natural hazards** (eg fluvial flooding) and **cascading failures of supporting systems** (eg power, source water pollution, or third party impacts).

- Therefore, asset failures, that are managed through maintenance, are funded through base (capital maintenance) expenditure and are not within scope.

- Adaptions for climate change are included, where relevant to the specified hazards. However, this is not a 'catch-all' for climate change expenditure. Funding to address the impact of climate change for other hazards should be factored into the relevant investment area and associated enhancement line.

(2) **Proportionally allocating cost for investments that mitigate multiple risks** both within and beyond company control.

- Solutions such as removing single points of failure can **mitigate multiple hazards**. These will include hazards relevant to this line, such as those arising from climate change, and inappropriate ones such as inadequate maintenance or delivering performance commitment improvements. These can be expected to directly impact common performance commitments and thus a proportion should be considered as **implicit within base costs.**

Growth at STWs

5.10 Companies should provide detailed commentary to support forecasts of Growth at sewage treatment works (excluding sludge treatment) enhancement expenditure (lines CWW3.153- CWW3.155). That should include a comparison of forecast growth to historical growth rates. In addition, companies should explain how forecast population growth across their areas and other factors impact expected PR24 growth at STWs expenditure.

CWW3 Commentary requirement

5.11 Companies should include the following commentary to this table:

- An explanation of whether any costs have been proportionally allocated between expenditure categories in tables CW3 and CWW3 or between enhancement and base expenditure. Companies should include details of how much has been subject to proportional allocation and which cost drivers they have used.
- An explanation for any lines that have not been completed, for example for Welsh companies where there is not a NEP-equivalent driver to the WINEP for English companies.
- An explanation of the reasons for using the additional lines.
- If total operating and capital expenditure does not agree to table CWW1 companies should provide a reconciliation so that the difference is explained.
- Clear descriptions of where further commentary, related business cases or evidence for costs in this table are included elsewhere in the business plan.
- Additional explanation or detail where it is requested in the definitions for the lines detailed above.

6. CWW4 – Wastewater network+ - Functional expenditure

Table CWW4 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW4.1	Direct costs of STWs in size band 1	Sum of direct costs of STWs in band 1. See additional guidance below for STW banding	7A.1
CWW4.2	Direct costs of STWs in size band 2	Sum of direct costs of STWs in band 2. See additional guidance below for STW banding	7A.2
CWW4.3	Direct costs of STWs in size band 3	Sum of direct costs of STWs in band 3. See additional guidance below for STW banding	7A.3
CWW4.4	Direct costs of STWs in size band 4	Sum of direct costs of STWs in band 4. See additional guidance below for STW banding	7A.4
CWW4.5	Direct costs of STWs in size band 5	Sum of direct costs of STWs in band 5. See additional guidance below for STW banding	7A.5
CWW4.6	General & support costs of STWs in size bands 1 to 5	The sum of general and support expenditure for all STWs in bands 1 to 5 (see additional guidance). Where possible, such expenditure should be attributed on a causal basis; otherwise it should be apportioned in proportion to direct costs.	7A.6
CWW4.7	Functional expenditure of STWs in size bands 1 to 5 (excluding 3rd party services)	Functional expenditure of STWs in size bands 1 to 5 (excluding 3rd party services). Calculated as the sum of CWW4.1 to CWW4.6 inclusive.	7A.7
CWW4.8	Service charges for STWs in size band 6	Sum of service charges (EA / NRW and the Canal & River Trust) for the STWs in band 6.	7A.8
CWW4.9	Estimated terminal pumping costs size band 6 works	The sum of estimated costs of terminal pumping stations pumping to STWs in band 6 included in the direct costs.	7A.9
CWW4.10	Other direct costs of STWs in size band 6	Direct costs of STWs in band 6 which are not included in lines CWW4.8 and CWW4.9 above.	7A.10
CWW4.11	Direct costs of STWs in size band 6	Total direct costs of STWs in band 6. Calculated as the sum of CWW4.8 to CWW4.10 inclusive.	7A.11
CWW4.12	General & support costs of STWs in size band 6	Sum of general and support expenditure for all STWs in band 6. Where possible, such expenditure should be attributed on a causal basis; otherwise it should be apportioned in proportion to direct costs.	7A.12
CWW4.13	Functional expenditure of STWs in size band 6 (excluding 3rd party services)	Functional expenditure of STWs in size band 6 (excluding 3rd party services). Calculated as the sum of CWW4.11 and CWW4.12.	7A.13
CWW4.14	Total operating functional expenditure (excluding 3rd party services)	Total operating functional expenditure (excluding 3rd party services). Calculated as the sum of CWW4.7 and CWW4.13.	7A.14

CWW4 Additional guidance

Functional expenditure

6.1 Functional expenditure is defined as operating expenditure excluding both third party costs and Local authority and cumulo rates. Functional expenditure should be reported net of the principal use recharges between the price control units so that the costs at a price control level can be properly recorded.

6.2 Companies should prepare functional expenditure taking into account the guidance on improving cost allocation between the sewage treatment and bioresources units in relation to sludge liquors[10], energy generation[11] and overheads[12].

6.3 Companies should ensure that the aggregated expenditure lines for band 6 STWs (lines CWW4.8 – CWW4.13) reconcile to the summation of expenditure lines in table CWW5 (lines CWW5.11 – CWW5.16) that capture functional expenditure at STWs level for band 6 STWs.

Treatment works size

6.4 For the purpose of these tables, sewage treatment works (STW) size is defined by the load received by the works, expressed as mass (ie kilograms of BOD_5 per day). In calculating the size of a works, companies should assume that resident connected population contribute 60g BOD_5/head/day and add the trade effluent load (total COD) using a conversion factor of COD:BOD of 2:1.

6.5 No allowance should be made for non-resident population when classifying the size band of a works.

6.6 Companies must include non-resident population when reporting loads and costs.

6.7 Under this classification scheme, large works are defined as those with an average daily loading >1,500kg BOD_5/day, and small works are those with an average loading <=1,500kg BOD_5/day.

Small works	BOD_5 measure	Population equivalent
Size band 1	<= 15kg BOD_5/day	0 - 250
Size band 2	>15 but <= 30kg BOD_5/day	250 - 500

[10] Reporting-of-sludge-liquor-treatment-costs-final-decisions.pdf (ofwat.gov.uk)
[11] Bioresources_Cost_Allocation_Energy_Generation_Odour_Control_Final_Decision.pdf (ofwat.gov.uk)
[12] RAG-2.09---Guideline-for-classification-of-costs-across-the-price-controls.pdf (ofwat.gov.uk)

Size band 3	>30 but <= 120kg BOD_5/day	500 – 2,000
Size band 4	>120 but <= 600kg BOD_5/day	2,000 –10,000
Size band 5	>600 but <= 1,500kg BOD_5/day	10,000 – 25,000

Large works	**BOD_5 measure**	**Population equivalent**
Size band 6	> 1,500kg BOD_5/day	>25,000

CW4 Commentary requirement

6.8 Companies should include the following commentary to this table:

- An explanation of any large year-on-year variations.

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

Table CWW5 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW5.1	Works name	Name of sewage treatment works	7B.1
CWW5.2	Classification of treatment works	Classification of treatment works P = Primary treatment; SAS = Secondary Activated Sludge; SB = Secondary Biological Fixed Film; TA1 = Tertiary A1; TA2 = Tertiary A2; TB1 = Tertiary B1; TB2 = Tertiary B2 Where a works' load is split into two treatment streams, the works should be reported in this line as the higher of the two proportions. For example, a works with a split of 60% Secondary Activated Sludge and 40% Secondary Biological Fixed Film should be classed as Secondary Activated Sludge (SAS) in this line. (Further information on classification of treatment works can be found under RAG4 table 7D).	7B.2
CWW5.3	Population equivalent of total load received	The average equivalent population of the total load received by the treatment works during the report year. Total load will be comprised of both resident and non- resident population loads.	7B.3
CWW5.4	Suspended solids consent	The value of the effluent consent standard (95%ile) with respect to suspended solids. This figure must be as determined by the Environment Agency / Natural Resources Wales and not a company's own assessment of the consent standard.	7B.4
CWW5.5	BOD_5 consent	The value of the effluent consent standard (95%ile) with respect to BOD_5. This figure must be as determined by the Environment Agency / Natural Resources Wales and not a company's own assessment of the consent standard.	7B.5
CWW5.6	Ammonia consent	The value of the effluent consent standard (95%ile) with respect to ammonia, if applicable at the works in question. This figure must be as determined by the Environment Agency / Natural Resources Wales and not a company's own assessment of the consent standard.	7B.6
CWW5.7	Phosphorus consent	The value of the effluent consent standard with respect to phosphorus (annual mean), if applicable at the works in question. This figure must be as determined by the Environment Agency / Natural Resources Wales and not a company's own assessment of the consent standard.	7B.7
CWW5.8	UV consent	The value of the consent process standard with respect to intensity of UV irradiation, if applicable at the works in question. This figure must be as determined by the Environment Agency / Natural Resources Wales and not a company's own assessment of the consent standard.	7B.8

Line	Title	Definition	RAG 4.11 line reference
CWW5.9	Load received by STW	The average daily organic load (in kgBOD5) received by the treatment works during the report year. Calculated on the basis of a contribution of 60g BOD5 per head of equivalent population per day. Calculated values should agree with those reported in 7D.6.	7B.9
CWW5.10	Flow passed to Full Treatment	The average daily flow (in m^3/d) passed to full treatment at the treatment works during the report year.	7B.10
CWW5.11	Service charges	The total service charges (Environment Agency / Natural Resources Wales and the Canal & River Trust for the STW.	7B.11
CWW5.12	Estimated terminal pumping expenditure	The estimated direct cost of terminal pumping stations pumping to the STW.	7B.12
CWW5.13	Other direct expenditure	Direct expenditure at the STW (the costs directly attributable to each works) excluding service charges and terminal pumping costs. Where the works also undertakes sludge treatment, the costs associated with sludge treatment should be excluded.	7B.13
CWW5.14	Total direct expenditure	Sum of lines CWW5.11 to CWW5.13.	7B.14
CWW5.15	General and support expenditure	The general and support expenditure allocated to each sewage treatment works. Where possible, such expenditure should be allocated on a causal basis; otherwise, it should be apportioned in line with direct costs.	7B.15
CWW5.16	Functional expenditure	The sum of direct expenditure and general and support expenditure. Sum of lines CWW5.14 and CWW5.15.	7B.16
CWW5.17	Population equivalent of total load received (resident population and trade effluent)	The average equivalent population of the total load received by the treatment works during the report year. Total load should be comprised of resident population load and trade effluent (ie excluding non-resident population load).	

CWW5 Additional guidance

7.1 This table relates to Network+ costs only at the treatment works. This means that any costs relating to sludge (also known as the Bioresources price control unit) should be excluded.

7.2 Also note that treatment of tankered waste is a non-appointed activity and so should not be taken into account when completing lines CWW5.3, CWW5.9 and CWW5.17.

7.3 RAG2 sets out how costs should be divided across that price control units. In this table, general and support costs may, where they cannot be directly attributed, require allocation so that the network+ element can be identified.

7.4 Companies should follow the guidance in RAG2 to source appropriate cost drivers for allocation.

7.5 The table should be provided for every year 2022-30 to enable the calculation of the disaggregated economies of scale measures for cost assessment purposes. Sewage treatment works names should be consistent with the Large STWs dataset.[13] Companies that would like to change any names should provide a mapping of the names in the Large STWs dataset to the CWW5 submission to enable matching of the works.

7.6 Companies should ensure that the forecasts in the table are consistent with the most up to date PR24 WINEP/NEP programme in relation to the permits that are captured in the table, including suspended solids, BOD, ammonia, phosphorus and UV. That applies both in relation to the level of the permit and the date at which changes to permits come into effect.

Functional expenditure

7.7 Functional expenditure is defined as operating expenditure excluding both third party costs and Local authority and cumulo rates. Functional expenditure should be reported net of the principal use recharges between the price control units so that the costs at a price control level can be properly recorded.

7.8 Companies should prepare this table taking into account the guidance on improving cost allocation between the sewage treatment and bioresources units in relation to sludge liquors[14], energy generation[15] and overheads[16].

CWW5 Commentary requirement

7.9 Companies should include the following commentary to this table:

- An explanation of any material year-on-year variations including the reasons for adding and/or dropping any large sewage treatment works from the table.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.

[13] Please use the most recent version of the Large STWs dataset available at the following webpage - PR24 - Cost assessment datasets - Ofwat
[14] Reporting-of-sludge-liquor-treatment-costs-final-decisions.pdf (ofwat.gov.uk)
[15] Bioresources_Cost_Allocation_Energy_Generation_Odour_Control_Final_Decision.pdf (ofwat.gov.uk)
[16] RAG-2.09---Guideline-for-classification-of-costs-across-the-price-controls.pdf (ofwat.gov.uk)

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

Table CWW6 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW6.1	Connectable properties served by s101A schemes completed in the report year	The number of connectable properties (either identified as "polluting" or "likely to pollute") associated with s101A schemes completed in the report year and for which the capital costs are reported in CWW3.104.	7C.1
CWW6.2	Number of s101A schemes delivered in the report year	The number of s101A schemes completed in the report year and for which the capital costs are reported in CWW3.104.	7C.2
CWW6.3	Total pumping station capacity	Total installed pumping capacity of all in-line pumping stations (including standby pumps). Include foul, combined, stormwater and terminal pumping stations and surface water pumping stations that drain directly to receiving waters (rivers etc). Include vacuum pumping stations. Exclude capacity of pumps delivering flows to or from off-line storm tanks, FLIPS devices, sludge pumping stations and inter-stage pumping within a sewage treatment works or sludge treatment centre. Report capacity of all installed pumps (irrespective of the number that may be working at any one time.)	7C.3
CWW6.4	Number of network pumping stations	Number of in-line pumping stations on sewerage network (including vacuum systems) on 31 March of the reporting year including surface water pumping stations that drain directly to receiving waters (rivers etc) and all terminal pumping stations. Pumping stations transferred into the incumbent's ownership by 31 March of the reporting year as a result of schemes made by the Secretary of State / Welsh Ministers under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 should be included. Pumping stations delivering flows to or from off-line storm tanks, FLIPS devices, sludge pumping stations and inter-stage pumping within sewage treatment works should all be excluded.	7C.4
CWW6.5	Total number of sewer blockages	Total number of sewer blockages on the current network (ie. the sewerage network including private sewers and lateral drains transferred as a result of schemes made by the Secretary of State / Welsh Ministers under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011.	7C.5

Line	Title	Definition	RAG 4.11 line reference
CWW6.6	Total number of gravity sewer collapses	Total number of gravity sewer collapses on the current network (ie. the sewerage network including private sewers and lateral drains transferred as a result of schemes made by the Secretary of State / Welsh Ministers under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011.) The count should be consistent with the measure definition in https://www.ofwat.gov.uk/wp-content/uploads/2018/03/20190327-7.-Sewer-collapses-final-reporting-guidance.pdf (but not normalised by sewer length and excluding rising main bursts).	7C.6
CWW6.7	Total number of sewer rising main bursts	Total number of rising mains bursts on the current network (ie. the sewerage network including private sewers and lateral drains transferred as a result of schemes made by the Secretary of State / Welsh Ministers under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011.) The count should be consistent with the measure definition in https://www.ofwat.gov.uk/wp-content/uploads/2018/03/20190327-7.-Sewer-collapses-final-reporting-guidance.pdf (but not normalised by sewer length and excluding gravity sewer collapses).	7C.7
CWW6.8	Number of combined sewer overflows	The total number of combined sewer overflows - a storm overflow (with no significant settlement) on a gravity sewer, a pumping station or STW inlet.	7C.8
CWW6.9	Number of emergency overflows	The total number of emergency overflows at sewage pumping stations - an emergency overflow does not normally operate in storm conditions but is designed to operate in the event of asset failure i.e., electrical power failure, mechanical breakdown, rising main failure or blockage downstream. Must not be included if already counted as a CSO in CWW6.8 (some overflows are permitted to operate as both an EO and a CSO) i.e. no overflows should be double counted. All emergency overflows at pumping stations should be included irrespective of whether they are located on the network or at a sewage treatment works.	7C.9
CWW6.10	Number of settled storm overflows	The total number of storm tank overflows - a storm overflow with significant settlement at a STW.	7C.10
CWW6.11	Sewer age profile (constructed post 2001)	Total length of sewer (including rising mains) laid or structurally refurbished post 2001. Reported length should include both legacy assets and formerly private sewers and lateral drains transferred into the company's ownership on (or in the case of rising mains, from) 1 October 2011.	7C.11
CWW6.12	Volume of trade effluent	Total volumes of trade effluent receiving treatment at sewage treatment works.	7C.12
CWW6.13	Volume of wastewater receiving treatment at sewage treatment works	Calculated as the flow receiving treatment at sewage treatment works reported to the EA in the annual OMA report plus an estimate for the additional flow for all remaining works (typically those with a population equivalent of less than 250). This will include domestic foul flows, trade effluent, surface and highway drainage and infiltration.	7C.13
CWW6.14	Length of gravity sewers rehabilitated	Total length of sewer renovated or replaced in the report year. The length reported is the actual length physically renovated or replaced rather than the distance between the manholes either side of the section of pipe in question.	7C.14

Line	Title	Definition	RAG 4.11 line reference
CWW6.15	Length of rising mains replaced or structurally refurbished	Total length of sewer rising mains replaced or structurally refurbished in the report year. The length reported is the actual length physically replaced or structurally refurbished rather than the distance between the manholes either side of the section of pipe in question. The term 'structurally refurbished' is intended to capture any pipeline rehabilitation technique which results in an improvement in the structural integrity of the pipe such that its expected service life has been materially extended.	7C.15
CWW6.16	Length of foul (only) public sewers	Length of gravity foul (only) public sewers on 31 March of report year excluding formerly private sewers transferred into the company's ownership on 1 October 2011.	7C.16
CWW6.17	Length of surface water (only) public sewers	Length of gravity surface water (only) public sewers on 31 March of report year excluding formerly private sewers transferred into the company's ownership on 1 October 2011.	7C.17
CWW6.18	Length of combined public sewers	Length of gravity combined public sewers on 31 March of report year excluding formerly private sewers transferred into the company's ownership on 1 October 2011.	7C.18
CWW6.19	Length of rising mains	Length of rising mains on 31 March of report year excluding formerly private sewers transferred into the company's ownership from 1 October 2011.	7C.19
CWW6.20	Length of other wastewater network pipework	Length of other wastewater network pipework on 31 March of report year excluding formerly private sewers transferred into the company's ownership on 1 October 2011 that are not captured in CWW6.16 to CWW6.19 (e.g. sludge mains, overflow pipes, etc).	7C.20
CWW6.21	Total length of "legacy" public sewers as at 31 March	To be entered as the sum of CWW6.16 to CWW6.20 inclusive.	7C.21
CWW6.22	Length of formerly private sewers and lateral drains (s105A sewers)	Total length of formerly private sewers and lateral drains (s105A sewers) transferred into the company's ownership on (or in the case of rising mains, from) 1 October 2011.	7C.22

CWW6 Commentary requirement

8.1 Companies should include the following commentary to this table:

- An explanation of any material year-on-year variations.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.

8.2 Companies should also include more detailed evidence in relation to line items that are used as cost drivers in PR24 cost assessment including:

- Total pumping station capacity (CWW6.3);
- Length of foul (only) public sewers (CWW6.16);
- Length of surface water (only) public sewers (CWW6.17);
- Length of combined public sewers (CWW6.18);
- Length of rising mains (CWW6.19);
- Length of other wastewater network pipework (CWW6.20);
- Total length of "legacy" public sewers as at 31 March (CWW6.21);
- Length of formerly private sewers and lateral drains (s105A sewers) (CWW6.22)

8.3 That should include a comparison of forecasts with historical growth rates. In addition, companies should explain how forecast population growth across their areas impacts expected sewer length growth.

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

Table CWW7a line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW7a.1	Load received by STWs in size band 1	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 1 (<= 15kg BOD_5/day) for each category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.1
CWW7a.2	Load received by STWs in size band 2	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 2 (15 - 30kg BOD_5/day) for each category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.2
CWW7a.3	Load received by STWs in size band 3	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 3 (30 - 120kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.3
CWW7a.4	Load received by STWs in size band 4	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 4 (120 - 600kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.4
CWW7a.5	Load received by STWs in size band 5	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 5 (600 - 1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.5
CWW7a.6	Load received by STWs above size band 5	Average daily pollution loads received (in kg of BOD_5/day) by STWs above size band 5 (>1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads. Reported values should agree with those reported in CWW5.9.	7D.6
CWW7a.7	Total load received	Average daily pollution loads received (in kg of BOD_5/day) by STWs of all sizes. Calculated as sum of CWW7a.1 to CWW7a.6.	7D.7
CWW7a.9	STWs in size band 1	Number of sewage treatment works of size band 1. (See additional guidance)	7D.9
CWW7a.10	STWs in size band 2	Number of sewage treatment works of size band 2. (See additional guidance)	7D.10

Line	Title	Definition	RAG 4.11 line reference
CWW7a.11	STWs in size band 3	Number of sewage treatment works of size band 3. (See additional guidance)	7D.11
CWW7a.12	STWs in size band 4	Number of sewage treatment works of size band 4. (See additional guidance)	7D.12
CWW7a.13	STWs in size band 5	Number of sewage treatment works of size band 5. (See additional guidance)	7D.13
CWW7a.14	STWs above size band 5	Number of sewage treatment works of size band above size band 5. (See additional guidance)	7D.14
CWW7a.15	Total number of works	Total number of sewage treatment works of all sizes. Calculated as sum of CWW7a.9 to CWW7a.14.	7D.15

CWW7a Additional guidance

This table relates to Network+ costs only at the treatment works. This means that any costs relating to sludge (also known as the Bioresources price control unit) should be excluded.

Also note that treatment of tankered waste is a non-appointed activity and so should not be taken into account when completing lines CWW7a.1 to CWW7a.7.

Companies should ensure that the aggregated load and number of STWs values for band 6 STWs (lines CWW7a.6 and CWW7a.14, respectively) reconcile to the loads and number of STWs in table CWW5 (lines CWW5.1 – CWW5.9) which captures load at STWs level for band 6 STWs.

Companies should ensure that the forecasts in the table are consistent with the most up to date PR24 WINEP/NEP programme in relation to the permits that are captured in the table, including BOD, ammonia, phosphorus and UV. That applies both in relation to the level of the permit and the date at which changes to permits come into effect.

a) Primary sewage treatment works

Treatment methods are restricted to primary treatment (screening, comminution, maceration, grit and detritus removal, pre-aeration and grease removal, storm tanks, plus primary sedimentation or air flotation, including where assisted by the addition of chemicals).

b) Secondary activated works

Sewage treatment works providing secondary activated sludge treatment methods whose treatment methods include those for primary works plus works whose treatment

methods include activated sludge (including diffused air aeration, coarse bubble aeration, mechanical aeration, oxygen injection, submerged filters) and other equivalent techniques including deep shaft process, extended aeration (single, double and triple ditches) and biological aerated filters as secondary treatment. This would also include activated sludge process intensification technologies such as integrated fixed-film activated sludge (IFAS), ballasted activated sludge, membrane aerated bioreactors (MABRs). Crude activated sludge processes, with no primary works, should also be included here.

c) Secondary biological works

Sewage treatment works providing secondary biological treatment methods whose treatment methods include those for primary works plus works whose treatment methods include rotating biological contactors and biological filtration (including bacteria beds (mineral and plastic media), submerged aerated filters (mineral and plastic media), high-rate filtration, alternating double filtration and double filtration, root zone treatment (where used as a secondary treatment stage).

d) Tertiary activated works

A1 – Works with a secondary activated sludge process whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), tertiary nitrifying filters, moving bed bioreactors, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage.

A2 – Works with a secondary activated sludge process whose treatment methods also include rapid-gravity sand filters, moving bed filters, pressure filters, cloth filters, disk filters, membrane filtration, drum filters, microstrainers, slow sand filters, ballasted coagulation, nutrient removal control using physico-chemical and biological methods, disinfection, hard COD and colour removal, where used as a tertiary treatment stage.

e) Tertiary biological works

B1 – Works with a secondary stage biological process whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), tertiary nitrifying filters, moving bed bioreactors, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage.

B2 – Works with a secondary biological process whose treatment methods also include rapid-gravity sand filters, moving bed filters, pressure filters, cloth filters, disk filters,

membrane filtration, drum filters, microstrainers, slow sand filters, ballasted coagulation, nutrient removal control using physico-chemical and biological methods, disinfection, hard COD and colour removal, where used as a tertiary treatment stage.

f) Load received by STWs in size band 1

The average daily load received (in kg of BOD_5/day) by STWs of size band 1 (<= 15kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

g) Load received by STWs in size band 2

The average daily load received (in kg of BOD_5/day) by STWs of size band 2 (15 - 30kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

h) Load received by STWs in size band 3

The average daily load received (in kg of BOD_5/day) by STWs of size band 3 (30 - 120kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

i) Load received by STWs in size band 4

The average daily load received (in kg of BOD_5/day) by STWs of size band 4 (120 - 600kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

j) Load received by STWs in size band 5

The average daily load received (in kg of BOD_5/day) by STWs of size band 5 (600 - 1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies

must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

k) Load received by STWs above size band 5

The average daily load received (in kg of BOD_5/day) by STWs above size band 5 (>1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

CWW7a Commentary requirement

9.1 Companies should include the following commentary to this table:

- An explanation of any material year-on-year variations.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.
- A commentary that explains company plans in relation to any planned substantive changes to the number of STWs. That includes significant transfers/diversions of load and any potential planned closure of STWs (eg to deliver WINEP/NEP phosphorus removal schemes).

9.2 For Total load received (CWW7a.7), companies should include a comparison of forecasts with historical growth rates. In addition, companies should explain how forecast population growth across their areas or other factors impact expected total load growth.

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

Table CWW7b line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW7b.1	Weighted average number of days that UV permit applies per year for STWs in size band 1	This is to account for any seasonal application of UV permits. Please use the ratio of load of each STW where a UV permit applies and total load of STWs where a UV permit applies as the weight of each STW. These weights should be multiplied by the number of days the UV permit applies for each relevant STW and summed up to calculate a weighted average.	n/a
CWW7b.2	Weighted average number of days that UV permit applies per year for STWs in size band 2	This is to account for any seasonal application of UV permits. Please use the ratio of load of each STW where a UV permit applies and total load of STWs where a UV permit applies as the weight of each STW. These weights should be multiplied by the number of days the UV permit applies for each relevant STW and summed up to calculate a weighted average.	n/a
CWW7b.3	Weighted average number of days that UV permit applies per year for STWs in size band 3	This is to account for any seasonal application of UV permits. Please use the ratio of load of each STW where a UV permit applies and total load of STWs where a UV permit applies as the weight of each STW. These weights should be multiplied by the number of days the UV permit applies for each relevant STW and summed up to calculate a weighted average.	n/a
CWW7b.4	Weighted average number of days that UV permit applies per year for STWs in size band 4	This is to account for any seasonal application of UV permits. Please use the ratio of load of each STW where a UV permit applies and total load of STWs where a UV permit applies as the weight of each STW. These weights should be multiplied by the number of days the UV permit applies for each relevant STW and summed up to calculate a weighted average.	n/a
CWW7b.5	Weighted average number of days that UV permit applies per year for STWs in size band 5	This is to account for any seasonal application of UV permits. Please use the ratio of load of each STW where a UV permit applies and total load of STWs where a UV permit applies as the weight of each STW. These weights should be multiplied by the number of days the UV permit applies for each relevant STW and summed up to calculate a weighted average.	n/a
CWW7b.6	Weighted average number of days that UV permit applies per year for STWs above size band 5	This is to account for any seasonal application of UV permits. Please use the ratio of load of each STW where a UV permit applies and total load of STWs where a UV permit applies as the weight of each STW. These weights should be multiplied by the number of days the UV permit applies for each relevant STW and summed up to calculate a weighted average.	n/a

CWW7b Additional guidance

10.1 This table relates to Network+ costs only at the treatment works. This means that any costs relating to sludge (also known as the Bioresources price control unit) should be excluded.

10.2 Also note that treatment of tankered waste is a non-appointed activity and so should not be taken into account when completing lines CWW7b.1 to CWW7b.6.

CWW7b Commentary requirement

10.3 Companies should include the following commentary to this table:

- An explanation of any material year-on-year variations.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.

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

Table CWW7c line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW7c.1	Load received by STWs in size band 1	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 1 (<= 15kg BOD_5/day) for each category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.1
CWW7c.2	Load received by STWs in size band 2	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 2 (15 - 30kg BOD_5/day) for each category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.2
CWW7c.3	Load received by STWs in size band 3	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 3 (30 - 120kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.3
CWW7c.4	Load received by STWs in size band 4	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 4 (120 - 600kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.4
CWW7c.5	Load received by STWs in size band 5	Average daily pollution loads received (in kg of BOD_5/day) by STWs of size band 5 (600 - 1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.	7D.5
CWW7c.6	Load received by STWs above size band 5	Average daily pollution loads received (in kg of BOD_5/day) by STWs above size band 5 (>1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads. Reported values should agree with those reported in CWW5.9.	7D.6
CWW7c.7	Total load received	Average daily pollution loads received (in kg of BOD_5/day) by STWs of all sizes. Calculated as sum of CWW7.1 to CWW7.6.	7D.7

Line	Title	Definition	RAG 4.11 line reference
CWW7c.8	Load received from trade effluent customers at treatment works	Average daily pollution load in kg BOD_5 received by sewage treatment works of all sizes from trade effluent customers.	7D.8
CWW7c.9	STWs in size band 1	Number of sewage treatment works of size band 1. (See additional guidance)	7D.9
CWW7c.10	STWs in size band 2	Number of sewage treatment works of size band 2. (See additional guidance)	7D.10
CWW7c.11	STWs in size band 3	Number of sewage treatment works of size band 3. (See additional guidance)	7D.11
CWW7c.12	STWs in size band 4	Number of sewage treatment works of size band 4. (See additional guidance)	7D.12
CWW7c.13	STWs in size band 5	Number of sewage treatment works of size band 5. (See additional guidance)	7D.13
CWW7c.14	STWs above size band 5	Number of sewage treatment works of size band above size band 5. (See additional guidance)	7D.14
CWW7c.15	Total number of works	Total number of sewage treatment works of all sizes. Calculated as sum of CWW7.9 to CWW7.14.	7D.15

CWW7c Additional guidance

11.1 This table relates to Network+ costs only at the treatment works. This means that any costs relating to sludge (also known as the Bioresources price control unit) should be excluded.

11.2 Also note that treatment of tankered waste treatment is a non-appointed activity and so should not be taken into account when completing lines CWW7c.1 to CWWc7.7.

11.3 Companies should ensure that the aggregated load and number of STWs values for band 6 STWs (lines CWW7c.6 and CWW7c.14, respectively) reconcile to the loads and number of STWs in table CWW5 (lines CWW5.1 – CWW5.9) which captures load at STWs level for band 6 STWs.

I) Primary sewage treatment works

Treatment methods are restricted to primary treatment (screening, comminution, maceration, grit and detritus removal, pre-aeration and grease removal, storm tanks, plus primary sedimentation or air flotation, including where assisted by the addition of chemicals).

m) Secondary activated works

Sewage treatment works providing secondary activated sludge treatment methods whose treatment methods include those for primary works plus works whose treatment methods include activated sludge (including diffused air aeration, coarse bubble aeration, mechanical aeration, oxygen injection, submerged filters) and other equivalent techniques including deep shaft process, extended aeration (single, double and triple ditches) and biological aerated filters as secondary treatment. This would also include activated sludge process intensification technologies such as integrated fixed-film activated sludge (IFAS), ballasted activated sludge, membrane aerated bioreactors (MABRs). Crude activated sludge processes, with no primary works, should also be included here.

n) Secondary biological works

Sewage treatment works providing secondary biological treatment methods whose treatment methods include those for primary works plus works whose treatment methods include rotating biological contactors and biological filtration (including bacteria beds (mineral and plastic media), submerged aerated filters (mineral and plastic media), high-rate filtration, alternating double filtration and double filtration, root zone treatment (where used as a secondary treatment stage).

o) Tertiary activated works

A1 – Works with a secondary activated sludge process whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage), tertiary nitrifying filters, moving bed bioreactors, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage.

A2 – Works with a secondary activated sludge process whose treatment methods also include rapid-gravity sand filters, moving bed filters, pressure filters, cloth filters, disk filters, membrane filtration, drum filters, microstrainers, slow sand filters, ballasted coagulation, nutrient removal control using physico-chemical and biological methods, disinfection, hard COD and colour removal, where used as a tertiary treatment stage.

p) Tertiary biological works

B1 – Works with a secondary stage biological process whose treatment methods also include prolonged settlement in conventional lagoons or raft lagoons, irrigation over grassland, constructed wetlands, root zone treatment (where used as a tertiary stage),

tertiary nitrifying filters, moving bed bioreactors, wedge wire clarifiers or Clariflow installed in humus tanks, where used as a tertiary treatment stage.

B2 - Works with a secondary biological process whose treatment methods also include rapid-gravity sand filters, moving bed filters, pressure filters, cloth filters, disk filters, membrane filtration, drum filters, microstrainers, slow sand filters, ballasted coagulation, nutrient removal control using physico-chemical and biological methods, disinfection, hard COD and colour removal, where used as a tertiary treatment stage.

q) Load received by STWs in size band 1

The average daily load received (in kg of BOD_5/day) by STWs of size band 1 (<= 15kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

r) Load received by STWs in size band 2

The average daily load received (in kg of BOD_5/day) by STWs of size band 2 (15 - 30kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

s) Load received by STWs in size band 3

The average daily load received (in kg of BOD_5/day) by STWs of size band 3 (30 - 120kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

t) Load received by STWs in size band 4

The average daily load received (in kg of BOD_5/day) by STWs of size band 4 (120 - 600kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

u) Load received by STWs in size band 5

The average daily load received (in kg of BOD_5/day) by STWs of size band 5 (600 – 1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

v) Load received by STWs above size band 5

The average daily load received (in kg of BOD_5/day) by STWs above size band 5 (>1500kg BOD_5/day) for each treatment category. The convention outlined under the common definitions should be used to calculate the load for each STW. Companies must classify the size band of a works using resident population only. Companies must include non-resident population when reporting loads.

CWW7c Commentary requirement

11.4 Companies should include the following commentary to this table:

- An explanation of any material year-on-year variations.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.

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

Table CWW8 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW8.1	Total sewerage catchment area	Total area of sewered catchments. Note: This will be less than the operating area within which company as the sewerage undertaker is licensed to provide sewerage services (owing to the exclusion of unsewered areas).	7E.1
CWW8.2	Designated coastal bathing waters	Number of EU designated coastal bathing waters within the company's operating area.	7E.2
CWW8.3	Designated inland bathing water	Number of EU designated inland bathing waters within the company's operating area.	
CWW8.4	Number of intermittent discharge event duration monitors	Number of intermittent discharge monitors installed during the report year.	7E.3
CWW8.5	Number of monitors for flow monitoring at STWs	Number of sewage treatment works where flow monitors have been installed during the report year.	7E.4
CWW8.6	Number of odour related complaints	The total number of complaints received in any format during the year relating to odour from sewerage service assets.	7E.5
CWW8.7	Energy consumption - sewage collection	Measure of energy usage (electricity, gas, liquid fuels) by the sewage collection wholesale business unit (irrespective of the power source). Energy usage should be measured as that which is either imported or self-generated and used in relevant business unit. No account should be taken of self-generated energy that is exported from the business unit where it is generated. Fleet transport and standby generation should be included as should an allowance for administrative buildings and head office function.	7E.6
CWW8.8	Energy consumption - sewage treatment	Measure of energy usage (electricity, gas, liquid fuels) by the sewage treatment wholesale business unit (irrespective of the power source). Energy usage should be measured as that which is either imported or self-generated and used in relevant business unit. No account should be taken of self-generated energy that is exported from the business unit where it is generated. Fleet transport and standby generation should be included as should an allowance for administrative buildings and head office function.	7E.7
CWW8.9	Energy consumption - wastewater network +	Sum of lines CWW8.6 and CWW8.7.	7E.8

CWW8 Commentary requirement

12.1 Companies should include the following commentary to this table:

- An explanation of any material year-on-year variations.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.

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

Table CWW9 line definitions

13.1 This table will collect the cumulative expenditure on schemes completed in the year. It mirrors the categories of expenditure in table CWW3.

CW9 Additional guidance

13.2 Where a quality enhancement scheme (or the proportionally allocated component of a quality enhancement scheme) has more than one cost driver, companies should allocate the expenditure attributable to the primary driver to the relevant line. Any net additional cost for delivering any further drivers should be included in the relevant line.

13.3 This table contains inputs needed for populating the PR19 Strategic regional water resources reconciliation model and calculating the end of period revenue and RCV adjustments to be applied at PR24.

13.4 Expenditure included within third party services in table CW1a should not be included in this table.

Cumulative expenditure on schemes completed in the report year

13.5 Companies should report schemes as completed when they come into beneficial use which may not always be the same as the financial close of a scheme. If companies incur additional expenditure on schemes already reported as completed (for example, additional snagging costs or landscaping), the expenditure should be reported in the relevant line in the report year but not restated in the cumulative expenditure on schemes completed in the report year columns. RAG4 appendix 4 contains guidance on reporting cumulative costs on schemes completed in the year.

14. CWW10 – Wholesale wastewater local authority rates

Table CWW10 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW10.1	Rateable value	Rateable value. This should be the absolute amount as provided by the Valuation Office Agency or Local Authority, or company forecast, and does not need to be indexed to 2022-23 prices.	
CWW10.2	Wholesale Wastewater business rates charge for current year before transitional relief	Local authority rates charged to the wastewater wholesale business in respect of the (then) current year, before the application of any transitional relief.	
CWW10.3	Wholesale Wastewater business rates transitional relief	The impact of any transitional relief on the local authority rates charged to the wholesale wastewater business in respect of the (then) current year, entered as a negative.	
CWW10.4	Wholesale Wastewater business rates charge for current year after transitional relief	Local authority rates charged to the wholesale wastewater business in respect of the (then) current year, after the application of any transitional relief. Calculated as the sum of CWW10 lines 2 and 3.	
CWW10.5	Adjustments to wholesale wastewater business rates charge for prior years	Any adjustments to the local authority rates charged to the wholesale wastewater business in respect of previous years	
CWW10.6	[Other wholesale wastewater business rates adjustments 1]	Any further adjustments made to reconcile to the local authority rates charge for the wholesale wastewater business reported in the APR 4K.7 (please specify)	
CWW10.7	[Other wholesale wastewater business rates adjustments 2]	Any further adjustments made to reconcile to the local authority rates charge for the wholesale wastewater business reported in the APR 4K.7 (please specify)	
CWW10.8	[Other wholesale wastewater business rates adjustments 3]	Any further adjustments made to reconcile to the local authority rates charge for the wholesale wastewater business reported in the APR 4K.7 (please specify)	
CWW10.9	Wholesale Wastewater business rates forecast for Business Plan	Local authority rates charged to the wholesale wastewater business, as reported in the APR 4K.7. Equals the sum of CWW10 lines 4 to 8.	
CWW10.10	Change in wholesale wastewater business rates costs from prior year	The year-on-year change in local authority rates charged to the wholesale wastewater business in respect of the (then) current year before the application of any transitional relief. Calculated as the change in CWW10 line 2 as compared to the previous year.	
CWW10.11	Change in wholesale wastewater business rates costs due to the impact of any revaluation	The change in local authority rates charged to the wholesale wastewater business arising from any expected revaluation, before the impact of any transitional relief.	

Line	Title	Definition	RAG 4.11 line reference
CWW10.12	Change in wholesale wastewater business rates costs due to change in asset stock	The change in local authority rates charged to the wholesale wastewater business arising from changes in the asset stock of the wholesale wastewater business before the impact of any transitional relief.	
CWW10.13	[Change in wholesale wastewater business rates costs due to other 1]	Any further changes to the local authority rates charge for the wholesale wastewater business, before the impact of transitional relief (please specify)	
CWW10.14	[Change in wholesale wastewater business rates costs due to other 2]	Any further changes to the local authority rates charge for the wholesale wastewater business, before the impact of transitional relief (please specify)	
CWW10.15	[Change in wholesale wastewater business rates costs due to other 3]	Any further changes to the local authority rates charge for the wholesale wastewater business, before the impact of transitional relief (please specify)	
CWW10.16	Change in wholesale wastewater business rates charge before transitional relief	The sum of changes in local authority rates charged to the wholesale wastewater business before transitional relief - calculated as the sum of CWW10 lines 11 to 15.	
CWW10.17	Check difference	Check difference - CWW10 line 16 should equal line 10, with a check difference of zero	

CWW10 Additional guidance

14.1 This table seeks to understand the causes and pace of changes over time in reported local authority rates charges for the wholesale wastewater business unit, as currently reported in APR table 4K line 7.

14.2 This table asks for actual and forecast business rates for the wastewater service for the period 2022-23 to 2029-30. Companies can use an additional 3 lines to cover other types of adjustment to their wholesale wastewater business rates.

CWW10 Commentary requirement

14.3 Companies should include the following commentary to this table;

- An explanation of the rateable values included in line one, including whether they are actual, draft or company forecast.
- An explanation of the basis of the calculation of any transitional relief included in line 3.
- An explanation for the of the calculation used to derive the change in business rates due to revaluation in line 11.

15. CWW11 – Third party costs by business unit for the wholesale wastewater service

Table CWW11 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW11.1	Rechargeable opex - third party damage	Opex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.2	Rechargeable opex - build over	Opex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.3	Other rechargeable opex	Other third party wastewater service opex costs (price control) included in RAG 4.11 Appendix 1 not covered in lines 1 to 2.	
CWW11.4	Third party wastewater price control opex excluding developer services	Sum of lines 1 to 3.	
CWW11.5	Diversions - NRSWA – opex	Opex incurred in relation to the alteration or removal of any relevant pipe (as defined in section 158 of the Water Industry Act 1991) or other apparatus that the Appointee is required to carry out under the New Roads and Streets Works Act 1991.	
CWW11.6	Diversions - other non-section 185 diversions – opex	Opex incurred in relation to the alteration or removal of any relevant pipe (as defined in section 158 of the Water Industry Act 1991) or other apparatus that the Appointee is required to carry out under a statutory provision except a provision of the Water Industry Act 1991 or a provision of the New Roads and Streets Works Act 1991.	
CWW11.7	Total third party wastewater service costs ~ price control (operating expenditure)	Sum of lines 4 to 6.	
CWW11.8	Bulk supplies	Opex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.9	Charges for reception and disposal of waste	Opex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.10	Other excluded charge opex	Other third party wastewater service opex costs (non-price control) included in RAG 4.11 Appendix 1 not covered in lines 5, 6, 9.	
CWW11.11	Third party wastewater non-price control opex excluding developer services	Sum of lines 8 to 10.	
CWW11.12	Diversions - s185 – opex	Opex related to the diversion of mains under the provision of section 185 of the Water Industry Act 1991. Expenditure reported in this line should be the same categories of expenditure that was used to calculate diversion charges for English companies as reported in DS1e.1.	

Line	Title	Definition	RAG 4.11 line reference
CWW11.13	Total third party wastewater service costs ~ non price control (operating expenditure)	Sum of lines 11 to 12.	
CWW11.14	Rechargeable capex - third party damage	Capex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.15	Rechargeable capex - build over	Capex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.16	Other rechargeable capex	Other third party wastewater service capex costs (price control) included in RAG 4.11 Appendix 1 not covered in lines 10 to 11.	
CWW11.17	Third party wastewater price control capex excluding developer services	Sum of lines 14 to 16.	
CWW11.18	Diversions - NRSWA – capex	Capex incurred in relation to the alteration or removal of any relevant pipe (as defined in section 158 of the Water Industry Act 1991) or other apparatus that the Appointee is required to carry out under the New Roads and Streets Works Act 1991.	
CWW11.19	Diversions - other non-section 185 diversions – capex	Capex incurred in relation to the alteration or removal of any relevant pipe (as defined in section 158 of the Water Industry Act 1991) or other apparatus that the Appointee is required to carry out under a statutory provision except a provision of the Water Industry Act 1991 or a provision of the New Roads and Streets Works Act 1991.	
CWW11.20	Total third party wastewater service costs ~ price control (capital expenditure)	Sum of lines 17 to 19.	
CWW11.21	Bulk supplies	Capex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.22	Charges for reception and disposal of waste	Capex costs relating to activities set out in RAG 4.11, Appendix 1.	
CWW11.23	Other excluded charge capex	Other third party wastewater service capex costs (non-price control) included in RAG 4.11 Appendix 1 not covered in lines 15, 16, 19.	
CWW11.24	Third party wastewater non-price control capex excluding developer services	Sum of lines 21 to 23.	
CWW11.25	Diversions - s185 – capex	Capex related to the diversion of mains under the provision of section 185 of the Water Industry Act 1991. Expenditure reported in this line should be the same categories of expenditure that was used to calculate diversion charges for English companies as reported in DS1e.1.	
CWW11.26	Total third party wastewater service costs ~ non price control (capital expenditure)	Sum of lines 24 to 25.	

CWW11 Additional guidance

15.1 This table reports third party wastewater service costs split between operating and capital expenditure and between those included in the price control and those outside of the price control.

CWW11 Commentary requirement

15.2 Companies should include the following commentary to this table;

- An explanation of any material year-on-year variations.

16. CWW12 – Transitional spending in the wholesale wastewater service

Table CWW12 line definitions

16.1 The line definitions for this table are the same as for table CWW3 but for 2023-24 and 2024-25 only. Any investment expected between 2023-24 and 2024-25 which relates to a scheme we have approved for transition funding as part of Defra's accelerated process should be included in table CWW17 and **not** included in this table.

CWW12 Additional guidance

16.2 The purpose of this table is for companies to identify the planned ('transition') wastewater service capital and operating expenditure they would like to make in the final two years of the current price control period (2020-25) in preparation for the early delivery of their outcomes in the next price control period (2025-30).

16.3 We expect companies to justify any proposals to bring forward investments to 2023-24 and/or 2024-25. See 'Appendix 9 – Setting expenditure allowances' of the PR24 final methodology for guidance on the criteria that proposals for transition funding should meet.[17] For the avoidance of the doubt, the transition funding programme should **not** be used to propose investments that have deliverables that are already required in this price control period (2020-25) or that have been previously funded, or to propose base cost investments.

16.4 Any expenditure we approve under the transition programme will be excluded from the totex reconciliation for 2020-25 (AMP7) but included in 2025-30 (AMP8) as a midnight adjustment to the RCV. A time value of money adjustment will also be implemented for transitional expenditure that occurs in 2023-24 only. See 'Appendix 9 – Setting expenditure allowances' of the PR24 final methodology for further details.

16.5 To ensure consistency, companies should ensure their estimates of forecast transition expenditure are compiled on the same basis, using the same process and approaches, as the forecasts of expenditure reported in tables CWW1, CWW2 and CWW3.

16.6 Expenditure in this table should be included in 2025-30 forecast expenditure and **not** in 2023-24 or 2024-25 expenditure in table CWW3.

[17] Ofwat, 'Creating tomorrow, together: Our final methodology for PR24: Appendix 9 – Setting expenditure allowances', December 2022, pp. 115-118.

16.7 Any investment expected between 2023-24 and 2024-25 which relates to a scheme we have approved for transition funding as part of Defra's accelerated process should be included in table CWW17 and **not** included in this table.

CWW12 Commentary requirement

16.8 Where companies propose transition expenditure, we expect them to make the case for why it is efficient to bring the investment forward, and why it was not part of its outcomes and long-term planning in PR19. Companies should provide evidence that the proposed transition expenditure meets the criteria set out in Appendix 9 of our PR24 final methodology.[18]

16.9 Companies should make clear that they are on track with their PR19 enhancement programme.

a. In each case, an appropriate level of table commentary is expected to explain the company's allocation approaches.

[18] Ofwat, 'Creating tomorrow, together: Our final methodology for PR24: Appendix 9 – Setting expenditure allowances', December 2022, pp. 115-118.

17. CWW13 – Best value analysis; enhancement expenditure – water resources and water network+

Table CWW13 line definitions

17.1 This table collects expenditure data that will aid the calculation of benefit to cost ratios for the proposed enhancement projects. It requests information on capex, opex and third-party contributions associated with these projects. It also requests information on the present value of the stream of capex and opex of the proposed enhancement projects over the appraisal period. The table requests this information for each category of expenditure set out in table CWW3.

17.2 The information requested in this table should be provided for all categories of expenditure for which the company is requesting enhancement allowances.

CWW13 Additional guidance

17.3 Expenditure and third-party contribution figures presented in this table should only refer to those enhancement projects which are expected to start in AMP8. Therefore, figures in this table may not align with other tables that collect long-term costs. Cost figures presented for AMP8 period should align with costs presented in table CWW3.

17.4 Cost figures presented in Table CWW13 should capture all the incremental costs resulting from the proposed enhancement projects starting in AMP8, including one-off and recurring costs. This will ensure that the benefit to cost ratios calculated using this data are indicative of whether the proposed expenditure is cost beneficial.

17.5 Figures presented in Table CWW13 should reflect mean forecasts. This is the expenditure and third-party contributions that companies expect to achieve over the specified period in relation to the proposed enhancement projects.

17.6 Costs and third-party contributions should be adjusted to 2022-23 prices using the CPIH Index financial year average.

Third-party contributions

17.7 Third-party contributions should capture the financial and non-financial contributions that third-parties are expected to make towards the costs of the proposed enhancement projects.

17.8 Non-financial contributions are those which are expected to translate into cost savings for companies. These may include fee waivers and in-kind contributions (such as land and staff resources). Companies should include the financial cost savings that non-financial contributions are expected to deliver for the project. The costs that will be avoided due to non-financial contributions should be captured in the capex and/or opex figures presented in the same table. This means that once third-party contributions are netted off from totex – the remainder of the costs should reflect the contribution that the company is expected to make towards the project cost. For example, if a local authority is making land available for the development of wetlands, companies should include the cost of land acquisition in the capex or opex figures where relevant. Companies should also include the corresponding cost savings due to land contribution from local authority as third-party contribution for the same category of cost.

Present value

17.9 Present value figures aim to capture the whole-life costs of the proposed enhancement projects starting in AMP8.

17.10 To calculate the present value of costs, companies should apply the social time preference rate as set out in the 'The Green Book' (HM Treasury, 2020).[19] To calculate the present value of capex, costs should be converted to a stream of annual costs over the appraisal period, where the annual cost is made up of depreciation costs plus the allowed return on capital. Depreciation (or run-off) costs should be calculated using straight-line depreciation during the whole life of the asset. The allowed returns should be calculated using the allowed return on capital rate specified in PR24 Final Methodology.

17.11 Companies should provide present value of cost figures for a 30-year appraisal period as a minimum. Companies can also provide present value of costs over a longer appraisal period if judged appropriate (e.g. if there are significant additional costs/benefits to be realised beyond the 30-year period). A free-form column is available for companies to present these figures where relevant.

17.12 There is no need to provide present value figures for third-party contributions.

CWW13 Commentary requirement

17.13 Companies should include the following commentary to this table;

[19] See paragraphs 2.23, and 5.32 to 5.39.

- A breakdown of financial and non-financial third-party contributions and explanation of how non-financial contributions were valued.
- An explanation of key assumptions made to calculate present value of cost figures (e.g., asset lifetimes, WACC rate, risks, uncertainties).
- An indication of the level of uncertainty and sensitivity of the present value and third-party contribution figures.
- A justification for including present value figures for a period longer than 30 years where company chooses to present these figures. Company should specify length of the appraisal period used.

18. CWW14 – Best value analysis; enhancement expenditure of least cost options – water resources and water network+

Table CWW14 line definitions

18.1 This table collects expenditure data that will aid the calculation of benefit to cost ratios for the least cost enhancement options against which the proposed enhancement projects (captured in tables CWW3 and CWW13) are assessed. The table requests information on the capex, opex and third-party contributions associated with these least cost options. It also requests the present value of the stream of capex and opex of the alternative least cost options over the appraisal period. The table requests this information for each category of expenditure set out in table CWW3.

18.2 Companies should provide this data for all categories of expenditure for which enhancement allowances are being claimed. The data presented in this table can be the same as presented in table CWW13 where the proposed solutions are least costs. Where data is not provided for specific categories of expenditure, we will assume that the company is taking forward least cost options and therefore we will treat and assess the expenditure requested within these cost categories as such.

CWW14 Additional guidance

18.3 Least cost options are those that minimise the whole life expenditure required to meet a statutory obligation. These options can be best value. They can also be those that the company is proposing in its business plan, in which case the same expenditure and third-party contribution figures used to populate Table CWW13 should be used in this table where relevant.

18.4 Cost figures presented in Table CWW13 should capture all the incremental costs resulting from the alternative least cost options starting in AMP8, including one-off and recurring costs. This will ensure that the benefit to cost ratios calculated using this data will be indicative of whether these options are cost beneficial.

18.5 Expenditure and third-party contribution figures presented in this table should refer to least cost options which would be expected to start in AMP8 if the company decides to take them forwards.

18.6 Figures presented in Table CWW14 should reflect mean forecasts. This is the expenditure and third-party contributions that companies would expect to achieve over the specified period if the least cost options are adopted.

18.7 Cost and third-party contribution figures should be adjusted to 2022-23 prices using the CPIH Index financial year average.

Third-party contributions

18.8 Third-party contributions should capture the financial and non-financial contributions that third-parties are expected to make towards the costs of the appraised least cost options.

18.9 Non-financial contributions are those which are expected to translate into cost savings for companies. These may include fee waivers and in-kind contributions (such as land and staff resources). Companies should include the financial cost savings that non-financial contributions are expected to deliver for the project. The costs that will be avoided due to non-financial contributions should be captured in the capex and/or opex figures presented in the same table. This means that once third-party contributions are netted off from totex – the remainder of the costs should reflect the contribution that the company is expected to make towards the project cost. For example, if a local authority is making land available for the development of wetlands, companies should include the cost of land acquisition in the capex or opex figures where relevant. Companies should also include the corresponding cost savings due to land contribution from local authority as third-party contribution for the same category of cost.

Present value

18.10 To calculate the present value of costs, companies should apply the social time preference rate as set out in the 'The Green Book' (HM Treasury, 2020).[20] To calculate the present value of capex, costs should be converted to a stream of annual costs over the appraisal period, where the annual cost is made up of depreciation costs plus the allowed return on capital. Depreciation (or run-off) costs should be calculated using straight-line depreciation during the whole life of the asset. The allowed returns should be calculated using the allowed return on capital rate specified in PR24 Final Methodology.

18.11 Companies should provide present value of costs for a 30-year appraisal period as a minimum. Companies should also provide present value of costs for a longer appraisal period if also provided in Table CWW13. The longer appraisal period should be consistent

[20] See paragraphs 2.23, and 5.32 to 5.39.

to that used in Table CWW13. A free-form column is available for companies to present these figures where relevant.

18.12 There is no need to provide present value figures for third-party contributions.

CWW14 Commentary requirement

18.13 Companies should include the following commentary to this table;

- A breakdown of financial and non-financial third-party contributions and explanation of how non-financial contributions were valued.
- An explanation of the least cost solutions underpinning the expenditure in each cost category.
- An explanation of key assumptions made to calculate present value of cost figures (e.g., asset lifetimes, WACC rate, risks, uncertainties).
- An indication of the level of uncertainty and sensitivity of the present value and third-party contribution figures.

19. CWW15 – Best value analysis; enhancement benefits – water resources and water network+

Table CWW15 line definitions

19.1 This table collects benefit data that will aid the calculation of benefit to cost ratios for the proposed enhancement schemes. It requests information on the number of units of benefit which are expected to be created by these schemes and the associated monetary benefit values. It also requests information on the present value of the estimated benefits over the appraisal period. The table requests this information for each category of expenditure set out in table CWW3.

19.2 The data provided on number of units of benefit created will be used to map the impact of the proposed enhancement schemes onto performance commitment levels. This mapping occurs in table OUT3.

19.3 The information requested in this table should be provided for all categories of expenditure for which the company is requesting enhancement allowances.

CWW15 Additional guidance

19.4 Companies should provide the requested benefit information by benefit type. There are ten lines available for each category of expenditure. Companies need to select the benefit types that are relevant to each expenditure category. These types can be selected from the drop-down list in the 'benefit type' column. Companies should specify the unit of measurement for each 'selected' benefit. Companies should fill out the requested information for all 'selected' benefit lines.

19.5 Benefit figures should be stated on an annual basis rather than cumulative basis.

19.6 Benefit figures presented should refer to those enhancement projects which are expected to start in AMP8. These are the benefits associated with the expenditure figures presented in table CWW13.

19.7 Figures presented in this table should reflect mean forecasts. These are the benefits that the company expects to deliver through the proposed enhancement projects over the specified period.

Units

19.8 When a benefit type is selected from the drop down menu in column C, for common and bespoke performance commitments columns F and G will be pre-populated with the units and decimal places used for reporting.

19.9 If 'Other' or 'Access, recreation and amenity (ARA)' are selected as benefit types in column C we expect companies to provide detail of the units and decimal places used for reporting in the freeform column E.

19.10 Companies will need to ensure they appropriately format data entered in columns H-L or N-R to ensure data is correctly recorded. For the majority of benefits this will be as an integer value or a decimal to the appropriate number of decimal places.

Benefit valuations

19.11 To inform benefit value impacts, companies should use the valuations identified by the collaborative research on indicative outcome delivery incentives. Where the collaborative outcome delivery incentive rates research cannot be used to derive a monetary value, companies should use the WINEP options development guidance which provides recommended values for a range of environmental and social outcomes. Where the company considers that the standardised values set out by the collaborative research and WINEP guidance are not suitable or applicable to the benefits that are expected from company actions, then the company can use alternative benefit unit values. If so, compelling evidence supporting these alternative values should be presented and the present value of the benefits using the standardised unit values should be reported alongside for comparison. A free-form column is available for companies to report these values where relevant. Sources of evidence used to support alternative unit values must be considered robust, sufficiently detailed and be openly available for us to verify if required.

19.12 The impact of the proposed enhancement projects on GHG emissions should be reported in the table. The impact should be measured in line with the methodology defined for the GHG performance commitment. The estimated impact should take account of both the generation and savings of GHG emissions which would result from the enhancement project, relative to a 'do nothing' scenario.

19.13 Monetary benefit values should be adjusted to reflect 2022-23 prices using the CPIH Index financial year average.

Present value

19.14 To calculate the present value of benefits, companies should apply the social time preference rate as set out in the 'The Green Book' (HM Treasury, 2020).[21]

19.15 Companies should provide present value of benefit figures over a 30-year appraisal period as a minimum. Where company provides present value information over a longer appraisal period in Table CWW13, it should also provide present value of benefit figures over this longer appraisal period in this table for comparison. A free-form column is available for companies to present this additional information. The longer appraisal period (if used) should be consistent to that used in Table CWW13 to allow like for like comparisons.

CWW15 Commentary requirement

19.16 Companies should include the following commentary to this table;

- An explanation of the key assumptions underpinning the benefit and present value figures (e.g., unit benefit values, benefit impacts, risks, uncertainties).
- An explanation of the sources of evidence used to inform benefit impacts and unit benefit values.
- An indication of the level of uncertainty and sensitivity of benefit impact and present value figures.

[21] See paragraphs 2.23, and 5.32 to 5.39.

20. CWW16 – Best value analysis; enhancement benefits of least cost options – water resources and water network+

Table CWW16 line definitions

20.1 This table collects benefit data that will aid the calculation of benefit to cost ratios for the least cost options against which the proposed enhancement schemes are assessed. It requests information on the number of units of benefit which are expected to be created by these schemes and the associated monetary benefit values. It also requests information on the present value of these benefits. This table requests this information for each category of expenditure set out in table CWW3.

20.2 Companies should provide this data for all categories of expenditure for which enhancement allowances are being claimed. The data presented in this table can be the same as presented in table CWW15 where the proposed solutions are least costs. Where data is not provided for specific categories of expenditure, we will assume that company is taking forward least cost options and therefore we will treat and assess the requested expenditure within these cost categories as such.

CWW16 Additional guidance

20.3 Least cost options are those which minimise the whole life expenditure required to meet a statutory obligation. These options can be best value. They can also be those being proposed in the company business plan in which case the same benefit information used to inform Table CWW15 should be used in this table where relevant.

20.4 Companies should provide the requested benefit information by benefit type. There are ten lines available for each cost category. Companies should select the benefit types that are relevant to the least cost options considered and appraised in each cost category. These types can be selected from the drop-down list in the 'benefit type' column. Companies should specify the unit of measurement for each 'selected' benefit. Companies should fill out the benefit information requested for all 'selected' benefit lines.

20.5 Benefit figures should be stated on an annual basis rather than cumulative basis.

20.6 Benefit figures presented should refer to those least cost projects which are expected to start in AMP8 if taken forwards by the company.

20.7 Benefit figures presented in this table should reflect mean forecasts. These are the benefits that companies are expecting to deliver through the least cost options over the specified period.

Units

20.8 When a benefit type is selected from the drop down menu in column C, for common and bespoke performance commitments columns F and G will be pre-populated with the units and decimal places used for reporting.

20.9 If 'Other' or 'Access, recreation and amenity (ARA)' are selected as benefit types in column C we expect companies to provide detail of the units and decimal places used for reporting in the freeform column E.

20.10 Companies will need to ensure they appropriately format data entered in columns H-L or N-R to ensure data is correctly recorded. For the majority of benefits this will be as an integer value or a decimal to the appropriate number of decimal places.

Benefit valuations

20.11 To inform benefit value impacts, companies should use the valuations identified by the collaborative research on indicative outcome delivery incentives. Where the collaborative outcome delivery incentive rates research cannot be used to derive a monetary value, companies should use the WINEP options development guidance which provides recommended values for a range of environmental and social outcomes. Where the company considers that the standardised values set out by the collaborative research and WINEP guidance are not suitable or applicable to the benefits that are expected from company actions, then the company can use alternative benefit unit values. If so, compelling evidence supporting these alternative values should be presented and the present value of the benefits using the standardised unit values should be reported alongside for comparison. A free-form column is available for companies to report these values where relevant. Sources of evidence used to support alternative unit values must be considered robust, sufficiently detailed and be openly available for us to verify if required.

20.12 The impact of the proposed enhancement projects on GHG emissions should be reported in the table. The impact should be measured in line with the methodology defined for the GHG performance commitment. The estimated impact should take account of both the generation and savings of GHG emissions which would result from the enhancement project, relative to a 'do nothing' scenario.

20.13 Monetary benefit values should be adjusted to reflect 2022-23 prices using the CPIH Index financial year average.

Present value

20.14 To calculate the present value of benefits, companies should apply the social time preference rate as set out in the 'The Green Book' (HM Treasury, 2020).[22]

20.15 Companies should provide present value of benefit figures over a 30-year appraisal period as a minimum. Where company provides present value information over a longer appraisal period in Table CWW14, it should also provide present value of benefit figures over this longer appraisal period in this table for comparison. A free-form column is available for companies to present this additional information. The longer appraisal period (if used) should be consistent to that used in Table CWW14 to allow like for like comparisons.

CWW16 Commentary requirement

20.16 Companies should include the following commentary to this table;

- An explanation of the key assumptions made to derive benefit and present value figures (e.g., unit benefit values, benefit impacts, risks, uncertainties).
- An explanation of the sources of evidence used to inform benefit impacts and unit benefit values.
- An indication of the level of uncertainty and sensitivity of benefit impact and present value figures.

[22] See paragraphs 2.23, and 5.32 to 5.39.

21. CWW17 Accelerated programme expenditure – wastewater network+

Table CWW17 line definitions

21.1 The line definitions for this table are the same as for table CWW3 but for 2023-24 and 2024-25 only.

CWW17 Additional guidance

21.2 The purpose of this table is for companies to identity wastewater service capital and operating expenditure for approved accelerated schemes in both, the final two years of the current price control (2023-24 and 2024-25) and 2025-30 (AMP8)

21.3 Expenditure in this table, which relates to an approved accelerated scheme, between 2023-24 and 2024-25 will be classed as transitional expenditure. As such any expenditure expected either in 2023-24 or 2024-25 should in included in the 2025-30 forecast expenditure and not in the 2024-25 expenditure in table CWW3.

21.4 Although expenditure between 2023-24 and 2024-25, for an approved accelerated scheme, will be classed as transitional expenditure, it should **not** be included in table CWW12 but instead included in table CWW17.

21.5 Given 2023-24 and 2024-25 accelerated expenditure will be classed as transitional expenditure, the properties of the transition funding programme will still apply. As such, following review, Ofwat will then exclude this early expenditure from the totex reconciliation for 2020-25 (AMP7) but include this expenditure in 2025-30 (AMP8) as a midnight adjustment to the RCV (see appendix 9 of the PR24 final methodology for more details).

21.6 We do not expect any bioresource related schemes to be included in this table.

CWW17 Commentary requirement

21.7 Companies should include the following commentary to this table;

- An explanation as to which approved scheme the expenditure relates to
- An explanation of why it is efficient to bring the investment forward
- An explanation as to which Defra priority the expenditure aims to tackle

- Where costs differ to those proposed through the acceleration process, for both 2023-25 and the entire scheme, an explanation as to why this is the case

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

Table CWW18 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW18.1	Description of cost adjustment claim	Description of costs being put forward for a cost adjustment claim. A separate block should be filled in for each cost adjustment claim.	n/a
CWW18.2	Type of cost adjustment claim	Type of cost adjustment claim proposed. This will be one of 'atypically large investment, 'new legal requirements', 'regional operating circumstances', or 'other (specify)'. See Appendix 9 to the PR24 final methodology for identification of what can be considered as a cost adjustment claim.	n/a
CWW18.3	Symmetrical or non-symmetrical	Indication of whether the proposed cost adjustment claim is symmetrical (ie the upward adjustment proposed for the company is offset by downward adjustments to the other companies) or non-symmetrical.	n/a
CWW18.4	Reference to business plan supporting evidence	Reference to the business plan supporting documents that set out the case to the cost adjustment claim.	n/a
CWW18.5	Total gross value of the claim	Base expenditure claimed on the proposed cost adjustment. The expenditure should be gross of any implicit allowance (ie the proportion of the claim that is covered by our modelled cost baselines), and should be gross of any contributions or grants. The value of the claim should be calculated after the application of the catch-up efficiency challenge, but before the application of frontier shift and real price effects.	n/a
CWW18.6	Implicit allowance	Value of the implicit allowance calculated for the cost adjustment claim (ie the proportion of the claim that is covered by our modelled cost baselines). The implicit allowance should be calculated after the application of the catch-up efficiency challenge, but before the application of frontier shift and real price effects.	n/a
CWW18.7	Total net value of the claim	The difference between CWW18.5 and CWW18.6.	n/a
CWW18.8	Historic base expenditure	Historic base expenditure related to the proposed cost adjustment claim. This should be gross of any capital contributions or grants.	n/a
CWW18.9	Totex for the control	This line should be equal to 'net totex' line CWW1a.15 for the relevant control.	n/a
CWW18.10	Materiality	The ratio between CWW18.7 and CWW18.9. Materiality of the cost adjustment claim should be assessed against the materiality thresholds indicated in Appendix 9 to the PR24 final methodology.	n/a

CWW18 Additional guidance

22.1 Please see Appendix 9 to the PR24 final methodology for further details on the base cost adjustment claim process. [23]

22.2 A separate block should be filled in for each cost adjustment claim. The description should clearly identify the reference to the relevant business plan documents setting out the supporting evidence, to assist the review of the claim.

22.3 The gross value of the claim should be calculated before the application of the implicit allowance, and should also be gross of any contributions and grants. It should be calculated after the application of the catch-up efficiency challenge, but before the application of frontier shift and real price effects. Companies should clearly set out the assumption used for the catch-up efficiency challenge.

22.4 Where relevant, we expect companies to calculate a value for the implicit allowance related to the claim they are putting forward. Implicit allowances can be estimated using various approaches. There is no single correct approach. It may be appropriate to use a range of approaches to come to a robust estimate of the implicit allowance. We set out additional guidance on this in Appendix 9 to the PR24 final methodology.

22.5 The value of the implicit allowance should be calculated after the application of the catch-up efficiency challenge, but before the application of frontier shift and real price effects. Companies should clearly set out the assumption used for the catch-up efficiency challenge.

22.6 Companies should assess the materiality of the claim, and put forward only claims that are material. See Appendix 9 to the PR24 final methodology for an indication of the materiality thresholds applied at PR24.

22.7 To input the totex for the control in line 9, companies should select the relevant control using the drop down provided.

CWW18 Commentary requirement

22.8 Please see Appendix 9 to the PR24 final methodology for further details. [24]

[23] Ofwat, 'Creating tomorrow, together: Our final methodology for PR24. Appendix 9: Setting expenditure allowances', December 2022, Section 2.4.3 and Annex 1.
[24] Ofwat, 'Creating tomorrow, together: Our final methodology for PR24. Appendix 9: Setting expenditure allowances', December 2022, Section 2.4.3 and Annex 1.

22.9 We expect companies' cost adjustment claim submissions to include:

- the compelling evidence in support of the claim, against the relevant assessment criteria;
- where relevant, details of the approach taken to calculate the implicit allowance and key assumptions made, such as the catch-up efficiency challenge applied. Evidence of underlying calculations would also be helpful to ensure we can replicate the results;
- where relevant, details of the approach taken to calculate the symmetrical adjustment and key assumptions made, such as the catch-up efficiency challenge applied to the adjustment. Companies should provide details of the underlying calculations, to ensure we can replicate the results.

22.10 We consider that in many cases, companies can and should mitigate and avoid the need for cost adjustment claims. We expect companies to use the cost adjustment process responsibly and raise cost adjustment claims only where there is compelling evidence that an adjustment is required. We will consider the quality of claims and a company's approach to the process as part of our quality and ambition assessment (QAA).

23. CWW19 – Wastewater network+ - WINEP phosphorus removal scheme costs and cost drivers

Table CWW19 line definitions

Line	Title	Capital expenditure	Operating expenditure	Cost drivers	RAG 4.11 line reference
CWW19.1-CWW19.X	Scheme name and WINEPID reference	The capital expenditure incurred each year for each phosphorus removal scheme required by the Water Industry National Environment Programme (WINEP). Where overall a scheme is designed to achieve other requirements, for example other WINEP requirements or growth, only the proportional allocation to phosphorus removal requirements should be reported. The actual costs incurred in the reporting year should be given. Forecast cost should be given for future years.	The operating expenditure incurred each year for each phosphorus removal scheme required by the Water Industry National Environment Programme (WINEP). Where overall a scheme is designed to achieve other requirements, for example other WINEP requirements or growth, only the proportional allocation to phosphorus removal requirements should be reported. The actual costs incurred in the reporting year should be given. Forecast cost should be given for future years beyond 2025 for completed schemes should be the annual average cost.	Relevant cost driver information is required for each scheme listed. The cost driver information should include the design population equivalent (PE) served by the scheme. For example, if the scheme is designed to serve a forecast PE this value should be given and not the current PE of the works. The PE value should be given in full and not in thousands. For treatment schemes, the historical phosphorus permit level for the site, if any, and the new or tightened permit level (mg-P/L) should be given. For sites with no historical permit a N/A should be entered into the column – cost driver 2 - historical permit level. For schemes where the change in permit levels can be achieved through a change/optimisation of the current process without any capital works, 'Yes' should be entered in the column 'cost driver 4 – permit change only'. For schemes where flow is transferred to another sites for treatment the	7F.1 – 7F.X

				length of the transfer pipeline and the transfer flow rate should be given. The transferred flow should be the annual average daily flow at the time of commissioning the transfer scheme. In these cases the population equivalent, historic permit and enhance permit will be populated for the site that is being transferred from. For catchment-based schemes, e.g. nutrient balancing, 'Yes' should be entered in the column 'cost driver 5'. Companies should provide all additional relevant quantitative cost driver data in the blank columns and provide further explanatory text in the table commentary.	
CWW19.401	Total	The sum of lines CWW19.1 to CWW19.X.	The sum of lines CWW19.1 to CWW19.X.		7F.201

CWW19 Additional guidance

23.1 We require costs (in 2022-23 prices) and cost drivers to be reported for all schemes with costs incurred since 2024-25. Only phosphorus removal schemes reported under CWW3.64-72 and CWW3.79-84 should be reported in table CWW19. We do not expect costs in the lines in table CWW3 and CWW19 to reconcile due to costs for schemes started before 2024-25 being reported in table CWW3.

23.2 Annual actual or forecast costs are required and not cumulative costs. This value should be the incremental, proportional allowance to the phosphorus removal scheme on a site. The method used to apportion or estimate costs should be set out in table commentary.

23.3 For the avoidance of doubt, the historical permit level should be that prior to the enhancement, and not the permit level in 2025.

23.4 If for any reason a company is not able to provide the required data, the data field should be left blank. It should not be completed with a zero. Companies are expected to provide all requested data and a justification for including blank fields should be given in table commentary.

23.5 Forecast costs to be incurred beyond the reporting year 2029-30 should be given in total in the column 'After 2030'. For operating costs, the average annual forecast cost should be given.

23.6 Where a company has a single phosphorus removal scheme in WINEP that is made up of works over multiple sites and also includes undertaking associated interventions within the catchment as part of the single scheme, it should report all relevant information on each site or catchment area as separate line. The same WINEP reference will enable linking of the parts of the scheme. For the catchment-based intervention relevant quantitative cost drivers can be included in the column provided and other further explanatory text included in table commentary.

23.7 Where a company has a scheme which delivers multiple WINEP requirements, e.g. delivering on two phosphorus drivers with varying permit levels, companies should insert a single row in the table (identifying both IDs in the 'Scheme name and WINEPID reference' cell) and completing the other fields with the most stringent permit level.

23.8 For sites included within catchment permitting schemes the details of the site-specific phosphorus permit should be given in the relevant cost driver columns. Information relating to stretch targets, and further explanatory text, should be provided in table commentary.

23.9 Green recovery schemes should be included in this table and clearly identified as such within the table commentary.

Examples

23.10 The following four examples show how the table should be populated for 2028-29.

- Scheme 1 was constructed between 2027 to 2029 with a total capital cost of £250,000. The site was fully commissioned and entered service part way through 2028 and has an annual opex cost of £10,000. The site serves a population equivalent of 100,000 and the phosphorus permit will change from 1 mg/L to 0.5 mg/L.
- For scheme 2 construction was started in 2028 but not expected to complete until 2030. The total forecast scheme capital cost is £250,000 and £50,000 has been incurred in 2028-29. When the site enters service in 2030 it will have an estimated

annual opex cost of £10,000. The site serves a population equivalent of 100,000. The site has not had a permit in the past and the scheme will meet an enhanced permit of 0.5 mg/L. Included in the table commentary is a description of the scheme solution: a constructed wetland covering 0.5 hectares.

- For scheme 3 construction was started in 2028 but not expected to complete until 2032. The total forecast scheme capital cost is £250,000. In 2028-29, £50,000 has been incurred and it is expected £100,000 will be incurred in 2029-30 and the remainder after 2030. When the site enters service at the end of 2032 it will have an estimated annual opex cost of £10,000. The site serves a population equivalent of 100,000 and the phosphorus permit will change from 2 mg/L to 0.2 mg/L.
- Scheme 4 was constructed in 2027-28 for a capital cost of £500,000 and an annual opex cost of £20,000. The scheme is to close an existing site with a population equivalent of 250 and transfer the flow, estimated to be 50 m3/d, via rising main and up-rated gravity sewer of a total length of 3km. The receiving works can accommodate the flow at no additional material cost. The site the flow is transferred from would otherwise have had a phosphorus permit change from 1 mg/L to 0.5 mg/L.

Example table CWW19 for the four example schemes

Wastewater network+ - WINEP phosphorus removal scheme costs and cost drivers

			Capital expenditure							Operating expenditure							Cost driver 1	Cost driver 2	Cost driver 3	Cost driver 4	Cost driver 5	Cost driver 6	Cost driver 7
Scheme name and WINEPID reference	Units	DPs	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	After 2029-30	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	After 2029-30	Scheme design population equivalent	Historical permit level for phosphorus (mg/L)	Enhanced permit level for phosphorus (mg/L)	Permit change only (Y/N)	Catchment-based solution (Y/N)	Length of transfer pipeline (km)	Annual Average Daily Transferred flow (cu.m/d)
Scheme 1 - ABC001	£m	3	0.000	0.000	0.000	0.100	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.005	0.010	0.010	100,000	1.000	0.500	N	N	N/A	N/A
Scheme 2 - DEF002	£m	3	0.000	0.000	0.000	0.000	0.050	0.200	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	100,000	N/A	0.500	N	N	N/A	N/A
Scheme 3 - GHI003	£m	3	0.000	0.000	0.000	0.000	0.050	0.100	0.100	0.000	0.000	0.000	0.000	0.000	0.000	0.010	100,000	2.000	0.200	N	N	N/A	N/A
Scheme 4 - JKL004	£m	3	0.000	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020	0.020	0.020	250	1.000	0.500	N	N	3.000	50.000

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

Table CWW20 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW20.1	Current population equivalent served by STWs	Population equivalent (resident) connected to sewage treatment works. Equivalent population should be calculated on the basis of 60g BOD_5 per capita per day. Imported effluents should be included in calculation. No account should be taken of holiday population.	7D.16
CWW20.2	Current population equivalent served by STWs with tightened/new P permits	Population equivalent served by sewage treatment works with new or tightened permit conditions for phosphorus (biological and chemical treatment processes).	7D.17
CWW20.3	Current population equivalent served by STWs with tightened/new N permits	Population equivalent served by sewage treatment works with new or tightened permit conditions for nitrogen.	7D.18
CWW20.4	Current population equivalent served by STWs with tightened/new sanitary parameter permits	Population equivalent served by sewage treatment works with new or tightened permit conditions for one or more sanitary parameters.	7D.19
CWW20.5	Current population equivalent served by STWs with tightened/new microbiological standards	Population equivalent served by sewage treatment works with new or tightened permit conditions for microbiological parameters to meet the WINEP/NEP shellfish or bathing waters requirements.	7D.20
CWW20.6	Population equivalent served by STWs with enhanced treatment capacity	Population equivalent served by sewage treatment works where a scheme has been delivered to enhance / increase treatment capacity. The increase in PE must be measured from the previous year's PE and should be higher than the design PE / capacity. If the design capacity PE is not known, the increase should be from the company's understanding of actual capacity before the company's enhancement action.	7D.21
CWW20.7	Current population equivalent served by STWs with tightened/new permits for chemical / hazardous substances	Population equivalent served by sewage treatment works at which new or tightened permit conditions for chemicals or other hazardous substances are required by the WINEP/NEP to achieve good chemical status, or to prevent deterioration in chemical status, or to achieve standstill limits for chemicals.	7D.22

Line	Title	Definition	RAG 4.11 line reference
CWW20.8	Current population equivalent served by septic tank replacement projects	Population equivalent served by septic tanks that are to be replaced under WINEP/NEP with alternative treatment or diversion of flow and load to another site.	
CWW20.9	Number of new wetland treatment solutions for tightened sanitary or nutrient (N or P) permits	Number of treatment wetlands installed for removal of sanitary determinants (BOD, SS or ammonia) or nutrients (nitrogen or phosphorus).	
CWW20.10	Total area of new wetlands for tightened sanitary or nutrient (N or P) permits	Total surface area, in hectares, of treatment wetlands installed for removal of sanitary determinants (BOD, SS or ammonia) or nutrients (nitrogen or phosphorus).	
CWW20.11	Total number of septic tank replacement projects	Total number of sites where septic tanks are due to be replaced under a WINEP/NEP driver. This should not include septic tank sites being replaced for other reasons.	
CWW20.12	Total number of STW outfall screens	Total number of outfall screens being installed at sewage treatment works to prevent the entrainment of fish.	
CWW20.13	Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity (l/s)	Cumulative shortfall (l/s) in flow to full treatment at sewage treatment works being addressed by schemes listed in the WINEP / NEP. The reported shortfall should include schemes that increase the flow to full treatment to 3PG + I + 3E but also those where an increase in flow to full treatment is avoided by addressing the requirement "indirectly", for example by reducing infiltration, providing the alternative solution is agreed with the Environment Agency / Natural Resources Wales.	7D.26
CWW20.14	Additional storm tank capacity provided at STWs – grey infrastructure	The new or additional storm tank volume (m^3) provided at sewage treatment works by a conventional grey solution to provide adequate settlement and detention and/or to address the reduction in storm overflow spills. The volume reported should be the volume required to meet any permit conditions (most commonly the storage volume that must be filled before any discharge takes place), rather than what was actually constructed (which may be different due to factors related to the design or construction). Include the additional storm tank capacity avoided by schemes which address the requirement "indirectly", for example by increasing the flow to full treatment, providing the alternative solution is agreed with the Environment Agency / Natural Resources Wales.	

Line	Title	Definition	RAG 4.11 line reference
CWW20.15	Additional volume of effective storm storage at STWs - nature based / green solution	New or additional volume-equivalent storage (m^3) provided at sewage treatment works by a green (nature-based) solution, such as a wetland, as an alternative to conventional storm tank storage. The volume reported should be the volume required to meet any permit conditions (most commonly the storage volume that must be filled before any discharge takes place), rather than what was actually constructed (which may be different due to factors related to the design or construction).	
CWW20.16	Total number of STW sites where additional storage has been delivered	Total number of sewage treatment works where additional storage of any type or scale has been delivered.	
CWW20.17	Number of STW sites where additional storage has been delivered with pumping	Number of sewage treatment works where additional storage has been delivered where pumping is also required.	
CWW20.18	Number of STW sites benefitting from green infrastructure replacing the need for storm tank storage	Number of sewage treatment works where a green (nature-based) solution such as a wetland has been installed as an alternative to storm tank storage.	
CWW20.19	Total number of schemes with tightened / new P permits (met by biological treatment)	Total number of schemes where there are tightened or new P permits that will be met by biological treatment.	
CWW20.20	Total number of schemes with tightened / new P permits (met by chemical treatment)	Total number of schemes where there are tightened or new P permits that will be met by chemical treatment.	
CWW20.21	Total number of schemes with tightened / new N permits (met by biological treatment)	Total number of schemes where there are tightened or new N permits that will be met by biological treatment.	
CWW20.22	Total number of schemes with tightened / new N permits (met by chemical treatment)	Total number of schemes where there are tightened or new N permits that will be met by chemical treatment.	
CWW20.23	Total number of schemes with tightened/new sanitary parameter permits	Total number of schemes required to meet tightened or new sanitary parameters.	
CWW20.24	Total number of schemes with tightened/new microbiological standards (UV, ozone etc)	Total number of schemes with new or tightened microbiological treatment standards (UV, ozone etc)	
CWW20.25	Total number of STWs with microbiological treatment - new and existing (UV, ozone etc)	Total number of sewage treatment works where new or existing microbiological treatment is required (UV, ozone etc).	
CWW20.26	Total number of schemes with tightened / new chemicals / hazardous substances permits	Total number of schemes where new or tightened chemical or hazardous substances permits are required.	
CWW20.27	Total number of schemes with new chemical dosing installations	Total number of schemes where new chemical dosing installations are required.	

Line	Title	Definition	RAG 4.11 line reference
CWW20.28	Volume of chemical dosing storage installed	Volume in m^3 of new chemical dosing storage installed.	
CWW20.29	Total number of schemes with new tertiary solids removal	Total number of schemes where new tertiary solids removal is required.	
CWW20.30	Volume of water treated through tertiary solids removal	Maximum daily volume in m3/day treated through new tertiary solids removal processes.	
CWW20.31	Total number of N-TAL trials	Total number of Nitrogen technically achievable limit trials implemented.	
CWW20.32	Number of STW flow monitors installed	Number of flow monitors installed at sewage treatment works.	
CWW20.33	Number of STW flow monitoring schemes requiring permit changes only	Number of flow monitoring schemes at sewage treatment works that require changes to permits only.	
CWW20.34	Number of STW flow monitoring schemes requiring simple meter installations	Number of flow monitoring schemes at sewage treatment works that require simple meter installations.	
CWW20.35	Number of STW flow monitoring schemes requiring complex civils installations	Number of flow monitoring schemes at sewage treatment works that require complex civils installations. 'Complex civils' refers to the provision of monitoring that requires new permanent civils structure(s) to be built (for example hydraulic gauging structures – flumes or weirs). This excludes simple installations e.g. standard monitor installations, whereby a monitor is fixed to a chamber with standard fixings or those requiring only minor adjustments / modifications.	
CWW20.36	Additional volume of network storage at CSOs etc to reduce spill frequency - grey infrastructure	The volume in m^3 of new or additional storage (grey infrastructure) in the network provided to meet new or tightened spill frequency requirements at CSOs etc, by schemes listed in the WINEP / NEP. Storage volumes associated with non-WINEP / non-NEP schemes (eg that provided for the prevention of sewer flooding to properties) should be excluded. The volume reported should be the volume required to meet any permit conditions (most commonly the storage volume that must be filled before any discharge takes place), rather than what was actually constructed (which may be different due to factors related to the design or construction).	

Line	Title	Definition	RAG 4.11 line reference
CWW20.37	Additional volume of effective network storage to reduce CSO spill frequency – nature based/green solution	The volume in m^3 of new or additional effective network storage provided by green or nature-based solutions to meet tightened spill frequency at CSOs etc, reflecting schemes listed in the WINEP/NEP. The volume reported should be the volume required to meet any permit conditions (most commonly the storage volume that must be filled before any discharge takes place), rather than what was actually constructed (which may be different due to factors related to the design or construction).	
CWW20.38	Number of individual sites delivering additional network storage - grey solution	Number of sites where additional network storage has been delivered by grey solutions under WINEP/NEP storm overflow drivers.	
CWW20.39	Number of individual sites delivering additional network storage - grey solution - which include pumping	Number of sites where additional network storage has been delivered by grey solutions, which also include pumping, under WINEP/NEP storm overflow drivers.	
CWW20.40	Number of individual sites delivering additional network storage through green infrastructure	Number of sites where additional network storage has been delivered by green (nature-based) solutions under WINEP/NEP storm overflow drivers.	
CWW20.41	Surface water separation drainage area removed	Impermeable area in m^2 removed / disconnected through surface water separation schemes to deliver WINEP/NEP storm overflow drivers.	
CWW20.42	Total number of surface water separation schemes to reduce storm overflows	Total number of surface water separation schemes to reduce storm overflow spills delivered under WINEP/NEP storm overflow drivers.	
CWW20.43	Sustainable drainage / attenuation schemes (green) area removed / attenuated	Impermeable area in m^2 removed / disconnected from the network or attenuated through sustainable drainage / attenuation schemes (green or nature based solutions) to deliver WINEP/NEP storm overflow drivers.	
CWW20.44	Total number of sustainable drainage / attenuation schemes	Total number of sustainable drainage or surface water attenuation schemes delivered under WINEP/NEP storm overflow drivers.	
CWW20.45	Flow rate diverted to reduce storm overflow spills	Rate of flow in l/s diverted or removed from the sewer network due to surface water separation schemes to reduce storm overflow spills under WINEP/NEP storm overflow drivers.	
CWW20.46	Total number of sewer flow management / control schemes to reduce storm overflow spills	Total number of schemes under WINEP/NEP to manage or control flows in the network to reduce storm overflow spills.	
CWW20.47	Total storm overflow spill volume avoided	Total estimated volume in m3/year of storm overflow spills avoided due to schemes carried out under WINEP/NEP storm overflow drivers.	

Line	Title	Definition	RAG 4.11 line reference
CWW20.48	Total number of new storm overflow screens installed	Total number of new storm overflow screens installed under WINEP/NEP storm overflow drivers.	
CWW20.49	Number of continuous water quality monitor installations	Number of continuous water quality monitors installed under the WINEP/NEP storm overflow drivers.	
CWW20.50	Number of new MCERTs EDM installed at SPS emergency overflows	Number of new MCERTs event duration monitors installed at sewage pumping station emergency overflows under WINEP/NEP driver U_MON6 / W_U_MON6.	
CWW20.51	Number of new MCERTs flow monitors (PFF) installed at SPSs with combined emergency and storm overflows.	Number of new MCERTs flow monitors (for pass forward flow) installed at sewage pumping stations with emergency and storm overflows under WINEP/NEP driver U_MON6 / W_U_MON6.	
CWW20.52	Number of event duration monitors installed (to include at STWs and in network)	Number of event duration monitors installed at sewage treatment works or in the network, excluding at emergency overflows at sewage pumping stations for which there is a separate reporting line (CWW20.50).	
CWW20.53	Number of event duration monitoring schemes requiring permit changes only (at STWs and in network)	Number of event duration monitoring schemes at sewage treatment works or in the network that require changes to permits only, excluding emergency overflows at sewage pumping stations for which there is a separate reporting line (CWW20.49).	
CWW20.54	Number of event duration monitoring schemes requiring simple meter installations (at STWs and in network)	Number of event duration monitoring schemes at sewage treatment works or in the network that require simple meter installations, excluding emergency overflows at sewage pumping stations for which there is a separate reporting line (CWW20.49).	
CWW20.55	Number of event duration monitoring schemes requiring complex civils installations (at STWs and in network)	Number of event duration monitoring schemes at sewage treatment works or in the network that require complex civils installations, excluding emergency overflows at sewage pumping stations for which there is a separate reporting line (CWW20.49). 'Complex civils' refers to the provision of monitoring that requires new permanent civils structure(s) to be built. This excludes simple installations e.g. standard monitor installations, whereby a monitor is fixed to a chamber with standard fixings or those requiring only minor adjustments / modifications.	
CWW20.56	Total number of storm overflow discharge relocation schemes	Total number of storm overflow discharge relocation schemes delivered.	
CWW20.57	Total number of schemes to increase combined or trunk sewer capacity to reduce storm overflow spills	Total number of schemes to increase the capacity in combined or trunk sewers to reduce storm overflow spills.	

Line	Title	Definition	RAG 4.11 line reference
CWW20.58	Total number of infiltration management schemes to reduce storm overflow spills	Total number of schemes to manage or reduce infiltration in order to reduce storm overflow spills.	
CWW20.59	Length of new rising main installed to reduce storm overflow spills	Length of new rising main (km) installed to reduce storm overflow spills.	
CWW20.60	Total length of sewer installed to reduce storm overflow spills (km)	Total length of new sewer (km) installed to reduce storm overflow spills.	
CWW20.61	Number of WINEP/NEP investigations - desk-based studies only	Number of investigations under all WINEP/NEP drivers that require desk-based studies only.	
CWW20.62	Number of WINEP/NEP investigations - survey, monitoring or simple modelling	Number of investigations under all WINEP/NEP drivers that require simple surveys, monitoring or modelling.	
CWW20.63	Number of WINEP/NEP investigations - multiple surveys and/or monitoring locations, and/or complex modelling	Number of investigations under all WINEP/NEP drivers that require multiple surveys and/or monitoring across multiple locations, and/or complex modelling.	
CWW20.64	Total number of WINEP/NEP investigations	Sum of lines CWW20.59 to CWW20.61	
CWW20.65	Total number of catchment management chemical source control schemes	Total number of schemes under WINEP/NEP that require source control of chemicals in catchments.	
CWW20.66	Total number of catchment management nutrient balancing schemes	Total number of schemes under WINEP/NEP that require nutrient balancing in catchments.	
CWW20.67	Total number of catchment management catchment permitting schemes	Total number of schemes under WINEP/NEP that require new / amended catchment permits.	
CWW20.68	Total number of catchment management habitat restoration schemes	Total number of schemes under WINEP/NEP that require habitat restoration / biodiversity schemes in catchments.	
CWW20.69	Number of river connectivity schemes (fish passes etc)	Number of schemes under WINEP/NEP that deliver river connectivity solutions such as fish passes.	
CWW20.70	Number of marine conservation zones (new and existing)	Number of marine conservation zones (new and existing) where the company has duties / responsibilities to maintain or restore towards meeting favourable condition.	
CWW20.71	Total number of contribution to 3rd party WINEP/NEP schemes	Total number of 3rd-party schemes under WINEP/NEP that water companies contribute towards (financial contribution).	
CWW20.72	Total number of 25 yr Environment Plan schemes	Total number of schemes delivered under the 25-year Environment plan.	
CWW20.73	Additional line 1; wastewater network+ cost driver	Other wastewater network + cost driver data not covered by other lines in the table. Where possible, companies should maintain	
CWW20.74	Additional line 2; wastewater network+ cost driver		

Line	Title	Definition	RAG 4.11 line reference
CWW20.75	Additional line 3; wastewater network+ cost driver	consistency with corresponding lines in previous data submissions when using these lines.	
CWW20.76	Additional line 4; wastewater network+ cost driver		
CWW20.77	Additional line 5; wastewater network+ cost driver		

CWW20 Commentary requirement

24.1 Companies should include the following commentary to this table:

- An explanation for any lines that have not been completed, for example for Welsh companies where there is not an NEP-equivalent driver to the WINEP for English companies.
- Additional detail for lines where we have asked for the number of schemes but this is a different value to the number of sites, for example where there might be more than one scheme at a sewage treatment works.
- An explanation for using any of the additional lines (CWW20-71-75) to provide driver data that is not covered elsewhere in the table.
- An explanation of any material year-on-year variations.
- An explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures.
- An indication of the quality of data provided.

25. CWW21 – Wastewater network+ – Asset Condition Grade

CWW21 Additional guidance

25.1 This assessment is being undertaken to better understand the potential requirements for asset renewals at PR24. We will use this data as a check as to whether renewals are keeping pace with deterioration and to determine whether it can provide any further insight across companies of emerging asset health risks.

25.2 Grading is to be based on numbers of sewer collapses reported in the APR. It is recognised that collapses are not the only asset observation used to inform infrastructure renewals expenditure. The purpose of limiting the grading to collapses is so that an aggregate position for the industry can be assembled from a more consistent set of data and to facilitate a better comparison among companies of the state of these assets.

25.3 The sewer condition assessment previously utilised CCTV survey data. However, this alternative approach is being considered because:

- The extent of CCTV data coverage is highly variable between companies.
- A large proportion of CCTV surveys are commissioned to target service failures, and therefore the sewer lengths surveyed may be biased towards poor condition assets.
- The linkage between sewer condition and collapse rate is considered to be complex.

25.4 The approach is based on application of the PR04 and PR09 water mains condition grading approach to sewer. Further detailed guidance on the grading methodology was previously published by UKWIR [Report Number 08/RG/05/22 Volume 2].25

25.5 The profile of sewer length in each grade must reconcile with the average number of collapses per annum repaired over the past five years and must be set out in the commentary.

25.6 The grading methodology is based on aggregations of sewers with similar characteristics, termed cohorts. It is important to ensure that the cohort groupings meet certain criteria. Each cohort must be arranged so that its expected total number of collapses per year is within a tolerance of +/- 50% (as far as is practicable) of the nominal size shown in table CWW21.1. For any cohort where it is not considered

[25] The approach broadly follows the grading methodology set out in UKWIR, Review of water mains serviceability indicators and condition grading: Volume II – mains condition grading, 2006

practical to arrange its size to fall within this tolerance a commentary should be provided.

Table CW20.1 Cohort Guidance

Type of sewer	Nominal expected total number of collapses per year per cohort
All sewers.	2.5

25.7 Companies may find it necessary to use a period longer than five years, and their approach should be set down in the table commentary.

25.8 Note that the nominal sizes are fractional numbers of collapses per year, as these expected figures are to be calculated based on counting collapses over five years. The total length of sewer will vary between cohorts.

25.9 Whilst the size of any individual cohort may fall within the above tolerance of +/- 50%, it is not acceptable for all cohorts to be at the high end or the low end. Averaged over all cohorts the expected number of collapses must be within a tolerance of +/- 10% of the nominal size shown in the table above.

25.10 The cohort approach should be validated using spatial analysis techniques, based on distance between failures along the network. Note that if spatial analysis is made over a period different than five years then the distance between failures for each grade is proportionately different than shown. Companies should include in their commentary a graph of cumulative annual average bursts (y-axis) versus cumulative mains length (x-axis), having first ranked mains by decreasing burst rate of each cohort, taking care to limit the size of each cohort in line with UKWIR recommendation. This should be presented to a suitable scale to affect Pareto and Percentile analyses, together with commentary on salient points.

Figure CWW21 Example Cumulative Average Annual Collapses vs Cumulative Mains Length Graph

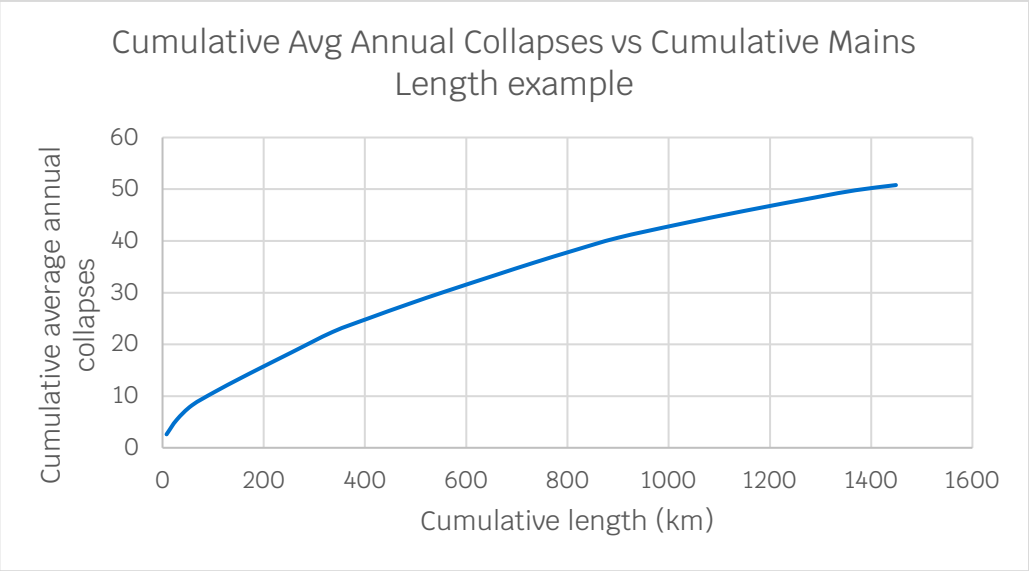

Table CW21.2 Sewer Condition Grading

Condition grade	General meaning
1	Excellent Collapse average up to 12/1000km/annum over five years, (equivalent to 16km or more between collapses over the five year period).
2	Good Collapse average greater than 12 up to 25 burst/1000 km/annum over five years, (equivalent to less than 16km metres down to 8km between collapses over the five year period).
3	Adequate Collapse average greater than 25 up to 50 collapses/1000km/annum over five years (equivalent to less than 8km down to 4km between collapses over the five year period).
4	Poor Collapse average greater than 50 up to 100/1000 km/annum over five years (equivalent to less than 4km down to 2km between collapses over the five year period).
5	Very Poor Collapse average greater than 100/1000 km/annum over five years (equivalent to less than 2km between collapses over the five year period).

25.11 A supporting .xls file should be provided that includes a full breakdown of cohorts and relative burst rate information. This will support wider analysis and industry comparison.

25.12 Companies should aim to align cohort groupings by using standardised primary variables of material as shown in Table CW21.3, type (e.g. foul, combined, surface water) diameter ≤165mm; >165mm and ≤320mm; >320mm and ≤625mm; >625mm and ≤1500mm; >1500mm) and age (e.g. 20 year bandings). Where cohorts are too large they can be split by secondary variables, including further standardised subdivisions of pipe diameter and age (10 year bandings), and standardised soil type variables (corrosivity and fracture potential), as well as non standardised user defined variables such as STW catchment, depth, gradient, CCTV grade. To support completion of the .xls we have published additional cohort table guidance, which can be accessed here.

Table CW21.3 Sewer Material

Material	Material Description
VC	Vitrified Clay
VI	Cast Iron
CO	Concrete
GRP	GRP
PVC	PVC
PE	PE
PF	Pitch Fibre
BR	Brick
Other	Other

25.13 Pipelines are subject to varying degrees of capital and operational maintenance over their life, which gives rise to the question as to what age band to put those lengths that have had significant rehabilitation. Only where the pipeline has been effectively replaced by structural refurbishment (for example cured in place structural lining of sewers) should the date of refurbishment be used as the construction date. Where a pipeline has been refurbished, but not structurally (for example cement mortar lining of water mains), then use the original date of construction. The company should, for completeness, state the length and over what period the network has been relined in each of the structural and non-structural categories.

25.14 The condition grade for sewage pumping mains should be calculated following the approach applied to water mains. The methodology for this is outlined within PR24 Business Plan Table Guidance part 3; Costs (wholesale) water, CW20. Acknowledging that the consequence of rising main failure is often high, consideration will be given to provision of condition grades with lower thresholds.

Table CWW21 line definitions

Line	Title	Definition	RAG 4.11 line reference
CWW21.1	Foul Sewers	Total length (km's) of foul sewers classified under each grade.	
CWW21.2	Combined Sewers	Total length (km's) of combined sewers classified under each grade.	
CWW21.3	Surface water sewers	Total length (km's) of surface water sewers classified under each grade.	
CWW21.4	Length of other wastewater network pipework	Total length (km's) of other wastewater network pipework classified under each grade.	
CWW21.5	Total length of "legacy" public sewers as at 31 March	Total length (km's) of "legacy" public sewers as at 31 March classified under each grade.	
CWW21.6	Length of formerly private sewers and lateral drains (s105A sewers)	Total length (km's) of formerly private sewers and lateral drains (s105A sewers) classified under each grade.	
CWW21.7	Sewage rising mains	Total length (km's) of sewage rising mains classified under each grade. This should add upto the total km of sewage rising main. Unit is KM's	

25.15 This assessment is being undertaken to provide a more informed view of asset condition. It will us the methodology adopted for PR04 and PR09. We will use this data to assess the extent to which companies understand the state of their assets and as a check as to whether renewals are keeping pace with deterioration and to provide insight across companies of emerging asset health risks.

CWW21 Commentary requirement

25.16 Companies should include the following commentary to this table:

- an explanation of any material variations between current and previous percentages of assets (where available) in each condition grade;
- an explanation of any changes in reporting methods / assumptions that have led to a material change in reported figures;
- the present coverage of company asset surveys;
- the procedures, including any statistical techniques adopted by the company to extrapolate the results of individual surveys to larger groups of assets;
- an indication of the quality of data provided; and
- confirm that the condition grading system (set out in the guidance above) used for this submission has been prepared in line with the guidance and explain differences where they are not on the same basis as that used historically.

- Confirmation of any data mapping undertaken to align with the primary or secondary variables of the cohort table. This is particularly relevant to soil corrosivity and/or soil fracture potential.

26. CWW22 – Net zero enhancement schemes

26.1 This table is added for companies to present water net zero schemes that form part of their company level enhancement programme for 2025-30 and to be considered for the industry net zero challenge. The expectations for company net zero enhancement programmes and the net zero challenge are described in the PR24 Final Methodology - Appendix 9 Setting expenditure allowances, pages 88-93.

26.2 These schemes should be where enhancement costs will be incurred and reducing net zero greenhouse gas emissions are the primary driver for investment (suitable for net zero challenge). Where the solution has another primary driver but has some additional costs to reduce the impact on greenhouse gas emissions these costs should be included in the standard enhancement line associated with the primary driver as part of a best value programme.

26.3 Where the net zero activity overlaps with base maintenance funded activities, such as the replacement of current assets, the base element should be identified and removed from the request together with any future base savings. The assumptions made for this adjustment should be described in the table commentary.

26.4 For each discrete scheme or programme present the unique scheme identification (eg CWW22_1), scheme name and a brief description to explain the type of activity the scheme involves and will ultimately deliver. The description should include sufficient detail to understand the scheme.

26.5 For the Selected or Feasible data field use the dropdown options to choose Selected for schemes that make up the company level net zero enhancement programme (note that the total cost of these schemes should equal the enhancement costs presented in lines CWW3.180 to CWW3.182. Those schemes not part of the company level programme but are suitable for consideration in the net zero challenge should be given the Feasible dropdown option.

26.6 Commentary on the data including assumptions around implicit allowance of base maintenance costs and how the carbon impact and benefits of schemes have been calculated should be included.

Table CWW22 definitions

Column	Title	Definition
CWW22.1 to CWW22.15	Scheme capex, scheme opex and scheme totex	Forecast enhancement capex, opex and totex presented each year from 2025-26 to 2029-30.

Column	Title	Definition
CWW22.16 to CWW22.18	AMP8 capex, AMP8 opex and AMP8 totex totals	Total forecast enhancement capex, opex and totex for the AMP8 period (2025-30).
CWW22.19	Wastewater network+ costs (% of AMP 8 Totex)	Percentage of the 2025-30 totex as presented in CWW22.18 that is within the Wastewater network+ price control.
CWW22.20	Bioresources costs (% of AMP 8 Totex)	Percentage of the 2025-30 totex as presented in CWW22.18 that is within the Bioresources price control.
CWW22.21 to CWW22.25	Scheme benefits (cumulative impact on tCO2e)	Net operational greenhouse gas emission impact (in tonnes equivalent of CO_2) of the scheme delivery presented as a cumulative impact annually from 2025-26 to 2029-30. The net change in operational greenhouse gas emissions should use the definition of emissions as aligned with the PR24 common performance commitment. Positive as an increase and negative for a decrease.
CWW22.26	Overall scheme impact on total greenhouse gas emissions (total impact on tCO2e)	Net greenhouse gas emission impact (in tonnes equivalent of CO_2) of the scheme delivery presented as a cumulative impact by 2029-30. The net change in greenhouse gas emissions include the combined operational and embedded emissions impact of investment. Embedded emissions reporting should be based on capital projects from cradle-to-build. Operational emission should be based on the definition of emissions as aligned with the PR24 common performance commitment. Increased emissions should be given positive value and decreased emissions a negative value.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We regulate the water sector in England and Wales.

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