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Creating tomorrow, together: Consulting
on our methodology for PR24

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

About this document

Version control

Version	Date published	Description
V1	7/7/2022	Draft methodology
V2		
V3		

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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.

2. General guidance

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

- 2.1 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.**
- 2.2 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.
- 2.3 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.
- 2.4 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

- 2.5 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).

3. CWW1 – Totex analysis – wastewater network + and bioresources

Table CWW1 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW1.1	Base operating expenditure	Operating expenditure excluding third party opex to deliver base levels of service. This line should equal line CWW2.14.	4E.1
CWW1.2	Enhancement operating expenditure	Total enhancement operating expenditure excluding third party opex. This line should equal line CWW3.143.	4E.2
CWW1.3	Developer services operating expenditure	Total developer services operating expenditure including third party opex. This line should equal line DS5.15 plus DS6.6 (wastewater network+).	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. 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 DS1.32. 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. This line should equal line CWW3.142.	4E.9
CWW1.10	Developer services capital expenditure	Total developer services capital expenditure including third party capex. This line should equal line DS5.14 plus DS6.3.	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. See appendix 1	4E.12
CWW1.13	Total gross capital expenditure	The sum of lines CWW1.11 and CWW1.12.	4E.13
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 DS1.32. Input as a positive number.	4E.14

Line	Title	Definition	RAG 4.10 line reference
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 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.23
CWW1.24	Total atypical expenditure	Total atypical expenditure. Calculated as the sum of lines CWW1.19 to CWW1.23.	4E.24

CWW1 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.

CWW1 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.

4. CWW1a – Totex analysis – wastewater network + and bioresources (post frontier shift and real price effects)

- 4.1 This table will mirror CWW1 but will include the impact of the frontier shift and real price effects assumptions included in table SUP11.

5. CWW2 – Base expenditure analysis – wastewater network + and bioresources

Table CWW2 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW2.1	Power	<p>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.</p> <p>For the line CWW2.1 companies should fill in this information based on the APR reporting guidance for the period 2022-25. We will not collect any information for this line for the period 2026-30.</p>	4K.1
CWW2.2	Income treated as negative expenditure	<p>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;</p> <ul style="list-style-type: none"> • 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. <p>For the line CWW2.2 companies should fill in this information based on the APR reporting guidance for the period 2022-25. We will not collect any information for this line for the period 2026-30.</p>	4K.2
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
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

Line	Title	Definition	RAG 4.10 line reference
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 DS4) and not in this line.	4K.12
CWW2.13	Costs associated with Industrial emissions directive	Costs associated with Industrial emissions directive.	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
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

Line	Title	Definition	RAG 4.10 line reference
CWW2.19	Power (shadow reporting)	<p>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.</p> <p>This line is to be shadow reported for the remainder of the 2022-30 period. 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.</p> <p>For the shadow reporting line CWW2.19 companies should fill in this information based on the final guidance for the period 2022-30.</p>	4K.19
CWW2.20	Income treated as negative expenditure (shadow reporting)	<p>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;</p> <ul style="list-style-type: none"> • 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. <p>This line is to be shadow reported for the remainder of the 2022-30 period. 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.</p> <p>For the shadow reporting line CWW2.20 companies should fill in this information based on the final guidance for the period 2022-30.</p>	4K.20

CWW2 Additional guidance

- 5.1 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.
- 5.2 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.

CWW2 Commentary requirement

5.3 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.

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

Table CWW3 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW3.1- CWW3.3	Biodiversity and conservation	Expenditure on WINEP/NEP schemes to deliver biodiversity improvement (NERC driver code), meet conservation objectives (HD driver code), or contribute to actions to achieve or maintain (no deterioration) favourable status (MCZ, SSSI and HD driver codes). This is for expenditure over and above any required to be reported in other lines.	
CWW3.4- CWW3.6	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 (driver code U_MON 3). This line should also be used for any event duration monitoring required under the Storm Overflow driver codes.	
CWW3.7- CWW3.9	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 (driver code U_MON4).	4M.7- 4M.9
CWW3.10- CWW3.12	Increase flow to full treatment	Expenditure on schemes listed in the WINEP/NEP to increase the flow to full treatment (driver code U_IMP5).	4M.10- 4M.12
CWW3.13- CWW3.15	Increase storm tank capacity – grey solution	Expenditure on grey (conventional) schemes listed in the WINEP/NEP to increase the storm tank capacity to 68 l/hd or to 2 hours retention at max flow into the tanks (driver code U_IMP6).	
CWW3.16- CWW3.18	Increase storm storage / reduce need for storm tanks on site – green solution	Expenditure on green solutions (eg. 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 storm tanks on site (under Storm Overflow drivers)	
CWW3.19- CWW3.21	Storage schemes to reduce spill frequency at CSOs, etc – grey solution	Expenditure on grey (conventional) solutions listed in the WINEP/NEP where the objective is to meet new or tightened spill frequency objectives at network assets, eg. CSOs, (whether or not there is an explicit spill frequency requirement) by the provision of new or additional storage volume in the network under Storm Overflow driver codes.	
CWW3.22- CWW3.24	Storage to reduce spill frequency at CSOs etc – green solution	Expenditure on green (non-conventional or nature based) solutions listed in the WINEP / NEP where the objective is to meet new or tightened spill frequency objectives at network assets, eg. CSOs, (whether or not there is an explicit spill frequency requirement) by the provision of new or additional storage capacity under Storm Overflow driver codes	

Line	Title	Definition	RAG 4.10 line reference
CWW3.25- CWW3.27	Surface water separation	Expenditure on surface water separation schemes to manage network flows under Storm Overflow driver codes.	
CWW3.28- CWW3.30	Chemical removal schemes	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 (driver codes WFD_ND_CHEM, WFD1 & 2, NDLS_CHEM3 & 4, & WFD_IMP_CHEM).	4M.28- 4M.30
CWW3.31- CWW3.33	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 3 contaminants) listed in the WINEP/NEP under driver codes WFD_INV_CHEM & WFD_INV_MP.	4M.31- 4M.33
CWW3.34- CWW3.36	Nitrogen removal	Expenditure on schemes listed in the WINEP/NEP where the primary objective is to meet new or tightened permit conditions for nitrogen under driver codes U_IMP, WFD_ND. Expenditure against nitrogen nutrient neutrality should be included in table DS8, and not in this line.	4M.34- 4M.36
CWW3.37- CWW3.39	Nitrogen Technically Achievable Limit (TAL) monitoring, investigation, or options appraisals	Expenditure on nitrogen Technically Achievable Limit (TAL) monitoring, investigation and options appraisal under driver WFD_INV_NTAL. Expenditure against nitrogen nutrient neutrality should be included in table DS8, and not in this line.	
CWW3.40- CWW3.42	Phosphorus removal – grey solution	Expenditure on schemes listed in the WINEP/NEP to deliver grey (conventional) solutions where the primary objective is to meet new or tightened permit conditions for phosphorus under driver codes U_IMP, WFD_ND and EnvAct_IMP1. Expenditure against phosphorus nutrient neutrality should be included in table DS8, and not in this line.	
CWW3.43- CWW3.45	Nutrient permit (N or P) tightening green solution	Expenditure on green solutions (eg. non-conventional or nature-based schemes including wetlands, reactive media, algae treatment, catchment nutrient balancing, etc) listed in the WINEP/NEP where the primary objective is to meet new or tightened permit conditions for phosphorus or nitrogen under driver codes U_IMP, WFD_ND and EnvAct_IMP1. Expenditure against phosphorus or nitrogen nutrient neutrality should be included in table DS8, and in this line.	
CWW3.46- CWW3.48	Tightening of sanitary parameters – grey solution	Expenditure on grey (conventional) solutions listed in the WINEP/NEP where the primary objective is to meet new or tightened permit conditions for one or more of the sanitary parameters, unless the objective is associated with a specific cost driver code for which there is a dedicated line elsewhere in this table (eg., septic tank replacements U_IMP7). In such cases costs should be excluded from this line and entered in the line for the relevant cost driver code.	

Line	Title	Definition	RAG 4.10 line reference
CWW3.49- CWW3.51	Tightening of sanitary parameters – green solution	Expenditure on green solutions (eg. non-conventional/nature based schemes such as wetland, reactive media, algae treatment, catchment nutrient balancing etc) listed in the WINEP/NEP where the primary objective is to meet new or tightened permit conditions for one or more of the sanitary parameters, unless the objective is associated with a specific cost driver code for which there is a dedicated line elsewhere in this table (eg., septic tank replacements U_IMP7). In such cases costs should be excluded from this line and entered in the line for the relevant cost driver code.	
CWW3.52- CWW3.54	Microbiological treatment – coastal waters	Expenditure for coastal water schemes listed in the WINEP/NEP where the objective is to meet new or tightened permit conditions for microbiological parameters under driver codes SW or BW. Solutions may include UV, nano filtration, ozonation and other chemical treatments.	4M.52- 4M.54
CWW3.55- CWW3.57	Microbiological treatment – inland waters	Expenditure for inland water schemes listed in the WINEP/NEP where the objective is to meet new or tightened permit conditions for microbiological parameters under driver code BW. Solutions may include UV, nano filtration, ozonation and other chemical treatments.	
CWW3.58- CWW3.60	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.	
CWW3.61- CWW3.63	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	
CWW3.64- CWW3.66	Fish outfall screens	Expenditure under WINEP/NEP to install outfall screens at sewage treatment works to prevent fish entrainment under driver codes SAFFA & WFD_PHYS HAB	
CWW3.67- CWW3.69	Sludge – disposal resilience and environmental impact	Expenditure under WINEP/NEP to improve resilience in the sludge supply chain to agriculture and other relevant use or disposal outlets, or expenditure to ensure no deterioration in water or soil quality as a result of sludge disposal under driver code SUiAR	
CWW3.70- CWW3.72	25 Year Environment Plan	Expenditure under WINEP/NEP on locally significant environmental measures (25YEP driver code) not eligible under any other driver, and with clear evidence of customer support.	
CWW3.73- CWW3.75	Investigations	Expenditure on investigations and/or options appraisals listed in the WINEP/NEP (driver codes INV and NDINV) to confirm / identify actions / determine impacts or the costs and technical feasibility of meeting required targets, unless the investigation is listed elsewhere in this table (specifically under driver codes WFD_INV_CHEM & WFD_INV_MP)	4M.73- 4M.75

Line	Title	Definition	RAG 4.10 line reference
CWW3.76- CWW3.78	New or upgraded storm overflow screens	TBC	
CWW3.79- CWW3.81	Placeholder - potential new WINEP driver 1	TBC	
CWW3.82- CWW3.84	Placeholder - potential new WINEP driver 2	TBC	
CWW3.85- CWW3.87	Placeholder - potential new WINEP driver 3	TBC	
CWW3.88- CWW3.90	Placeholder - potential new WINEP driver 4	TBC	
CWW3.91- CWW3.93	Placeholder - potential new WINEP driver 5	TBC	
CWW3.94- CWW3.96	Placeholder - potential new WINEP driver 6	TBC	
CWW3.97	Total environmental programme expenditure	The sum of lines CWW3.1 to CWW3.96.	4M.76
CWW3.98- CWW3.100	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 CWW3.110 to CWW3.112.	4M.41- 4M.43
CWW3.101- CWW3.103	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.	4M.44- 4M.46
CWW3.104- CWW3.106	First time sewerage (s101A)	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.	4M.47- 4M.49

Line	Title	Definition	RAG 4.10 line reference
CWW3.107- CWW3.109	Sludge enhancement (quality)	Expenditure on sludge treatment and disposal assets and associated biogas treatment for meeting new environmental obligations listed in the WINEP / NEP. This is for both infrastructure and non-infrastructure assets.	4M.50- 4M.52
CWW3.110- CWW3.112	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.	4M.53- 4M.55
CWW3.113 – CWW3.115	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.	4M.56- 4M.58
CWW3.116- CWW3.118	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).	4M.59- 4M.61
CWW3.119- CWW3.121	Security – SEMD	Expenditure to protect CNI and NI assets and on assessments of potential further improvements to comply with the Security and Emergency Measures Direction 2022 and Defra’s Protective Security Guidance.	4M.62- 4M.64
CWW3.122- CWW3.124	Security - cyber	Expenditure on schemes to enhance the security of network and information systems to comply with NIS Regulation 2018.	
CWW3.125- CWW3.127	Greenhouse gas reduction (net zero)	Expenditure on schemes where the primary driver is to reduce greenhouse gas emissions.	
CWW3.128- CWW3.130	Enhanced activity to address harm from storm overflows	Expenditure on making further improvements at storm overflows going beyond what is included in base costs and PR24 WINEP expenditure (in England).	
CWW3.131- CWW3.140	Additional lines 1-5	Other expenditure by purpose. Where possible companies should maintain consistency with corresponding lines in previous data submissions when using these lines.	
CWW3.141	Total other enhancement expenditure	The sum of lines CWW3.98 to CWW3.140	4M.81
CWW3.142	Total enhancement expenditure - capex	The sum of each category's capex lines (final calculation rule to be confirmed)	
CWW3.143	Total enhancement expenditure - opex	The sum of each category's opex lines (final calculation to be confirmed)	
CWW3.144	Total enhancement expenditure	The sum of lines CWW3.142 and CWW3.143	

CWW3 Additional guidance

- 6.1 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.
- 6.2 Expenditure included within third party services in table CWW1 should not be included in this table.
- 6.3 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.
- 6.4 Nutrient (nitrogen or phosphorus) removal schemes with a key driver of achieving nutrient neutrality at affected sites, as identified in Natural England's nutrient neutrality guidance, should be reported in table DS8.

Resilience enhancement

- 6.5 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.
- 6.6 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.
- 6.7 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.
- 6.8 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.
- 6.9 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**.

CWW3 Commentary requirement

6.10 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 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.

7. CWW4 – Wastewater network+ – Functional expenditure

Table CWW4 line definitions

Line	Title	Definition	RAG 4.10 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 3 rd party services)	Functional expenditure of STWs in size bands 1 to 5 (excluding 3 rd 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 3 rd party services)	Functional expenditure of STWs in size band 6 (excluding 3 rd party services). Calculated as the sum of CWW4.11 and CWW4.12.	7A.13
CWW4.14	Total operating functional expenditure (excluding 3 rd party services)	Total operating functional expenditure (excluding 3 rd party services). Calculated as the sum of CWW4.7 and CWW4.13.	7A.14

CWW4 Additional guidance

Functional expenditure

- 7.1 Functional expenditure is defined as operating expenditure excluding both third party costs and Local authority and cumulo rates.

Treatment works size

- 7.2 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 BOD5 per day). In calculating the size of a works, companies should assume that resident connected population contribute 60g BOD5/head/day and add the trade effluent load (total COD) using a conversion factor of COD:BOD of 2:1.
- 7.3 No allowance should be made for non-resident population when classifying the size band of a works.
- 7.4 Companies must include non-resident population when reporting loads and costs.
- 7.5 Under this classification scheme, large works are defined as those with an average daily loading >1,500kg BOD5/day, and small works are those with an average loading <=1,500kg BOD5/day.

Small works	BOD5 measure	Population equivalent
Size band 1	<= 15kg BOD ₅ /day	0 - 250
Size band 2	>15 but <= 30kg BOD ₅ /day	250 - 500
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	BOD5 measure	Population equivalent
Size band 6	> 1,500kg BOD ₅ /day	>25,000

CW4 Commentary requirement

- 7.6 Companies should include the following commentary to this table:
- An explanation of any large year-on-year variations.

8. CWW5 – Wastewater network+ – Large sewage treatment works

Table CWW5 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW5.1	Works name	Name of sewage treatment works	7B.1
CWW5.2	Classification of treatment works	<p>Classification of treatment works</p> <p>P = Primary treatment;</p> <p>SAS = Secondary Activated Sludge;</p> <p>SB = Secondary Biological Fixed Film;</p> <p>TA1 = Tertiary A1;</p> <p>TA2 = Tertiary A2;</p> <p>TB1 = Tertiary B1;</p> <p>TB2 = Tertiary B2</p> <p>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).</p>	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	BOD5 consent	The value of the effluent consent standard (95%ile) with respect to BOD5. 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 4.10 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

- 8.1 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.
- 8.2 Companies should follow the guidance in RAG2 to source appropriate cost drivers for allocation.

CWW5 Commentary requirement

- 8.3 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.

9. CWW6 – Wastewater network+ – Sewer and volume data

Table CWW6 line definitions

Line	Title	Definition	RAG 4.10 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
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

Line	Title	Definition	RAG 4.10 line reference
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
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

Line	Title	Definition	RAG 4.10 line reference
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

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.

10. CWW7 – Wastewater network+ – Sewage treatment works data

Table CWW7 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW7.1	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
CWW7.2	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
CWW7.3	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
CWW7.4	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
CWW7.5	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
CWW7.6	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
CWW7.7	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
CWW7.8	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

Line	Title	Definition	RAG 4.10 line reference
CWW7.9	STWs in size band 1	Number of sewage treatment works of size band 1. (See additional guidance)	7D.9
CWW7.10	STWs in size band 2	Number of sewage treatment works of size band 2. (See additional guidance)	7D.10
CWW7.11	STWs in size band 3	Number of sewage treatment works of size band 3. (See additional guidance)	7D.11
CWW7.12	STWs in size band 4	Number of sewage treatment works of size band 4. (See additional guidance)	7D.12
CWW7.13	STWs in size band 5	Number of sewage treatment works of size band 5. (See additional guidance)	7D.13
CWW7.14	STWs above size band 5	Number of sewage treatment works of size band above size band 5. (See additional guidance)	7D.14
CWW7.15	Total number of works	Total number of sewage treatment works of all sizes. Calculated as sum of CWW7.9 to CWW7.14.	7D.15
CWW7.16	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.	
CWW7.17	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.	
CWW7.18	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.	
CWW7.19	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.	
CWW7.20	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.	
CWW7.21	Weighted average number of days that UV permit applies per year for STWs above size band 6	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.	

Line	Title	Definition	RAG 4.10 line reference
CWW7.22- CWW7.168		Lines CWW7.1-15 repeated for additional 7 years.	

CWW7 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 treatment is a non-appointed activity (see appendix 1) and so should not be taken into account when completing lines CWW7.1 to CWW7.7.

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 BOD₅/day) by STWs of size band 1 (≤ 15 kg BOD₅/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 BOD₅/day) by STWs of size band 2 (15 - 30 kg BOD₅/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 BOD5/day) by STWs of size band 3 (30 – 120kg BOD5/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 BOD5/day) by STWs of size band 4 (120 – 600kg BOD5/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 BOD5/day) by STWs of size band 5 (600 – 1500kg BOD5/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 BOD5/day) by STWs above size band 5 (>1500kg BOD5/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.

CWW7 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. CWW8 – Wastewater network+ – Energy consumption and other data

Table CWW8 line definitions

Line	Title	Definition	RAG 4.10 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 sites with event duration monitoring	Number of intermittent discharge sites at which event duration monitors are installed during the report year. The associated costs are reported in CWW3.4-6. No account should be taken of other activity for which costs are also reported in CWW3.4-6 eg permit applications.	7E.3
CWW8.5	Number of monitors for flow monitoring at STWs	Number of STWs at which WINEP / NEP flow monitoring schemes under driver codes U_MON4 and U_MON5 have been delivered in the report year and for which the associated costs are reported in CWW3.7-9.	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

11.1 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.

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

Table CWW9 line definitions

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

CWW9 Additional guidance

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

Cumulative expenditure on schemes completed in the report year

- 12.2 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.

13. CWW10 – Wholesale wastewater local authority rates

Table CWW10 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW10.1	Rateable value	Rateable value.	
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.	
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.	

Line	Title	Definition	RAG 4.10 line reference
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

13.1 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.

13.2 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

13.3 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.

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

Table CWW11 line definitions

Line	Title	Definition	RAG 4.10 line reference
CWW11.1	Rechargeable opex - third party damage	Opex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.2	Rechargeable opex - build over	Opex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.3	Other rechargeable opex	Other third party wastewater service opex costs (price control) included in RAG 4.10 Appendix 1 not covered in lines 1 to 2.	
CWW11.4	Total third party wastewater service costs ~ price control (operating expenditure)	Sum of lines 1 to 3.	
CWW11.5	Bulk supplies	Opex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.6	Charges for reception and disposal of waste	Opex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.7	Other excluded charge opex	Other third party wastewater service opex costs (non-price control) included in RAG 4.10 Appendix 1 not covered in lines 5, 6, 9.	
CWW11.8	Third party wastewater npc opex excluding developer services	Sum of lines 5 to 7.	
CWW11.9	Developer services non-s185 diversions capex	Opex costs relating to non-s185 diversions.	
CWW11.10	Total third party wastewater service costs ~ non price control (operating expenditure)	Sum of lines 8 to 9.	
CWW11.11	Rechargeable capex - third party damage	Capex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.12	Rechargeable capex - build over	Capex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.13	Other rechargeable capex	Other third party wastewater service capex costs (price control) included in RAG 4.10 Appendix 1 not covered in lines 10 to 11.	
CWW11.14	Total third party wastewater service costs ~ price control (capital expenditure)	Sum of lines 10 to 12.	
CWW11.15	Bulk supplies	Capex costs relating to activities set out in RAG 4.10, Appendix 1.	
CWW11.16	Charges for reception and disposal of waste	Capex costs relating to activities set out in RAG 4.10, Appendix 1.	

Line	Title	Definition	RAG 4.10 line reference
CWW11.17	Other excluded charge capex	Other third party wastewater service capex costs (non-price control) included in RAG 4.10 Appendix 1 not covered in lines 15, 16, 19.	
CWW11.18	Third party wastewater npc capex excluding developer services	Sum of lines 15 to 17.	
CWW11.19	Developer services non-s185 diversions capex	Capex costs relating to non-s185 diversions.	
CWW11.20	Total third party wastewater service costs ~ non price control (capital expenditure)	Sum of lines 14 to 17.	

CWW11 Additional guidance

14.1 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

14.2 Companies should include the following commentary to this table;

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

15. CWW12 – Transitional spending in the wholesale wastewater service

Table CWW12 line definitions

The line definitions for this table are the same as for table CWW3 but for 2024-25 capex only.

CWW12 Additional guidance

- 15.1 The purpose of this table is for companies to identify the accelerated ('transition') wastewater service capital expenditure they would make in the last year 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). 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). We expect the majority of transition expenditure to be associated with delivering the future investment programme for the wastewater network plus price control. We do not expect transition expenditure to be requested in the bioresources control.
- 15.2 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 CW1, CW2 and CW3.
- 15.3 Allocation between capital maintenance and enhancement drivers - where an investment has both a maintenance and enhancement benefit, companies should proportionally allocate the expenditure in line with the proportional allocation approach used in their APR submissions. The maintenance expenditure should be included in the appropriate line for maintaining the long-term capability of the assets and the enhancement expenditure should be allocated to lines appropriate to the relevant cost category. If the enhancement component has more than one quality driver, please see guidance below.
- 15.4 Quality enhancement schemes' investment with more than one cost driver - where a quality enhancement scheme (or the proportionally allocated component of a quality enhancement scheme) in AMP8 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 additional lines.
- 15.5 Expenditure in this table should be included in 2025-30 forecast expenditure and **not** 2024-25 expenditure in table CWW3.

CWW12 Commentary requirement

15.6 Companies should include the following commentary to this table;

- An explanation of why it is efficient to bring the investment forward.
- An explanation of why it was not included in its outcomes and long-term planning at PR19.
- An explanation of the deadlines for investment and the statutory requirement to which it relates.

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

16. CWW13 – Best value analysis; enhancement expenditure – wastewater network+ and bioresources

Table CWW13 line definitions

- 16.1 This table will collect expenditure data to aid the calculation of benefit to cost ratios for the enhancement proposals in the company business plan. It requests information on capex, opex, third-party contributions and present value of capex and opex for each of the categories of expenditure in table CWW3.

CWW13 Additional guidance

- 16.2 Expenditure and third-party contribution figures for the AMP8 and AMP9 periods should 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. This guidance also applies to the present value data requested in this table.

Figures presented

- 16.3 in Table CWW13 should reflect the mean forecast of the expenditure and third-party contributions that companies expect to achieve in relation to the proposed enhancement projects over the specified period. Again, these options should be those which are due to start in AMP8.
- 16.4 Costs and third-party contributions should be adjusted to 2022–23 prices using the CPIH Index financial year average.
- 16.5 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).¹ 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 PR19 allowed return on capital rate unless we specify a new rate for PR24.
- 16.6 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

¹ See paragraphs 2.23, and 5.32 to 5.39.

realised beyond the 30-year period). A free-form column is available for companies to present these figures if companies choose to.

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

CWW13 Commentary requirement

16.8 Companies should include the following commentary to this table;

- 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 set out the length of the appraisal period used.

17. CWW14 – Best value analysis of least cost option; enhancement expenditure – wastewater network+ and bioresources

Table CWW14 line definitions

17.1 This table will collect expenditure data to aid the calculation of benefit to cost ratios for the least cost enhancement option – against which the proposed option will be assessed. It requests information on capex, opex, third-party contributions and present value of capex and opex of the least cost options for each of the categories of expenditure in table CWW3.

CWW14 Additional guidance

- 17.2 The least cost option is the option that minimises the whole life expenditure needed to meet the required statutory outcomes. This option can be best value or not. This option can also be the enhancement option proposed in the company business plan, in which case the same expenditure and third-party contribution figures that were used to inform Table CWW13 should be used in this table.
- 17.3 Expenditure and third-party contribution figures for the AMP8 and AMP9 periods should refer to those least cost projects which would have been expected to start in AMP8 if they had been taken forward, as opposed to the option proposed in the company business plan. This guidance also applies to the present value data requested in this table.
- 17.4 Figures presented in Table CWW14 should reflect the mean forecast of the expenditure and third-party contributions that companies expect to achieve over the specified period for the least cost options. Again, these options should be those which would have been due to start in AMP8.
- 17.5 Cost and third-party contribution figures should be adjusted to 2022-23 prices using the CPIH Index financial year average.
- 17.6 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).² 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

² See paragraphs 2.23, and 5.32 to 5.39.

straight-line depreciation during the whole life of the asset. The allowed returns should be calculated using the PR19 allowed return on capital rate unless we specify a new rate for PR24.

17.7 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 to that used in table CWW13. A free-form column is available for companies to present these figures.

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

CWW14 Commentary requirement

17.9 Companies should include the following commentary to this table;

- 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.

18. CWW15 – Best value analysis; benefits – wastewater network+ and bioresources

Table CWW15 line definitions

- 18.1 This table seeks to collect benefit data to aid the calculation of benefit to cost ratios for the enhancement proposals included in the company business plan. It requests information on the number of units of benefit created and benefit value that will be generated by these proposals for each of the categories of expenditure in table CWW3. The table also requests information on the present value of the benefits to be created by the expenditure proposals for each category of expenditure.
- 18.2 The data on number of units of benefit created will be used to help map the estimated benefit impact of the company enhancement proposals to performance commitments.

CWW15 Additional guidance

- 18.3 For each category of enhancement expenditure, the benefit information needs to be split out by benefit type. There are ten lines available for each category of expenditure. Companies need to select the benefit types that are relevant to the proposals underpinning each cost category. These can be selected from the drop-down list in the 'benefit type' column. Companies will need to fill out the benefit information requested for each of the 'selected' lines.

Benefit figures for the AMP8 and

- 18.4 AMP9 periods should refer to those enhancement projects which are expected to start in AMP8. This guidance also applies to the present value data requested in this table.
- 18.5 Figures in Table CWW15 should reflect the mean forecast of the benefit impacts that companies expect to achieve from the proposed enhancement projects over the specified period. Again, these projects should be those which are due to start in AMP8.
- 18.6 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 companies consider that the standardised values are not suitable or applicable to the benefits that are expected from company actions, then companies can use alternative unit values. In these instances, companies will have to present

compelling evidence supporting these alternative values. Sources of evidence used to support these values must be considered robust, sufficiently detailed and be openly available to us to verify if required.

- 18.7 Benefit value figures should be adjusted to 2022-23 prices using the CPIH Index financial year average.
- 18.8 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).
- 18.9 Companies should provide present value of benefits figures for the 30-year appraisal period as a minimum. Companies should also provide present value of benefits over a longer appraisal period if also provided in Tables CWW13 and CWW14. A free-form column is available for companies to present these figures. The longer appraisal period (if used) should be consistent to that used in Tables CWW13 and CWW14.

CWW15 Commentary requirement

18.10 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.

19. CWW16 – Best value analysis of least cost option; benefits – wastewater network+ and bioresources

Table CWW16 line definitions

19.1 This table seeks to collect benefit data to aid the calculation of benefit to cost ratios for least cost options – against which the proposed enhancement schemes will be assessed. It requests information on the number of units of benefit created and benefit value that will be generated by the least cost options for each of the categories of expenditure in table CWW3. The table also requests information on the present value of the benefits to be created by the least cost options for each category of expenditure.

CWW16 Additional guidance

19.2 The least cost option is the option that minimises the whole life expenditure needed to meet the required statutory outcomes. This option can be best value or not. This option can also be the proposed enhancement option in which case the same benefit information which was used to inform Table CWW15 should be used in this table.

19.3 For each category of enhancement expenditure, the benefit information needs to be split out by benefit type. There are ten lines available for each cost category. Companies need to select the benefit types that are relevant to the least cost options underpinning each cost category. These can be selected from the drop-down list in the 'benefit type' column. Companies will need to fill out the benefit information requested for each of the 'selected' lines.

19.4 Benefit figures for the AMP8 and AMP9 periods should refer to those least cost projects which would have been expected to start in AMP8 if they had been taken forward, as opposed to the proposed option in the company business plan. This guidance also applies to the present value data requested in this table.

19.5 Figures in table CWW16 should reflect the mean forecast of the benefits that companies expect to achieve from the least cost options over the specified period. Again, these options should be those which would have been due to start in AMP8.

19.6 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 companies consider that the standardised values are not suitable or applicable to the benefits that are expected from company actions, then companies can use alternative unit values. In these instances, companies will have to present compelling evidence supporting these alternative values. Sources of evidence used to support these values must be considered robust, sufficiently detailed and be openly available to us to verify if required.

- 19.7 Benefit value figures should be adjusted to 2022-23 prices using the CPIH Index financial year average.
- 19.8 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).
- 19.9 Companies should provide present value of benefit figures for the 30-year appraisal period as a minimum. Companies should also provide present value of benefits for a longer appraisal period if also provided in table CWW15. A free-form column is available for companies to present these figures. The longer appraisal period (if used) should be consistent to that used in table CWW15.

CWW16 Commentary requirement

19.10 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.

20. CWW17 Additional driver information – wastewater network+ and bioresources (placeholder)

20.1 This is a placeholder.

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

Table CWW18 line definitions

Line	Title	Definition	RAG 4.10 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.	
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 draft methodology document for identification of what can be considered as a cost adjustment claim.	
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.	
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.	
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.	
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).	
CWW18.7	Total net value of the claim	The difference between CWW18.5 and CWW18.6.	
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.	
CWW18.9	Totex for the control	This line should be equal to 'net totex' line CWW1.15 for the relevant control.	
CWW18.10	Materiality	The ratio between CWW18.6 and CWW18.9. Materiality of the cost adjustment claim should be assessed against the materiality thresholds indicated in the draft methodology document.	

CWW18 Additional guidance

21.1 Please see the cost appendix to the PR24 draft methodology for more details.

CWW18 Commentary requirement

21.2 Please see the cost assessment appendix and enhancement and cost adjustment claim assessment criteria annex to the PR24 draft methodology for more details.

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

Table CWW19 line definitions

Line	Title	Capital expenditure	Operating expenditure	Cost drivers	RAG 4.10 line reference
CWW19.1- CWW19.200	WINEP scheme	<p>The capital expenditure incurred each year for each phosphorus removal scheme required by the Water Industry National Environment Programme (WINEP) or National Environment Programme (NEP). 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.</p> <p>The actual costs incurred in the reporting year should be given. Forecast cost should be given for future years.</p>	<p>The operating expenditure incurred each year for each phosphorus removal scheme required by the Water Industry National Environment Programme (WINEP) or National Environment Programme (NEP). 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.</p> <p>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.</p>	<p>Cost drivers for each scheme identified in the lines above. This includes the design population equivalent served by the scheme (if this is different from the population equivalent for the site provide an explanation in the table commentary), the historical phosphorus consent level for the site, if any, and the new or tightened consent (mg-P/L).</p>	7F.1 – 7F.200
CWW19.201	Total	The sum of lines CWW19.1 to CWW19.200.	The sum of lines CWW19.1 to CWW19.200.		7F.201

CWW19 Additional guidance

- 22.1 We require costs and cost drivers to be reported for every scheme in every year. 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.

- 22.2 Forecast costs to be incurred beyond the reporting year 2029–30 should be given in total in the column ‘After 2029–30’. For operating costs, the average annual forecast cost should be given. The total capital and operating expenditure in line CWW19.201 should reconcile with that given in table CWW3 for phosphorus removal schemes. Only schemes reported under CWW3.40 and CWW3.41 need to be reported in CWW19.
- 22.3 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.
- 22.4 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

Examples

The following 3 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 consent 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 consent in the past and the scheme will meet an enhanced consent 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 consent will change from 2 mg/L to 0.2 mg/L.

Example table CWW19 for the 3 schemes in 2028-29

	Units	Capital expenditure							Operating expenditure							Cost driver 1	Cost driver 2	Cost driver 3	Cost driver 4	PR24 BP reference	RAG 4 reference
		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	Site population equivalent (000's)	Historical consent for phosphorus (mg/L)	Enhanced consent for phosphorus (mg/L)			
WINEP scheme 1	£m	0	0	0	0.1	0.15	0	0	0	0	0	0	0.005	0.01	0.01	100,000	1	0.5		CWW19.1	7F.1
WINEP scheme 2	£m	0	0	0	0	0.05	0.2	0	0	0	0	0	0	0	0.01	100,000	0	0.5	0.5	CWW19.2	7F.2
WINEP scheme 3	£m	0	0	0	0	0.05	0.1	0.1	0	0	0	0	0	0	0.01	100,000	2	0.2		CWW19.3	7F.3

23. CWW20 – Wastewater network+ – Sewage treatment works population data

Table CWW20 line definitions

Line	Title	Definition	RAG 4.10 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 fixed film STWs (including biological filters and rotating biological contactors) or activated sludge STWs at which new or tightened permit conditions for phosphorus are met by schemes delivered in the report year, and for which costs are reported in CWW3.28-30.	7D.17
CWW20.3	Current population equivalent served by STWs with tightened/new N permits	Population equivalent served by STWs at which new or tightened permit conditions for nitrogen are met by schemes delivered in the report year and for which costs are reported in CWW3.25-27.	7D.18
CWW20.4	Current population equivalent served by STWs with tightened/new sanitary parameter permits	Population equivalent served by STWs at which new or tightened permit conditions for one or more sanitary parameters are met by schemes delivered in the report year and for which costs are reported in CWW3.31-33.	7D.19
CWW20.5	Current population equivalent served by STWs with tightened/new microbiological standards	Population equivalent served by STWs at which new or tightened permit conditions for microbiological parameters to meet the requirements of the EU Shellfish Waters or revised Bathing Water Directives are met by schemes delivered in the report year and for which costs are reported in CWW3.34-36.	7D.20
CWW20.6	Population equivalent served by STWs with enhanced treatment capacity	The increase in treatment capacity, from company action, measured in population equivalent. The increase must be measured from the previous year's capacity of existing sewage treatment works and the previous capacity at each works must be the higher than the then current design capacity or the company's revised understanding of actual capacity before the company's action.	7D.21

Line	Title	Definition	RAG 4.10 line reference
CWW20.7	Current population equivalent served by STWs with tightened/new permits for chemical	Population equivalent served by STWs at which new or tightened permit conditions for chemicals 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. Include for schemes delivered in the report year and for which costs are reported in CWW3.28-30. Exclude population equivalent served by STWs associated with investigations for which costs are reported in CWW3.31-33.	7D.22
CWW20.8	Current population equivalent served by septic tank replacement projects	Population equivalent served by STWs which currently have septic tank treatment, 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 wetlands are due to be replaced under 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 STWs to prevent the entrainment of fish.	
CWW20.13	Cumulative shortfall in FFT addressed by WINEP / NEP schemes to increase STW capacity	Cumulative shortfall in flow to full treatment at STWs being addressed by schemes listed in the WINEP / NEP, which are delivered in the report year and for which costs are reported in CWW3.10-12 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.23
CWW20.14	Additional storm tank capacity provided at STWs – grey solution	The new or additional volume provided by a conventional grey storm tank solution to meet a requirement to increase the storm tank capacity to 68 l/hd or to 2 hours retention at max flow into the tanks by schemes listed in the WINEP/NEP, delivered in the report year and for which costs are reported in CWW3.13-15. 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.	7D.24

Line	Title	Definition	RAG 4.10 line reference
CWW20.15	Additional volume of effective storm storage – green solution	The new or additional volume equivalent provided by a non-conventional or nature-based solution, such as a wetland or sustainable urban drainage system. It must equate to an increase in storm storage capacity to 68 l/hd or to 2 hours retention at max flow into the tanks by schemes listed in the WINEP / NEP, delivered in the report year and for which costs are reported in CWW3.16-18.	
CWW20.16	Total number of STW sites where additional storage has been delivered	Total number of STW sites where additional storage has been delivered	
CWW20.17	Number of STW sites where additional storage has been delivered with pumping	Number of STW sites where additional storage has been delivered with pumping in the reporting year.	
CWW20.18	Number of sites benefitting from green infrastructure replacing the need for storm tank storage	Total number of sites where a green (non-conventional or nature-based solution such as a wetland or sustainable urban drainage system) has been installed for storm storage under the WINEP/NEP, as an alternative to storm tank storage in the reporting year.	
CWW20.19	Additional volume of network storage at CSOs etc to reduce spill frequency – grey infrastructure	The volume of new or additional storage in the network provided to meet new or tightened spill frequency requirements at CSOs etc, by schemes listed in the WINEP / NEP delivered in the report year and for which costs are reported in CWW319-21. 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 the 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).	7D.25
CWW20.20	Additional volume of effective network storage to reduce CSO spill frequency – green solution	The volume 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 and for which costs are reported in CWW3.22-24. The volume reported should be the volume required to meet the 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 4.10 line reference
CWW20.21	Number of individual sites delivering additional network storage - grey solution	Number of sites where additional network storage has been delivered by grey solutions in the reporting year under the WINEP/NEP.	
CWW20.22	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, in the reporting year under the WINEP/NEP.	
CWW20.23	Number of individual sites delivering additional network storage through green solutions	Number of sites where additional network storage has been delivered by green (non-conventional or nature-based) solutions in the reporting year under WINEP/NEP.	
CWW20.24	Surface water separation drainage area removed	Area in m ² of surface water separation drainage area removed in the reporting year under WINEP/NEP, and for which costs are reported in CWW3.25-27.	
CWW20.25	Total number of WINEP/NEP investigations	Total number of investigations and/or options appraisals (INV and NDINV driver codes) in the WINEP/NEP to confirm / identify actions / determine impacts or the costs and technical feasibility of meeting targets.	

CWW20 Commentary requirement

23.1 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.

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