National Performance Review 2017/18

DEFINITION GUIDELINES

water
NEW ZEALAND
The New Zealand Water & Wastes Association Wairoa Aotearoa

Revision 3, Last updated 6th August 2018

Revision Status

Revision Status	Date Updated	Measure updated	Description of change
2	2nd August 2018	**WSS11: Water restriction days**	The definition has been updated to reflect that this field should show the total number of days water restrictions were in place, multiplied by the number of affected properties. The previous definition used the words "community members" in place of properties.
		WSS12: Boiled water notices	The definition has been updated to reflect that this field should show the total number of days boiled water notices were in place, multiplied by the number of affected properties. The previous definition used the words "community members" in place of properties.
		WWA4: Wastewater CCTV inspection	Updated to clarify that CCTV inspections conducted following the installation of new pipes should be included.
		SWA6: Stormwater CCTV inspection	Updated to clarify that CCTV inspections conducted following the installation of new pipes should be included.
		SWS5: Flooding events	Updated to clarify that the definition of a flooding event; • Only includes events where habitable floors are flooded • Does not include floods that occur outside of areas with stormwater services • Does not include floods caused by tidal inundation
		SWS5a: Number of habitable floors affected	Updated to clarify that this data does not include; • floods that occur outside of areas with stormwater services • floods caused by tidal inundation
3	6th August 2018	**CB19d: SCADA Monitoring**	Definition expanded to clarify that a monitoring point is defined as any digital or analogue field input into the SCADA system (e.g. flow monitoring points, overflow monitoring point etc.).

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1 Common Information

Background

1.1 TOTAL AREA (km^2) CB1

Total land area under the participants' jurisdiction, sourced from Statistics New Zealand.

1.2 TOTAL POPULATION CB2

Total usually resident population living in the area under the participants' jurisdiction. Data has been sourced from the Statistics New Zealand most recent population projection.

If an organisation has access to a more accurate population estimate the default calculation may be overwritten. In these circumstances the "Comments" column should be used to outline the approach used to derive the population estimate.

1.3 PROPERTIES – RESIDENTIAL, NON-RESIDENTIAL, TOTAL CB3, CB4, CB5

CB3 Residential properties: Total number of households in the area under the participants' jurisdiction. Data has been sourced from the most recently available Statistics New Zealand census data on occupied and unoccupied private dwellings.

CB4 Non-residential properties: Total number of properties other than residential including commercial properties and other public buildings (e.g. public schools and hospitals) in the area under the participants' jurisdiction.

CB5 Total Properties: Total number of all properties in the area under the participants' jurisdiction.

$$Total\ Properties (CB5) \ = \ Residential\ Properties\ (CB3) + \ Non-Residential\ (CB4)$$

1.4 HOUSEHOLD OCCUPANCY CB6

Average number of usual residents per household.

$$Household\ Occupancy\ (CB6) = \frac{Total\ Population\ (CB2)}{Residential properties\ (CB3)}$$

1.5 HOUSEHOLD INCOME CB7

Average household income in the jurisdiction. Data has been sourced from the most recent Statistics New Zealand census on the household income by Territorial Area.

Staff

1.6   INTERNAL STAFF   CB10

The number of full time employees on the organisations payroll directly or indirectly involved in the delivery of 3 waters services.

It may be necessary to apportion staff providing 'overhead' functions that support the delivery of these services. Only include staff that spend greater than 50% of their time supporting water service delivery.

1.7   STAFF VACANCIES (FTE)   CB10a

The number of vacancies in water, wastewater and stormwater services as time of reporting.

1.8   CONTRACTED STAFF (FTE)   CB11

Total number of contracted staff providing water, wastewater and stormwater services (includes only contractors permanently working on service delivery).

The number of full time employees not on the organisations payroll but exclusively involved in the delivery of 3 waters services for the organisation.

Does not include consultancies contracted to perform one of tasks.

Does include consultants employed to backfill vacant positions e.g. a consultant working for the organisation for three months, full time to backfill a vacant position would be recorded as 0.25FTE.

1.9   NEAR MISS REPORTS   CB12

Include near misses reported by staff and contractors working on drinking, waste and stormwater networks, and notified to either the organisation or Worksafe.

A near miss is defined as any incident that had the potential to cause damage to people, environment, property and/or the organisations reputation, but for some reason did not cause any harm or damage.

1.10   LOST TIME INJURIES   CB13

Loss of at least one complete shift or day off work (or more) by a staff or contractors as a result of a workplace incident causing illness or injury.

Record as the number of days lost per full time employee (e.g. a staff member working 4 hours per day, and has 2 days off would be recorded as 1).

Technology

1.11   SCADA (Supervisory control and data acquisition)   CB19a, CB19b, CB19c, CB19d

CB19a Analogue SCADA: The approximate proportion of the SCADA system utilising analogue communications.

CB19b Digital SCADA: The approximate proportion of the SCADA system utilising digital communications. Reference any "Industrial Internet of Things" applications in use in the comments field.

CB19c SCADA Controls: The approximate proportion of your network that can be controlled using your SCADA system.

CB19d SCADA Monitoring: The approximate proportion of monitoring points in the network connected to the SCADA system. A monitoring point is defined as any digital or analogue field input into the SCADA system (e.g. flow monitoring points, overflow monitoring point etc.).

2 Water Supply

Background

2.1   WATER SERVICED POPULATION   WSB1a

Total residential population serviced by a reticulated water supply. This field will populate automatically based on census data and properties serviced.

This is a built in calculation in the spreadsheet determined using the following formula:

$$Total\ Water\ Serviced\ Population\ [WSB1a] \\ = Household\ Occupancy\ [CB6] \\ \times Water\ Serviced\ Properties: Residential\ [WSB2]$$

If an organisation has access to a more accurate figure the default calculation may be overwritten. In these circumstances the "Comments" column should be used to outline the approach used to derive the population estimate.

2.2   WATER SUPPLY SERVICE COVERAGE   WSB1b

The percentage of the population serviced by the public reticulated water supply network.

This is a built in calculation in the spreadsheet determined using the following formula:

$$Total\ Water\ Serviced\ Population\ [WSB1b] = \frac{Total\ Water\ Serviced\ Population\ [WSB1]}{Total\ Population\ [CB2]}$$

If an organisation has access to a more accurate figure the default calculation may be overwritten. In these circumstances the "Comments" column should be used to outline the approach used to derive the population estimate.

2.3   WATER SERVICED PROPERTIES: RESIDENTIAL   WSB2

Total number of residential properties serviced by a reticulated water supply. Include method for determining number of serviced properties in multi-unit complexes in the comments field.

The number of residential water serviced properties;

- connected to the organisations public reticulated water supply network
- the subject of billing for water supply (fixed and/or consumption)

It does include connected but non-rateable properties.

It does not include rated but unconnected properties.

A tenanted property which is separately metered and in respect of which the tenant is liable for water usage counts as 1 property (i.e. the owner and tenant of a rented property are not counted as separate properties).

Multi-unit dwellings should be counted based on the number of separately occupied dwellings. The approach used to determine this figure is to be specified in the comments field. This may be determined based on the number of dwellings that are separately billed/rated e.g. a body corporate with only one supply connection but with 100 apartments, each receiving a separate water bill will be counted as 100. If a multi-unit dwelling (e.g. retirement village) received a

single bill, but consists of multiple dwellings these should be included, where information is available to do so.

2.4 WATER SERVICED PROPERTIES: NON-RESIDENTIAL WSB3

Total number of non-residential properties serviced by a reticulated water supply.

Non-residential is defined as any business or other property that is not identified as a residential connection.

Where a single non-residential connection services multiple tenancies, but multiple accounts are issued, the number of accounts (not the number of connections) should be recorded.

2.5 TOTAL WATER SERVICED PROPERTIES WSB4

Total number of all properties serviced by a reticulated water supply.

This is a built in calculation in the spreadsheet determined using the following formula:

$$Total\ Water\ Serviced\ Properties\ [WSB4]$$
$$= Total\ Water\ Serviced\ Properties: Residential\ [WSB2]$$
$$+ Total\ Water\ Serviced\ Properties: Non-residential\ [WSB3]$$

2.6 WATER SUPPLIED TO OWN SYSTEM (m³/year) WSB5

Volume of water supplied in area under the Councils' jurisdiction. This is 'Water Supplied' in terms of the standard Water Balance (see below). It includes system losses after the treatment plant.

Own Sources	System Input	Water Exported			Billed Water Exported to other Systems	Revenue Water
		Water Supplied	Authorised Consumption	Billed Authorised Consumption	Billed Metered Consumption by Registered Customers	
Water Imported	(allow for bulk meter errors)				Billed Unmetered Consumption by Registered Customers	
				Unbilled Authorised Consumption	Metered	Non-Revenue Water
					Unmetered	
			Water Losses	Apparent Losses	Unauthorised Consumption	
					Customer Metering Under-registration	
				Real Losses	Leakage on Mains Leakage and Overflows at Service Reservoirs Leakage on Service Connections up to the street/property boundary	

2.7 AUTHORISED CONSUMPTION (m³/year) WSB6

Total volume of potable water consumed by <u>all customers</u> (residential and non-residential) in the water serviced area including any water exported to other systems.

This is "Billed Authorised Consumption' and "Unbilled Authorised Consumption" in terms of the standard Water Balance (see above).

This relates to both metered and unmetered consumption by both residential and non-residential customers.

2.8   NON-RESIDENTIAL WATER CONSUMPTION (m³/year)   WSB7

Water consumption for non-residential properties, including rural and agricultural uses, and outdoor areas.

If rural schemes include a known number of residential properties, which are not separately metered, an estimate of residential consumption should be subtracted from non-residential water consumption. This water use can be determined by multiplying the number of residential properties in the rural scheme, by the estimated average daily residential water consumption (WSB8).

2.9   AVERAGE DAILY RESIDENTIAL WATER CONSUMPTION (litres/person/day) WSB8

Calculated residential water consumption based on "Water Supplied to Own System" and "Total Water Serviced Population".

This measure is automatically derived based on the formula below. If a more accurate measure of residential water use exists over-right the automatic formula (e.g. based on meter reads). If overwritten explain how the figure has been derived in the 'Comments' column.

$$Average\ Daily\ Residential\ Water\ Consumption\ [WSB8]$$
$$= \frac{\begin{array}{c}Water\ Supplied\ to\ Own\ System\ [WSB5] - Total\ nonresidential\ Water\ Consumption\ [WSB7] \\ - Estimated\ total\ network\ water\ loss\ [WSE1]\end{array}}{365 \times Total\ water\ serviced\ population\ [WSB1]}$$
$$\times 1000$$

Pipelines

2.10   LENGTH OF WATER SUPPLY NETWORK (km)   WSA1a, WSA1b, WSA1c

WSA1a Length of Water Supply Network

Total length of public water mains (excluding private laterals). This includes all trunks, reticulation mains and service leads up to the meter, or point of supply for the supply of potable water.

It does not include lengths associated with customer water services within private property boundaries (as indicated on the figure below), or source works such as bore fields not associated with the reticulated water supply network. Do not count disused pipe lengths, even if they are maintained for possible future use.

WSA1b **Length of water mains renewed using internal CAPEX**
WSA1c Length of new water mains constructed using internal CAPEX (NOT vested to the organisation by developers)
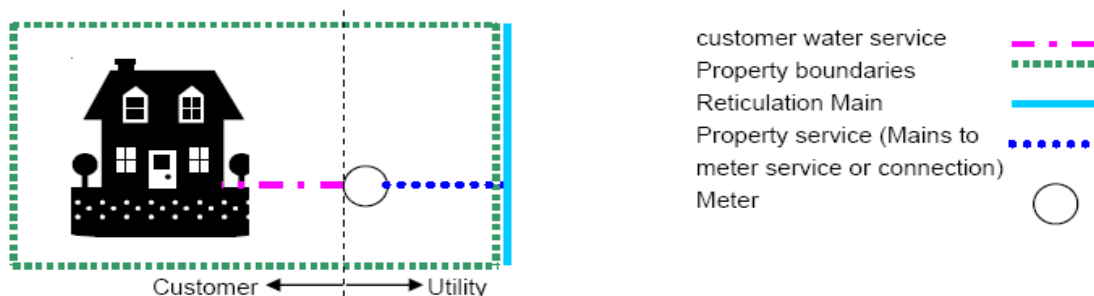
2.11   CONDITION GRADE (%) WSA2a, WSA2b, WSA2c, WSA2d, WSA2e, WSA2f, WSA2g

WSA2a Percentage of water pipelines that have received a condition grading of 1.

WSA2b Percentage of water pipelines that have received a condition grading of 2

WSA2c Percentage of water pipelines that have received a condition grading of 3

WSA2d Percentage of water pipelines that have received a condition grading of 4

WSA2e Percentage of water pipelines that have received a condition grading of 5

WSA2f Percentage of water pipelines that have not had their condition graded

WSA2g Pipeline condition assessment approach: condition grading approached used for WSA2

2.12   AVERAGE AGE OF WATER PIPELINES (years)   WSA3

Weighted average age of all water pipelines within the total water serviced area.

This should be calculated by taking into account the length and age of pipelines as follows.

$$\frac{\sum(length\ of\ pipeline\ \times age\ of\ pipeline)}{\sum length\ of\ pipeline}$$

Other assets

2.13   WATER TREATMENT PLANTS   WSA4, WSA4a

Total number of water treatment plants

WSA4a Water Treatment plant Standby Generators: the number of water treatment plants with backup generators. If a plant has more than one back-up generator to meet the total power needs list this only as one.

2.14   WATER PUMP STATIONS   WSA5, WSA5a

Total number of water pump stations (after the final stage of the water treatment process) in area under the Council's jurisdiction.

Includes any pump station used to deliver potable water after the final stage of the water treatment process. Do not include treatment plants with a pump station on site to deliver treated water into the water distribution system

WSA5a Water Pump stations standby generators: The number of water pump stations with backup generators. If a pump has more than one back-up generator to meet the total power needs list this only as one.

2.15   WATER SUPPLY RESERVOIRS   WSA6

Total number of water supply reservoirs (but excluding bulk storage reservoirs and sub-surface suction tanks where applicable) in area under the Council's jurisdiction.

Includes distribution system reservoirs, tanks, treated water tanks and reservoirs. Does not include bulk raw water storage facilities or small break pressure rural tanks.

If one site or location has more than one tank/reservoir, then count each tank/reservoir separately.

2.16   WATER STORED IN RESERVOIRS (m³)   WSA7

Annual arithmetic mean of the 24 hour average volume of water stored in reservoirs. Includes the volume stored in distribution system reservoirs, treated water tanks at reservoirs etc. but does not include bulk raw water storage.

2.17   CAPACITY OF WATER STORAGE RESERVOIRS(m³)   WSA8

Total volume of water that could be stored in water supply reservoirs. Include distribution system reservoirs, treated water tanks at treatment plants etc. but not bulk raw water storage.

2.18   PROPERTIES WITH WATER METERS: RESIDENTIAL, NON-RESIDENTIAL   WSA9a, WSA9b

WSA9a Number of residential properties with metered connections.

WSA9b Number of non-residential properties with metered connections.

2.19   PROPERTIES WITH WATER RESTRICTORS   WSA10

Number of properties with water restrictors (both residential and non-residential).

2.20   WATER TREATMENT SLUDGE PRODUCTION (tDS/year)   WSA11

Amount of water sludge produced. The sludge produced from removal of sediment and algae in the raw water and from coagulation of dissolved minerals and use of coagulation and flocculation chemicals, from the treatment of surface water.

2.21   CONDITION ASSESSMENT OF ABOVE GROUND ASSETS WSA13a, WSA13b, WSA13c

WSA13a A yes or no response to clarify if you have a regular condition assessment programme for above ground water supply assets.

WSA13b The protocol used for above ground condition assessments.

WSA13c The percentage of above ground assets are assessed within 3 years.

Water loss

2.22   NETWORK WATER LOSS   WSE1a-WSE1h

Total network water losses using definitions outlined in the "[Benchmarking of Water Losses in New Zealand Manual, February 2008](#)", available at the following page;
https://www.waternz.org.nz/waterlossguidance

WSE1b Percentage Estimated Total Network Water Loss Is automatically calculated based on the following formula:

$$Percentage\ estimated\ total\ network\ water\ loss\ [WSE1b]$$

$$= \frac{Estimated\ total\ network\ water\ loss\ \left(\frac{m^3}{year}\right)[WSE1a]}{Water\ supplied\ to\ own\ system\ \left(\frac{m^3}{year}\right)[WSB5]}$$

2.23   AVERAGE SYSTEM PRESSURE (m)   WSE2

Average distribution system pressure. Methods for calculation are outlined in Appendix E of the "Water New Zealand: Water Loss Guidelines February 2010", available at the following page;
https://www.waternz.org.nz/waterlossguidance

Energy

2.24   ENERGY CONSUMPTION AND INTENSITY: WATER SUPPLY (GJ)   WSE3, WSE3a

WSE3 Energy consumption: water supply is the total energy consumed by the water system pumps, and water treatment plants. Do not include energy use related to fleet vehicles or offices.

Joules of energy provided by all energy sources including electricity, diesel, gas and biogas should be included.

WSE3a Energy intensity: water supply is the energy used per cubic meter of water supplied, automatically calculated based on the following formula:

$$Energy\ Intensity: Wastewater\ [WWE5b]$$

$$= \frac{Energy\ consumption: Wastewater\ \left(\frac{GJ}{year}\right)[WSE5a]}{Total\ wastewater\ produced\ \left(\frac{m^3}{year}\right)[WWB7]}$$

Outages

2.25   UNPLANNED TOTAL INTERRUPTIONS: WATER SUPPLY   WSS1

The number of unplanned total interruptions to service experienced by properties excluding interruptions caused by third party damage.

An unplanned water supply interruption is any event causing a total loss (cessation or outage) of water supply to customers due to an asset failure in the public reticulated network.

An interruption can affect just one customer or it can affect many customers but it is only counted once e.g. 1 break affects 30 dwellings in a street but only 1 interruption is recorded.

It includes situations where the duration of a planned interruption exceeds that which was originally notified (e.g. a water organisation advises customers that an interruption to service will occur and will last for three hours. If the interruption actually lasts five hours this counts as one unplanned interruption). If a property experiences more than one interruption each event should be counted.

It excludes interruptions caused by bursts or leaks in the customer water connection (i.e. within the customers' property boundary) or interruptions due to planned meter replacements. It also excludes interruptions caused by third parties as this is not necessarily a result of an asset failure in the public reticulated network.
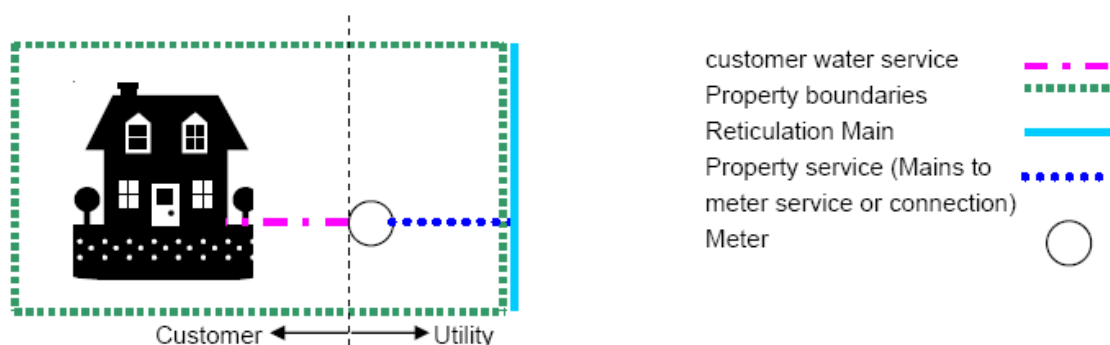
2.26   UNPLANNED INTERRUPTION FREQUENCY: WATER SUPPLY (Nu/1000 prop) WSS2

This field is automatically calculated based on the following formula:

$$Unplanned\ Interruption\ Frequency\ [WSS2]$$
$$= \frac{Unplanned Total\ Interruptions\ [WSS1]}{Total\ Water\ Serviced\ Properties\ [WSB4]} \times 1000$$

2.27   PLANNED INTERRUPTIONS: WATER SUPPLY   WSS3

Total number of planned interruptions to water service for maintenance or renewal works, excluding water meter or water restrictor replacements.

Total number of interruptions to the water service for maintenance or renewal works. A water supply interruption is any event causing a total loss (cessation or outage) of water supply.

An interruption can affect just one customer or it can affect many customers but it is only counted once e.g. 1 break affects 30 dwellings in a street but only 1 interruption is recorded.

It excludes interruptions that occur in the customer water connection (i.e. within privately owned pipes), or interruptions caused by meter or water restrictor replacement programs.

2.28 THIRD PARTY INCIDENTS: WATER SUPPLY WSS4

The number of unplanned interruptions to service caused by third parties.

An 'incident' can affect just one customer or it can affect many customers but it is only counted once e.g. 1 break affects 30 dwellings in a street but only 1 incident is recorded. 1 break affects 1 dwelling, 1 incident is recorded.

Third Party Incidents are the number of incidents where one or more customers experience an unplanned total loss of water supply service caused by third parties (i.e. not the water organisation or its contractor(s)).

It excludes interruptions caused by bursts or leaks in the property service connection i.e. mains to meter connection (see figure overleaf) or customer water service connection.

Complaints

2.29 WATER SUPPLY COMPLAINTS WSS5, WSS5a, WSS5b, WSS5c, WSS5d WSS5e

Total number of complaints received by the organisation in the reporting year. Where water supply complaints related to each of the following categories are available these should be recorded separately:

WSS5a: Drinking water clarity

WSS5b: Drinking water taste

WSS5c: Drinking water odour

WSS5d: Drinking water pressure or flow

WSS5e: Continuity of supply

Total water quality complaints WSS5 are determined by summing complaints listed in the categories above. Where a breakdown of total complaints is not available the calculation in WSS5 should be over-ridden and a total complaints value entered.

Where water quality complaints have been received that do not fall within the above categories this value should be overwritten and total complaints listed. This may include complaints related to:

- discolouration
- stained washing, or
- illness

Complaints should be recorded using the following definition of a complaint in ASNZ10002-2014 Complaints management standard:

"Expression of dissatisfaction made to or about an organisation, related to its products, services, staff or the handling of a complaint, where a response or resolution is explicitly or implicitly expected or legally required".

If an organisation receives a request for service but the customer does not express dissatisfaction this is not defined as a complaint. E.g. a customer may request that their water pressure is reduced, but not be dissatisfied with the delivery pressure.

Where there is more than one complaint per event each individual complainant is counted separately, not each event or occurrence. Where there are multiple complaints made by a single complainant in relation to one event, these may be counted as a single complaint.

Complaints related to council policies and procedures in relation to drinking water service delivery but not assets, operation or water quality should not be included. This may include complaints related to water rates and charging regimes as well as water restrictions.

2.30 WATER QUALITY COMPLAINTs FREQUENCY (Nu/1000 prop)   WSS6

"Water Quality Complaints" per 1000 water serviced properties, automatically calculated based on the following formula:

$$Water\ Quality\ Complaints\ Frequency\ [WSS6]$$
$$= \frac{Water\ Quality\ Complaints\ [WSS5] \times 1000}{Total\ Water\ Serviced\ Properties\ [WSB4]}$$

Charges

2.31 NON-RESIDENTIAL CHARGE   WSS7a, WSS7b, WSS7c

WSS7a Fixed charge: non-residential water: The fixed charge (incl. GST) that some organisations apply for the supply of water services to non-residential customers. If different rates are applied across different schemes, list these in the cells to the right. The median value will populate in the data column. This may be overwritten if a more accurate average exists.

If residential and non-residential charges are the same leave this cell blank.

WSS7b Fixed charge type: non-residential water: The fixed charge type that organisations use for charging for water supply services; general rates, uniform annual general charge, or targeted rates. If other mechanisms are used, specify these in the comments field.

WSS7c Volumetric charge: non-residential water: The volumetric charge (incl. GST) that organisations apply for the supply of water services to non-residential customers. If different rates are applied across different schemes, list these in the cells to the right. The median value will populate in the data column. This may be overwritten if a more accurate average exists.

If residential and non-residential charges are the same leave this cell blank.

2.32 RESIDENTIAL CHARGE WSS8a, WSS8b, WSS8c

WSS8a Fixed charge: residential water: The fixed charge (inc GST) for the supply of water services to residential customers. If multiple residential charges are applied list them separately. The median value will populate in the data column. This may be overwritten if a more accurate average exists.

If charges are levied based on a proportion of annual or capital values, the median value across the region should be used to determine the charge.

***WSS8b* Fixed charge type: residential water:** The fixed charge type that organisations use for charging for water supply services; general rates, uniform annual general charge, or targeted rates. If other mechanisms are used, specify these in the comments field.

WSS8c Volumetric charge: residential water: The volumetric charge (inc GST) for the supply of water services to residential customers. If not applicable to the organisation leave blank. If multiple residential charges are applied list them separately. The median value will populate in the data column. This may be overwritten if a more accurate average exists.

2.33   AVERAGE RESIDENTIAL CHARGE BASED ON 200m³/year   WSS9

The average residential customer's bill (GST included) based on an annual consumption of 200 m³.

$$Average\ residential\ charge\ [WSS10]$$
$$= Residential\ Fixed\ Water\ Charge\ [WSS9c]$$
$$* Residential\ Volumetric\ Water\ Charge\ [WSS9d] \times 200$$

Response Times

2.34   WATER FAULT RESPONSE TIMES (hrs)   WSS10

Time taken for the local authority to attend call-outs in response to a fault or unplanned interruption to its networked reticulation system.

Extreme events, such as civil defence events may skew overall trends in council performance. Any such events should be clearly identified in the comments section.

WSS10a Attendance for Urgent Call-outs: from the time when the organisation receives notification to the time that service personnel reach the site in response to a fault or unplanned interruption to the water supply system.

WSS10b Resolution of Urgent Call-Outs: from the time that the local authority receives notification to the time that service personnel confirm resolution in response to a fault or unplanned interruption to the water supply system.

WSS10c Attendance for Non-Urgent Call-outs: from the time that the local authority receives notification to the time that service personnel reach the site in response to a non-urgent fault or unplanned interruption to the water supply system.

ASS10d Resolution of Non-Urgent Call-outs: from the time that the local authority receives notification to the time that service personnel confirm resolution in response to a non-urgent fault or unplanned interruption to the water supply system.

Restrictions

2.35   WATER RESTRICTION DAYS (Nu of properties *days)   WSS11

The total number of days water restrictions were in place, multiplied by the number of affected properties e.g. water restrictions are applied in two schemes this calendar year. In scheme 1, which services 100 properties, restrictions are applied for 10 days. In Scheme 2, which services 200 properties, restrictions are applied for 20 days. The number of affected property days entered in the box will be 5,000 (= (100*10) + (200*20)).

Boiled Water

2.1   BOILED WATER NOTICES (Nu of properties *days) WSS12

The total number of days boiled water notices were in place, multiplied by the number of affected properties e.g. boiled water notices are applied in two schemes this calendar year. In scheme 1, which services 100 properties, boiled water notices are applied for 10 days. In Scheme 2, which services 200 properties, boiled water notices are applied for 20 days. The number of affected property days entered in the box will be 5,000 (= (100*10) + (200*20)).

Fire fighting

2.2   HYDRANT TESTING   WSS12a, WSS12b

Percentage of fire hydrants inspected in the previous five years (as defined in Clause G4 of Appendix G SNZ PAS 4509:2008) New Zealand Fire Service Firefighting Water Supplies Code of Practice.

WSS12b Non-compliant hydrants (Nu): The number of key hydrants that do not meet testing requirements (as defined in SNZ PAS 4509:2008) New Zealand Fire Service Firefighting Water Supplies Code of Practice.

Revenue

2.3 REVENUE – OTHER AUTHORITIES, OPERATING, DEVELOPER, TOTAL REVENUE, TOTAL REVENUE PER PROPERTY WSF1, WSF2, WSF3, WSF4, WSF5

WSF1 **Revenue from Supply of Water to Other Local Authorities:** Revenue generated from bulk water supply to other authorities. If not applicable leave blank.

WSF2 Operating Revenue: Water Supply*:* Operating revenue (income) for the supply of water to the area within Council's jurisdiction. It includes revenue obtained from fixed charges and volumetric charges, special levies that apply to serviced properties, lease of land or space reserved for assets (e.g. decommissioned pipes as cable ducts, or cell phone towers on reservoirs), revenue from asset sales, revenue from other sources for specific activities such as grants and other revenue from operations which would otherwise be included e.g. interest income.

It excludes all developer cash or asset contributions.

Where a spike in revenue is caused by a large asset sale or other unusual event please describe this in the 'Comments/Explanation/ Description of Calculation' field

WSF3 Development Contribution Revenue: Water Supply: Developer revenue (income) for the reporting year. This includes all developer cash contributions. It excludes developer asset contributions.

WSF4   Total Revenue: Water Supply: Total water supply revenue for the reporting year.

$$Total\ Revenue\ [WSF4]$$
$$= Revenue\ from\ Supply\ of\ Water\ to\ Other\ Local\ Authorities\ [WSF1]$$
$$+ Operating\ Revenue\ [WSF2]\ +\ Developer\ Contribution\ Revenue\ [WSF3]$$

WSF5 Revenue per Property: Water Supply ($/property):- Revenue per <u>serviced</u> property.

$$Revenue\ per\ property\ [WSF5]$$
$$= Total\ Revenue\ [WSF4]/Total\ Water\ Serviced\ Properties\ [WSB4]$$

2.4 DEBT FUNDING: WATER SUPPLY WSF6

Increase in debt related to water supply.

Expenditure

2.5 OPERATING COSTS WSF7, WSF8, WSF9, WSF10, WSF11, WSF12, WSF13

WSF7 Energy Costs: Electricity, gas and diesel costs across the public water supply network. Excludes fleet vehicle use.

WSF8 Chemicals and Consumables: Cost of chemicals and consumables used to treat water before supplying to customers. Does not include the cost of fluoride.

WSF9a Routine maintenance costs: All scheduled operational and maintenance works and external consultants and contractors used for such works.

WSF9b Reactive maintenance costs: All external costs associated with operation and maintenance of water supply, not included as routine maintenance, energy, chemicals or consumables.

WSF10 Management Costs: Organisational costs (includes salary, accommodation, IT,etc).

WSF11 Council Overview Costs: Council's costs where management of the network is carried out by a Council Controlled Organisation.

WSF12 Operating Cost: Water Supply: Operating cost for the reporting year associated with water supply, automatically calculated based on the following formula:

$$
\begin{aligned}
Total\ &Operating\ Cost \\
&= Energy\ [WSF7]\ +\ Chemicals\ and\ Consumables\ [WSF8] \\
&+\ Other\ External\ Opex\ [WSF9]\ +\ Management\ Costs\ [WSF10] \\
&+\ Council\ Overview\ Costs\ [WSF11].
\end{aligned}
$$

WSF13 Operating Cost per property: Water Supply Operating Cost per property, automatically calculated based on the following formula:

$$
\begin{aligned}
Operating\ &Cost\ per\ property \\
&=\ Total\ Operating\ Cost\ [WSF12] \\
&/Total\ Water\ Serviced\ Properties\ [WSB4].
\end{aligned}
$$

2.6 ANNUAL DEPRECIATION: WATER SUPPLY   WSF14

The depreciation cost in the reporting year as reported in the latest replacement cost valuation.

2.7 INTEREST: WATER SUPPLY   WSF15a

The interest cost for the reporting year.

2.8 DEBT AFFORDABILITY: WATER SUPPLY   WSF15b

Interest as a proportion of operational revenue, automatically calculated using the following formula:

$$
Debt\ affordability\ =\ Interest\ [WSF15a]/Total\ Revenue\ [WSF4]
$$

2.9 OPERATIONAL COST COVERAGE: WATER SUPPLY   WSF16

Revenue (excluding developer contributions) as a proportion of annual costs (excluding CAPEX), automatically calculated using the following formula:

$$
\begin{aligned}
&Operational\ cost\ coverage \\
&=\frac{Operating\ revenue\ [WSF2]+Revenue\ from\ the\ supply\ of\ water\ to\ other\ authorities\ [WSF1]}{Interest[WSF15a]+Annual\ Depreciation\ [WSF14]+Operating\ Costs\ [WSF15a]}
\end{aligned}
$$

2.10 TOTAL COST: WATER SUPPLY   WSF17

Total cost for the reporting year associated with water supply to the area under the Council's jurisdiction, automatically calculated using the following formula:

$$
\begin{aligned}
Total\ cost\ &=\ Operating\ cost\ [WSF12]+Interest[WSF15a] \\
&+\ Annual\ Depreciation\ [WSF14]+Actual\ capital\ expenditure\ [WSF20]
\end{aligned}
$$

2.11   TOTAL COST PER PROPERTY: WATER SUPPLY ($/property)   WSF18

Total Cost per property, automatically calculated using the following formula:

$$Total\ costs\ per\ property\ = \frac{Total\ cost\ [WSF17]}{Total\ water\ serviced\ properties\ [WSB4]}$$

2.12   BUDGETED CAPITAL EXPENDITURE: WATER SUPPLY   WSF19, WSF19a, WSF19b, WSF19c

Budgeted capital expenditure budget for water supply in the reporting year, automatically calculated by summing the values below.

WSF19a budgeted capital to meet additional demand: related to growth including new works subdivided developments.

WSF19b budgeted capital to improve the level of service: expenditure on existing assets that is not driven by asset condition or age.

WSF19c budgeted capital to replace existing assets: expenditure related to renewals or replacements.

2.13   ACTUAL CAPITAL EXPENDITURE: WATER SUPPLY   WSF20, WSF20a, WSF20b, WSF20c, WSF20

Capital expenditure on water supply for the reporting year, , automatically calculated by summing the values below.

WSF20a actual capital to meet additional demand: related to growth including new works subdivided developments.

WSF20b actual capital to improve the level of service: expenditure on existing assets that is not driven by asset condition or age.

WSF20c actual capital to replace existing assets: expenditure related to renewals or replacements.

WSF21 Actual Capital Expenditure per Property: Water Supply: Actual Capital Expenditure per serviced property in the reporting year, automatically calculated using the following formula:

$$Actual\ capital\ expenditure\ per\ property = \frac{Actual\ capital\ expenditure[WSF20]}{Total\ Water\ Serviced\ Properties\ [WSB4]}$$

Asset Value

2.14 DEVELOPMENT CONTRIBUTIONS: WATER SUPPLY WSF22

Value of assets vested in the council during the reporting year as part of development contributions.

2.15 WATER TREATMENT FACILITY VALUE AT END OF REPORTING YEAR   WSF23a

The closing book value of water supply treatment plants and facilities.

2.16 OTHER WATER SUPPLY ASSET VALUE   WSF23b

The closing book value of other assets (such as reticulation systems).

2.17 DECLINE IN SERVICE POTENTIAL: WATER SUPPLY   WSF24

Ratio of Capital Expenditure to replace existing assets (Actual) to Annual Depreciation.

$$Decline\ in\ service\ potential$$
$$= \frac{Actual\ capital\ expenditure\ to\ relpace\ existing\ assets[WSF20c]}{Depreciation\ [WSF14]}$$

Grants

2.18 EXTERNAL GRANTS: WATER SUPPLY   WSF25

Any external grants received (not awarded) during the financial year for capital or operational costs related to the water supply scheme.

3 Wastewater

Background

3.1 WASTEWATER SERVICED POPULATION   WWB1a

Total residential population served by a reticulated wastewater system. This is a built in calculation in the spreadsheet determined using the total wastewater serviced residential properties [WWB1a] and the household occupancy rate [CB6].

$$Wastewater\ Serviced\ Population\ [WWB1a]$$
$$= Household\ Occupancy\ Rate\ [CB6]$$
$$\times Wastewater\ Serviced\ Properties: Residential\ [WWB2]$$

If a more accurate population estimate is available the default calculation may be overwritten. In these circumstances the "Comments" column should be used to outline the approach used to derive the population estimate.

3.2 WASTEWATER SERVICE COVERAGE   WWB1b

The percentage of the population serviced by the public reticulated wastewater network.

This is a built in calculation in the spreadsheet determined using the following formula:

$$Wastewater\ Service\ Coverage\ [WSB1b] = \frac{Wastewater\ Serviced\ Population\ [WSB1a]}{Total\ Population\ [CB2]}$$

If a more accurate population estimate is available the default calculation may be overwritten. In these circumstances the "Comments" column should be used to outline the approach used to derive the population estimate.

3.3 WASTEWATER SERVICED PROPERTIES: RESIDENTIAL   WWB2

Total number of <u>residential</u> properties served by a reticulated wastewater system. Include method for determining number of serviced properties in multi-unit complexes in the comments field.

A wastewater serviced property is:

- connected to the organisations public reticulated wastewater network
- the subject of billing for wastewater services (fixed and/or consumption)

It does include:

- a tenanted property which is separately metered and in respect of which the tenant is liable for water usage counts as 1 property (i.e. the owner and tenant of a rented property are not counted as separate properties).
- a connected but non-rateable property, and
- a connected but non-metered property

It does not include rated but unconnected properties.

Multi-unit dwellings should be counted based on the number of separately occupied dwellings. The approach used to determine this figure is to be specified in the comments field. This may be determined based on the number of dwellings that are separately billed/rated e.g. a body

corporate with only one supply connection but with 100 apartments, each receiving a separate water bill will be counted as 100. If a multi-unit dwelling (e.g. retirement village) received a single bill, but consists of multiple dwellings these should be included, where information is available to do so.

3.4   WASTEWATER SERVICED PROPERTIES: NON-RESIDENTIAL   WWB3

The total number of non-residential properties served by the reticulated wastewater network. Non-residential properties are any property which is not identified as a residential connection.

Where a single non-residential connection services multiple tenancies, but multiple accounts are issued, the number of accounts (not the number of connections) should be recorded.

3.5   TOTAL WASTEWATER SERVICED PROPERTIES   WWB4

Total number of all properties served by a reticulated wastewater system, automatically calculated using the following formula:

$$Total\ Wastewater\ Serviced\ Properties\ [WWB4]\ =\\ Wastewater\ Serviced\ Properties:\ Residential\ [WWB2]\ +\\ Wastewater\ Serviced\ Properties:\ Non-residential\ [WWB3]$$

3.6   WASTEWATER 'EXPORTED' FOR TREATMENT (m³/year)   WWB5

Volume of wastewater produced in area under the organisations jurisdiction that is piped to an adjacent Council's WWTP (if any). Does not include tankered waste.

3.7   WASTEWATER 'IMPORTED' FOR TREATMENT (m³/year)   WWB6

Volume of wastewater produced outside the organisations jurisdiction that is piped in for treatment at the Council's WWTPs (if any). Does not include tankered waste.

3.8   TOTAL WASTEWATER PRODUCED (m³/year)   WWB7

Volume of wastewater produced within the area under the Council's jurisdiction and reticulated to a public wastewater treatment plant. (Excludes any on-site treatment of wastewater). Automatically calculated using the following formula:

$$Total\ wastewater\ produced\\ =\ Volume\ of\ wastewater\ treated\ at\ treatment\ plant\ (s)[WWA7d]\\ -\ Wastewater\ imported\ for\ treatment\ [WWB6]\\ +\ Wastewater\ exported\ for\ treatment\ [WWB5]$$

3.9   AVERAGE DAILY RESIDENTIAL WASTEWATER PRODUCTION   (litres/ person/day) WWB8

Automatically calculated based on the following formula;

$$Average\ residential\ wastewater\ production\\ =\ (\frac{Total\ wastewater\ produced\ [WWb7]\ -\ (Volume\ of\ wastewater\ treated\ at\ treatment\ plant\ [WWA7d]\ \times\ Proportion\ of\ trade\ waste\ at\ treatment\ plant\ [WWA7f])}{Total\ wastewater\ serviced\ population\ \times\ 365})\ \times\ 1000$$

Pipelines

3.10 TOTAL LENGTH OF PUBLIC WASTEWATER NETWORK (km) WWA1a, WWA1b, WWA1c

Total length of public wastewater piped reticulation (gravity and pressure) servicing all properties in the total Wastewater Serviced Area. This includes all trunks, reticulation mains and service leads up to the point of supply but does not include customers private laterals (as indicated in the figure below) or pipes carrying treated effluent.

Do not count disused pipe lengths, even if they are maintained for possible future use.

WWA1b Length of wastewater mains renewed using internal CAPEX

WWA1c Length of wastewater mains constructed using internal CAPEX (<u>NOT</u> vested to the organisation by developers)

Customer Connection Sewer

Property Connection Sewer

Wastewater Reticulation Main

Property Boundary

Connection Point
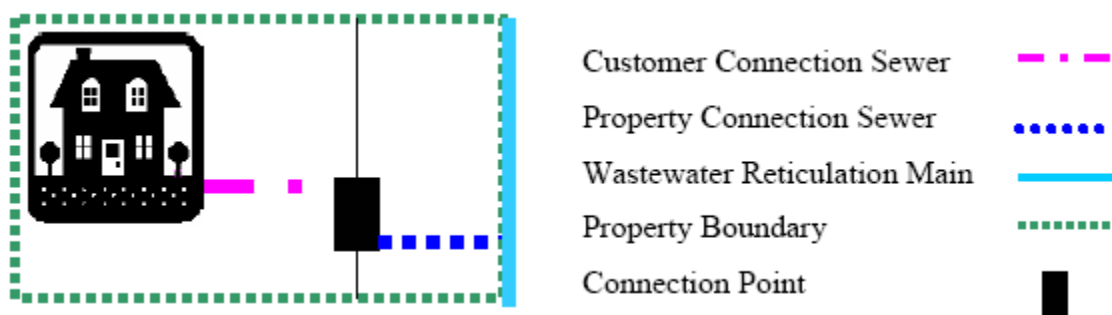
3.11 CONDITION GRADE   WWA2a, WWA2b, WWA2c, WWA2d, WWA2e, WWA2f, WWA2g

WWA2a Percentage of wastewater pipelines that have received a condition grading of 1.

WWA2b Percentage of wastewater pipelines that have received a condition grading of 2.

WWA2c Percentage of wastewater pipelines that have received a condition grading of 3.

WWA2d Percentage of wastewater pipelines that have received a condition grading of 4.

WWA2e Percentage of wastewater pipelines that have received a condition grading of 5.

WWA2f Percentage of wastewater pipelines that have not had their condition graded.

WWA2g Pipeline Condition Assessment Approach (text): The condition grading approached used for WWA2.

3.12 AVERAGE AGE OF WASTEWATER PIPELINES (years)   WWA3

Weighted Average Age of All Pipelines within the total wastewater serviced area.

This should be calculated by taking into account the length and age of pipelines as follows.

$$\frac{\sum(length\ of\ pipeline\ \times age\ of\ pipeline)}{\sum length\ of\ pipeline}$$

3.13 WASTEWATER CCTV INSPECTION (%) WWA4

Percent of network that has had CCTV completed in the last 5 years.

Include CCTV inspections conducted following the inspection of new pipes, as well as any inspections conducted as part of maintenance or renewal works.

Other assets

3.14 WASTEWATER PUMP STATIONS WWA5, WWA5a

Total number of wastewater pump stations (before the first stage of wastewater treatment processes) transporting sewage, regardless of whether the station is off or actually on the treatment plant site. Pump stations thereafter should be excluded as they are considered a component of the treatment plant.

WWA5a The number of wastewater pump stations with backup generators. If a pump station has more than one back-up generator to meet the total power needs list this only as one.

3.15 CONDITION ASSESSMENT OF ABOVE GROUND ASSETS WWA6, WWA6a, WWA6b

WWA6 A yes or no response to clarify if you have a regular condition assessment programme for above ground wastewater assets.

WWA6a The protocol used for above ground condition assessments.

WWA6b The percentage of above ground assets assessed within 3 years.

Treatment Plants

3.16 WASTEWATER TREATMENT PLANT DETAILS WWA7, WWA7a, WW7d, WWA7f, WWA7h, WWA7i, WW7j, WW7k, WW7l, WW7m

WWA7a Treatment Plant Name

WWA7d Volume of Wastewater treated at treatment plant in the year (m³/year)

WWA7f Estimated proportion of total wastewater entering the plant that can be classified as trade waste (%).

Trade waste is the liquid waste, with or without matters in suspension or in solution, which may be generated and discharged from any industry, business, trade or manufacturing process. It does not include domestic sewage.

Trade waste properties are included when there is an identified charge (e.g. Uniform Annual Charge, volume or strength based, or some other specific charge) for the service. It excludes properties which may be 'consented' or 'permitted' as Trade Waste but no identified charge is made.

WWA7h Treatment Plant Resource consents expiry date.

WWA7i Treatment Plant Effluent consent status

WWA7j Treatment Plant Sludge Production (tDS/year)

Total quantity of sludge produced.

This is the total mass of dry solids produced each year by wastewater treatment after, and on-site, processing e.g. after digestion and dewatering, and before subsequent storage or discharge off site. If sludge solids are retained in on-site lagoons or oxidation ponds without regular measurements then estimate quantities and explain these in the "Comments/Explanation/Description of Calculation" column.

WWA7k Sludge Disposal

Provide information on sludge disposal routes.

If sludge is reused, please advise how and where in the "Comments" column. Landfill capping is considered to be a form of reuse (WWA7k-3). Sludge reduction mechanisms and stockpiling are not.

WSA7l Treatment Plant Backup Generator (Nu): The number of standby generators at the treatment plant

WWA7m Peak wet to dry weather flow ratio (Nu)**:** The peak wet weather flow (during the reporting year) as a ratio of dry weather flow i.e.

$$Peak\ wet\ weather\ flow\ /Average\ dry\ weather\ flow$$

Combined networks

3.17   TOTAL LENGTH OF COMBINED WASTEWATER AND STORMWATER PIPELINES (km)   WWA8

Total length of the piped reticulation network that has been designed to receive both stormwater and wastewater. These pipelines should also be accounted for in field WWA1 Total Length of Public Wastewater network.

Overflows

3.18 DRY WEATHER WASTEWATER OVERFLOWS   WWE1, WWE1a, WWE1b

An overflow is when untreated sewage spills, surcharges, discharges or otherwise escapes from the wastewater network under the organisation's control to the external environment. Dry weather overflows may occur at pump stations, manholes, etc.

Do not include overflows resulting from stormwater infiltration into the sewer, or those caused by blockages in sewer service connections (property to mains connections), however do include overflows that occur in the public system and surcharge into private property.

Dry weather overflows should be recorded from actual incidents.

WWE1a Overflows caused by blockages e.g. fat oil and grease build up, tree route intrusion

WWE1b Overflows caused by mechanical failures e.g. pump station ragging, power outages, pump mechanical value

3.19 WET WEATHER WASTEWATER OVERFLOWS   WWE2

An overflow is when untreated sewage spills, surcharges, discharges or otherwise escapes from the wastewater network under the organisation's control to the external environment.

Wet weather overflows typically result from excessive stormwater infiltration, and may be permitted by network discharge consents.

It includes overflows (both contained and uncontained) from pump stations, pipes, manholes and designed overflow structures as a result of wet weather events.

It does not include those caused by blockages in customer sewer connections or engineered spills to designed storage facilities where no pollution of the environment occurs e.g. an emergency storage tunnel.

Wet weather wastewater overflows may be determined from modelling data (e.g. SCADA alarms or hydraulic models).

Where overflows occur at multiple locations arising from a particular event or period of rainfall (or there are multiple reported overflows relating to what is effectively a continuous discharge) this is defined as a single overflow. A new overflow starts after a continuous 24 hour period without an overflow.

WWE2a Wet weather overflows from the wastewater network Any wet weather overflow not counted as part of WW2b.

WWE2b Wet weather overflows from combined stormwater and wastewater network Any overflow from the piped reticulation network that receives combines stormwater and wastewater flows.

3.20 TOTAL WASTEWATER OVERFLOWS   WWE3

Total overflows are automatically calculated using the following formula:

$$Total\ Wastewater\ Overflows\ [WWE3]$$
$$= Dry\ Weather\ Wastewater\ Overflow\ [WWE1]$$
$$+ Wet\ Weather\ Wastewater\ Overflows\ [WWE2]$$

If the split between dry weather and wet weather overflows is not available, total wastewater overflow data may be overwritten.

3.21   SEWAGE CONTAINMENT DESIGN STANDARDS   WWE8a

The capacity of sewage the network has been designed to contain. If design is based on the frequency of overflows provide the Annual Exceedance Probability (%), otherwise specify the average wet to dry weather flow ration used.

3.22   AVERAGE CALCULATED WET WEATHER OVERFLOW FREQUENCY WWE8b

The median wet weather overflow frequency determined by recent hydraulic models or original design (if recent modelling doesn't exist).

3.23   OVERFLOW RECORDING   WWE9a, WWE9b, WWE9c, WWE9d

Approach used for recording wastewater overflows

WWE9a Overflows recorded through verbal reports

WWE9b Overflows recorded through SCADA monitoring

WWE9c Overflows calculated through hydraulic models

WWE9d Overflows calculated through calibrated hydraulic models

Compliance

3.24   WASTEWATER RESOURCE CONSENTS BREACHES   WWE4, WWE4a, WWE4b, WWE4c, WWE4d

The number of;

WWE4a abatement notices

WWE4b infringement notices

WWE4c enforcement orders

WWE4d successful prosecutions

received by the organisation in relation to wastewater discharge consents.

Energy

3.25   ENERGY USE   WWE5a, WWE5b

WWE5a   is the total energy consumed by the wastewater pumps and wastewater treatment plants in Gigajoules. Do not include energy use related to fleet vehicles or offices.

Joules of energy provided by all energy sources including electricity, diesel, gas and biogas should be included.

WWE5b Energy use per cubic meter of wastewater collected (GJ/m³).

$$Energy\ Intensity\ [WWE5b] = \frac{Energy\ Consumption\ [WWE5a]}{Total\ Wastewater\ Produced\ [WWB7]}$$

Trade waste

3.26 TRADE WASTE MANAGEMENT WWE6

The organisations approach to management of trade waste.

Charges

3.27 NON-RESIDENTIAL WASTEWATER CHARGE   WWS1a, WWS1b, WWS1c, WWS1d

WWS1a Fixed charge: Non-residential wastewater (inc GST).

If multiple fixed charges exist provide the median and provide detail in the comments field. If all customers in the district are billed at the same rate leave the field blank.

WWS1 Fixed charge type: Non-residential wastewater

The manner in which the fixed charge for non-residential wastewater services is levied. If all customers in the district are billed at the same rate leave the field blank.

WWS1c Volumetric charge: Non-residential wastewater (inc GST)

Do not include contaminant based charges in the volumetric rate. If all customers in the district are billed at the same rate as residential properties leave the field blank.

WWS1d Contaminant based charging if trade waste customers are charged for individual contaminants e.g. suspended solids, biological oxygen demand, metals etc. Individual charges can be included in the comments field.

3.28 RESIDENTIAL WASTEWATER CHARGE   WWS2a, WWS2b, WWS2c

WWS2a Fixed charge: Residential wastewater (inc GST)

If multiple fixed charges exist provide the median and provide detail in the comments. If charges are levied based on a proportion of annual or capital values, the median value across the region should be used to determine the charge.

WWS2b Fixed charge type: Residential wastewater

The manner in which the fixed charge for non-residential wastewater services is levied.

WWS2c Volumetric charge: Residential water (inc GST)

3.29 AVERAGE ANNUAL RESIDENTIAL WASTEWATER CHARGE FOR 200m³/yr WWS3

The average residential customer's bill (GST included) for wastewater based on an annual water consumption of 200 m³. Automatically calculated based on the following formula:

$$Average\ residential\ charge\ [WWS3]$$
$$= Fixed\ charge\ [WWS2a] + (Volumetric\ charge[WWS2c]\ \times 200)$$

Complaints

3.30 WASTEWATER COMPLAINTS WWS4, WWS4a, WWS4b, WWS4c, WWS4d, WWS4e

Total number of complaints received by the organisation in the reporting year. Where water supply complaints related to each of the following categories are available these should be recorded separately:

WSS4a Sewage odour includes all odour related complaints including at wastewater treatment plants

WSS4b Sewerage system faults includes faults with pump stations as well as the reticulation network

WSS4c Sewerage system blockages includes blockages at pump stations as well as the reticulation network

Total wastewater complaints are determined by summing complaints listed in the categories above. Where a breakdown of total complaints is not available the calculation in WSS4 should be overwritten and a total complaints value entered. Where wastewater complaints have been received that do not fall within the above categories this value should be overwritten and total complaints listed.

Complaints should be recorded using the definition of a complaint provided in the ASNZ10002-2014 Complaints management standard:

"Expression of dissatisfaction made to or about an organisation, related to its products, services, staff or the handling of a complaint, where a response or resolution is explicitly or implicitly expected or legally required".

Accordingly, if a request for service is required, but the customer does not express dissatisfaction this is not defined as a complaint.

Where there is more than one complaint per event, each individual complainant is counted separately, not each event or occurrence. Where there are multiple complaints made by a single complainant in relation to one event, these may be counted as a single complaint.

Complaints related to council policies and procedures in relation to wastewater service delivery but not assets or operations should not be included. This may include complaints related to pricing. Complaints related to issues on customers private laterals should not be included.

3.31 WASTEWATER COMPLAINTS FREQUENCY(Nu/1000 prop)   WWS5

"Wastewater Complaints" per 1000 serviced properties.

The number of wastewater complaints per 1000 properties calculated as follows:

$$
Wastewater\ Complaints\ Frequency\ [WWS5] \\
= \frac{Total\ Wastewater\ Complaints\ [WWS4] \times 1000}{Total\ Wastewater\ Serviced\ Properties\ [WWB4]}
$$

Response times

3.32 WASTEWATER FAULT RESPONSE TIME   WWS6, WWS6a, WWS6b

Time taken for the local authority to attend call-outs in response to sewerage overflows resulting from a blockage or other fault in the local authority's sewerage system.

Extreme events, such as declared civil defence events will skew overall trends in council performance. Any such events should be clearly identified in the comments column.

WWS6a Attendance time (hrs): From the time that the local authority receives notification of a fault in the sewerage system to the time that service personnel reach the site.

WWS6b Resolution Time (hrs): From the time that the local authority receives notification of a fault in the sewerage system to the time that service personnel confirm resolution of the fault.

Outages

3.33 FAILURE OF WASTEWATER PIPES   WWS7a

Failure of wastewater pipes due to natural hazards, poor installation or corrosion.

3.34 THIRD PARTY DISRUPTIONS TO THE WASTEWATER SYSTEM   WWS7b

Pipe strikes due to third party contractor works.

Revenue

3.35 REVENUE (WW) – OPERATING, DEVELOPER, TOTAL REVENUE, TOTAL REVENUE PER PROPERTY *WWF1, WWF2, WWF3, WWF4, WWF5*

WWF1 Revenue from the Provision of Wastewater Treatment Services to Another Local Authority: Revenue generated by providing wastewater treatment services to adjacent authorities. If not applicable leave blank.

WWF2 Operating revenue: Wastewater: Operating revenue (income) associated with reticulation and treatment of wastewater.

Includes revenue obtained from minimum or fixed charges and volumetric charges, special levies that apply to serviced properties, lease of land or space reserved for assets (e.g. decommissioned pipes as cable ducts) revenue from asset sales, revenue from other sources for specific activities such as grants, other revenue from operations which would otherwise be included e.g. interest income.

It excludes all developer cash or asset contributions.

Where a spike in revenue is caused by a large asset sale or other unusual event describe this in the 'Comments' column.

WWF3 Development contributions: Wastewater: Developer revenue (income) for the reporting year. This includes all developer cash contributions. It excludes developer asset contributions.

WWF4 Total revenue: Wastewater Total wastewater revenue for the reporting year related to the area under the Council's jurisdiction, automatically calculated based on the following formula:

$Total\ revenue\ [WWF4]$
$= Revenue\ from\ the\ provision\ of\ wastewater\ services\ to\ another\ authority\ [WWF1]$
$+ Operating\ revenue\ [WWF2] + Developer\ contribution\ revenue\ [WWF3]$

WWF5 Revenue per property: Wastewater automatically calculated based on the following formula:

$$Revenue\ per\ property = \frac{Total\ revenue:wastewater[WWF13]}{Total\ wastewater\ serviced\ properties\ [WWB4]}$$

3.36 DEBT FUNDING: WASTEWATER   WWF6

Increase in debt related to wastewater.

Expenditure

3.37 OPERATING COSTS   WWF7, WWF8, WWF9, WWF10, WWF11, WWF12, WWF13, WWF14

WWF7 Energy Costs: Wastewater: Electricity/gas/fuel costs associated with wastewater reticulation and treatment.

WWF8 Sludge Disposal Costs: Wastewater: Net Cost of Sludge Disposal (i.e. less any revenue from sale of biosolids).

WWF9 Routine Maintenance: Wastewater: The cost of all scheduled operational and maintenance works and external consultants and contractors used for such works.

WWF10 Reactive Maintenance: Wastewater: All external costs associated with operation and maintenance of wastewater, not included as routine maintenance, energy or sludge disposal.

WWF11 Management Costs: Organisation costs (includes salary, accommodation, IT, etc.).

WWF12 Council's Overview Costs: Council's costs where management of the network is carried out by a Council Controlled Organisation.

WWF13 Operating Cost: Wastewater: Operating cost for the reporting year associated with providing wastewater services, automatically calculated based on the following formula:

$$\begin{aligned} Operating\ Cost&:Wastewater \\ &= Energy\ Costs\ [WWF7] + Sludge\ Disposal\ Costs\ [WWF8] \\ &+ Routine\ Maintenance\ [WWF9] + Reactive\ Maintenance\ [WWF10] \\ &+ Management\ Costs\ [WWF11] + Councils\ Overview\ Costs\ [WWF12] \end{aligned}$$

WWF14 Operating Cost per Property: Wastewater: Operating Cost per property, automatically calculated based on the following formula:

$$Operating\ Cost\ per\ property = \frac{Operating\ cost\ [WWF13]}{Total\ water\ serviced\ properties\ [WSB4]}$$

3.38 ANNUAL DEPRECIATION   WWF15

The depreciation cost in the reporting year as reported in the latest replacement cost valuation.

3.39 INTEREST: WASTEWATER   WWF16a

The interest cost for the reporting year**.**

3.40 DEBT AFFORDABILITY: WASTEWATER   WWF16b

Interest as a proportion of operational revenue, automatically calculated using the following formula:

$$Debt\ affordability = \frac{Interest\ [WWF16a]}{Total\ Revenue:Wastewater\ [WWF4]}$$

3.41   OPERATIONAL COST COVERAGE: WASTEWATER   WWF17

Revenue (excluding developer contributions) as a proportion of annual costs (excluding CAPEX) automatically calculated using the following formula:

$$Operational\ cost\ coverage$$
$$= \frac{Operating\ revenue\ [WWF2]\ +\ Revenue\ from\ provision\ of\ wastewater\ treatment\ services\ to\ other\ authorities\ [WWF1]}{Interest\ [WWF16a]\ +\ Annual\ depreciation\ [WWF15]\ +\ Operating\ cost\ [WWF13]}$$

3.42   TOTAL COST: WASTEWATER   WWF18

Total cost for the reporting year associated with wastewater services to the area under the Council's jurisdiction, automatically calculated using the following formula:

$$Total\ cost\ = Operating\ cost\ [WWF13]\ +\ Interest[WWF16a]$$
$$+\ Annual\ Depreciation\ [WWF15]\ +\ Actual\ capital\ expenditure\ [WWF21]$$

3.43   TOTAL COST PER PROPERTY: WASTEWATER   WWF19

Total Cost per property, automatically calculated using the following formula:

$$Total\ costs\ per\ property = \frac{Total\ cost:Wastewater\ [WWF18]}{Total\ Wastewater\ Serviced\ Properties\ [WWB4]}$$

3.44   BUDGETED CAPITAL EXPENDITURE: WASTEWATER   WWF20, WWF20a, WWF20b, WWF20c

Capital expenditure budget for wastewater in the reporting year, automatically calculated by summing the values below.

WWF20a budgeted capital to meet additional demand: Capital expenditure on wastewater assets related to growth including new works subdivided developments.

WWF20b budgeted capital to improve level of service: Capital expenditure on existing wastewater assets that is not driven by asset condition or age.

WWF20c budgeted capital to replace existing assets: Capital expenditure related to wastewater renewals or replacements or other expenditure.

3.45   ACTUAL CAPITAL EXPENDITURE: WASTEWATER   WWF21, WWF21a, WWF21b, WWF21c

Capital expenditure on wastewater in the reporting year, automatically calculated by summing the values below.

WWF21a actual capital to meet additional demand: Capital expenditure on wastewater assets related to growth including new works subdivided developments.

WWF21b actual capital to improve level of service: Capital expenditure on wastewater assets related to growth including new works subdivided developments.

WWF21c actual capital **to replace existing assets:** Capital expenditure related to wastewater renewals or replacements or other expenditure.

3.46 ACTUAL CAPITAL EXPENDITURE PER PROPERTY: WASTEWATER WWF22

Actual Capital Expenditure per serviced property in the reporting year, automatically calculated using the formula below:

$$Actual\ capital\ expenditure\ per\ property = \frac{Actual\ capital\ expenditure\ [WWF21]}{Total\ Wastewater\ Serviced\ Properties\ [WWB4]}$$

3.47 DEVELOPMENT CONTRIBUTIONS: WASTEWATER WWF23

Value of assets vested in the council as part of development contributions (excludes cash payments).

Asset value

3.48 ASSET VALUE AT THE END OF THE REPORTING YEAR WWF24a, WWF24b

WSF24a Wastewater facility value at end of reporting year: The closing book value of wastewater treatment plants and facilities.

WSF24b Other wastewater assets value: The closing book value of other wastewater assets (such as reticulation systems).

3.49 DECLINE IN SERVICE POTENTIAL: WASTEWATER WWF25

Ratio of Capital Expenditure to replace existing assets to Annual Depreciation, automatically calculated using the following formula:

$$Decline\ in\ service\ potential = \frac{Actual\ capital\ expendiutre\ to\ replace\ existing\ assets\ [WWF21c]}{Depreciation\ [WWF15]}$$

Grants

3.50 EXTERNAL GRANTS: WASTEWATER WWF26

Any external grants received (not awarded) during the financial year for capital or operational costs related to the wastewater scheme.

4 Stormwater

Background

4.1   STORMWATER SERVICED POPULATION   SWB1

Total population serviced by a reticulated stormwater system. This is a built in calculation in the spreadsheet determined using the total stormwater serviced residential properties [SWB2] and the household occupancy rate [CB6].

$$Stormwater\ Serviced\ Population\ [SWB1]$$
$$= Household\ Occupancy\ Rate\ [CB6]$$
$$\times Stormwater\ Serviced\ Properties{:}Residential\ [SWB2]$$

If a more accurate population estimate is available the default calculation may be overwritten. In these circumstances the "Comments" column should be used to outline the approach used to derive the population estimate.

4.2   STORMWATER SERVICED PROPERTIES: RESIDENTIAL   SWB2

Stormwater serviced properties which at the end of the reporting period are billed for stormwater services. This includes properties that do not have an explicit stormwater charge but are billed through other means to fund stormwater infrastructure (e.g. where stormwater charges are included in a roading rate).

4.3   STORMWATER SERVICED PROPERTIES: NON-RESIDENTIAL   SWB3

Non-residential is defined as any business or other property that is not identified as a residential connection. Service is defined as any property, which at the end of the reporting period is billed for stormwater services. This includes properties that do not have an explicit stormwater charge but are billed through other means to fund stormwater infrastructure (e.g. where stormwater charges are included in a roading rate).

4.4   TOTAL STORMWATER SERVICED   SWB4

Total number of all properties served by a reticulated stormwater system. Calculated using the following formula;

$$Total\ Stormwater\ Serviced\ Properties[SWB4]$$
$$= Stormwater\ Serviced\ Properties{:}Residential\ [SWB2]$$
$$+ Stormwater\ Serviced\ Properties{:}Non-residential\ [SWB3]$$

Pipelines

4.5 TOTAL LENGTH OF PUBLIC STORMWATER NETWORK (km) SWA1a,SWA1b,SWA1c

Total length of public stormwater mains This includes all pipes, culverts lined and unlined channels that form part of the primary stormwater reticulation network.

It does not include pipes associated with house branch connections and ditches, swales and streams (which in the past have proven difficult to consistently quantify).

SWA1b Length of new stormwater mains constructed using internal CAPEX

SWA1c Lengths of stormwater mains constructed using internal CAPEX (<u>NOT</u> vested to the organisation by developers).

4.6 CONDITION OF STORMWATER PIPELINES (%)   SWA2, SWA2a, SWA2b, SWA2c, SWA2d, SWA2e, SWA2f, SWA2g

SWA2a: Percentage of stormwater pipes that have received a condition grading of 1.

SWA2b: Percentage of stormwater pipelines that have received a condition grading of 2.

SWA2c: Percentage of stormwater pipelines that have received a condition grading of 3.

SWA2d: Percentage of stormwater pipelines that have received a condition grading of 4.

SWA2e: Percentage of stormwater pipelines that have received a condition grading of 5.

SWA2f: Percentage of stormwater pipelines that have not had their condition graded

SWA2g: The condition grading approached used for SWA2

4.7 AVERAGE AGE OF STORMWATER PIPELINES (years)   SWA3

Weighted Average Age of All Pipelines within the total stormwater serviced area.

This should be calculated by taking into account the length and age of pipelines as follows.

$$\frac{\sum(length\ of\ pipeline\ \times age\ of\ pipeline)}{\sum length\ of\ pipeline}$$

Other assets

4.8 CONDITION ASSESSMENT OF ABOVE GROUND ASSETS   SWA5a, SWA5b, SWA5c

SWA5a: A yes or no response to clarify if a regular conditions assessment programme is in place for above ground stormwater assets.

SWA5b: The protocol used for above ground condition assessments.

SWA5c: The percentage of above ground assets assessed within 3 years.

4.9 STORMWATER CCTV INSPECTION   SWA6

Percent of network that has had CCTV completed in the last 5 years.

Include CCTV inspections conducted following the inspection of new pipes, as well as any inspections conducted as part of maintenance or renewal works.

4.10   STORMWATER PUMP STATIONS   SWA7

The number of stormwater pump stations.

Discharges

4.11   NUMBER OF STORMWATER DISCHARGES FROM THE PIPED NETWORK   SWE1a

The number of outfalls from stormwater systems controlled by the organisation where stormwater is discharged into receiving water bodies, or to land.

4.12   NUMBER OF STORMWATER DISCHARGES WITH RESOURCE CONSENTS   SWE1b

The number of stormwater discharges covered by resource consents. If multiple discharges are covered by a smaller number of consents, provide details in the comments field.

Compliance

4.13   STORMWATER RESOURCE CONSENT BREAQCHES   SWE1a, SWE1b,

The number of;

SWE2a abatement notices

SWe2b infringement notices

SWE2c enforcement orders

SWE2d successful prosecutions

Received by the organisation in relation to stormwater discharge consents.

4.14   STORMWATER QUALITY MONITORING   SWE3

A yes or no indicating if stormwater quality is regularly monitored. If so, details are to be included in the comments field.

4.15   STORMWATER CATCHMENT MANAGEMENT PLANS   SWE4

A yes or no indicating if the organisation has a plan (or similar document) to manage stormwater quality. If so, details are to be included in the comments field.

Charges

4.16   STORMWATER CHARGE   SWS1

Average annual targeted stormwater charge (GST included) for a residential property. If no specific stormwater charge applies, detail how customers contribute to costs in the comments field (e.g. stormwater included in roading rate or wastewater rate).

4.17   STORMWATER CHARGE TYPE   SWS2

The manner in which the fixed charge for stormwater services is levied.

Complaints

4.18   STORMWATER COMPLAINTS   SWS3, SWS3a, SWS3b

Number of complaints about the performance of the stormwater network, excluding complaints lodged during extreme events, e.g. a civil defence emergency. Where stormwater quality complaints relate to the following categories these should be recorded separately;

SWS3a: Stormwater blockage complaints
SWS3b: Stormwater fault complaints

Complaints should be recorded using the definition of a complaint provided in the ASNZ10002-2014 Complaints management standard:

"Expression of dissatisfaction made to or about an organisation, related to its products, services, staff or the handling of a complaint, where a response or resolution is explicitly or implicitly expected or legally required".

Accordingly, if a request for service is required, but the customer does not express dissatisfaction this is not defined as a complaint. For example a customer may require a stormwater grate to be cleaned, but not be dissatisfied with the system.

Where there is more than one complaint per event, each individual complainant is counted separately, not each event or occurrence. Where there are multiple complaints made by a single complainant in relation to one event, these may be counted as a single complaint.

Complaints related to council policies and procedures in relation to stormwater service delivery but not assets, operation or water quality should not be included. This may include complaints related to stormwater rates and charging regimes.

4.19   STORMWATER COMPLAINTS FREQUENCY   SWS4

Stormwater complaints per 1000 stormwater serviced properties. Calculated using the following formula;

$$\frac{Total\ Stormwater\ Complaints}{Total\ Stormwater\ Serviced\ Properties}\ x\ 1000$$

Flooding

4.20 FLOODING EVENTS   SWS5, SWS5a, SWS5b

Number of flooding events that occur in a local authority's district.

To be reported as a single city or district wide assessment, reporting on complaints per town is not required.

Only events that have led to the flooding of habitable floors should be counted.

Floods related to tidal inundation should not be included.

Floods that occur in areas outside of the stormwater serviced district should not be included.

Extreme events, such as civil defence emergencies skew long-term trends in council performance. Any such events should be clearly identified in the comments section.

SEW5a Number of habitable floors affected by flooding

It may be that one event results in multiple floors being flooded, each floor must be counted in this measure. "Habitable floor" refers to a floor of a building (including a basement) but does not include ancillary structures such as stand-alone garden sheds or garages.

SW5b Number of habitable floors affected per 1000 stormwater serviced properties

$$Number\ of\ habitable\ floors\ affected\ per\ 1000\ properties \\ = \frac{Number\ of\ habitable\ floors\ affected\ [SWS5a]}{Total\ Stormwater\ Serviced\ Properties\ [SWB4]}$$

4.21 FLOODING RESPONSE TIME (hrs)   SWS6

Median time taken for the local authority to attend call-outs in response to a flooding event, measured from the time that the territorial authority receives notification to the time that service personnel reach the site.

4.22 STORMWATER NETWORK CAPACITY (%)   SWS7a, SWS7b

This is the level of service targeted during the design of primary and secondary network performance. It may differ from delivered performance.

If different levels of service exist across a participant's jurisdiction the value used across the largest proportion of the catchment should be applied.

Units applied should be the annual exceedance probability (AEP) value; the chance or probability of a flooding event occurring annually and should be expressed as a percentage.

If a recurrence interval is used to specify the level of service this should be converted to an AEP. If other engineering standards are applied, list these in the comments section.

SWS7a Primary stormwater network capacity: Engineering design standard AEP for the primary (typically piped) stormwater network.

SWS7b Secondary stormwater network capacity: Engineering design standard AEP for the secondary stormwater network.

The secondary network refers to the path when the primary stormwater system is overloaded, and typically includes drains and other overland flow paths through private property and along roadways, designed to convey excess stormwater with a minimum of damage.

Revenue

4.23   REVENUE (SW) - OPERATING, DEVELOPER, TOTAL REVENUE, TOTAL REVENUE PER PROPERTY   SWF1, SWF2, SWF3, SWF4

SWF1 Operating revenue: Stormwater: Operating revenue (income) for the reporting year relating to the total stormwater serviced area.

It includes revenue allocated to the organisation's stormwater department from Council's rates, plus the following where applicable: external contracting income, lease of land or space reserved for assets (e.g. decommissioned pipes as cable ducts), grants, interest income, any other income accrued to the stormwater department or unit.

It excludes all developer cash or asset contributions.

Where a spike in revenue is caused by a large asset sale or other unusual event please describe this in the Comments column.

SWF2 **Development Contribution Revenue: Stormwater:** Developer revenue (income) for the reporting year. This includes all developer cash contributions. It excludes developer asset contributions.

SWF3 **Total revenue: Stormwater:** Total stormwater revenue for the reporting year, automatically calculated based on the following formula:

$$Total\ Revenue = Operating\ revenue\ [SWF1] + Developer\ contribution\ revenue\ [SWF2]$$

SWF4 **Revenue per serviced property**: Stormwater automatically calculated based on the following formula:

$$Revenue\ per\ property = \frac{Total\ revenue\ [SWF3]}{Total\ stormwater\ serviced\ properties\ [SWB4]}$$

4.24   DEBT FUNDING SWF5

Increase in debt related to stormwater.

Expenditure

4.25   OPERATING COSTS (SW) – EXTERNAL OPEX, MANAGEMENT, COUNCIL OVERVIEW, TOTAL OPERATING COST, TOTAL OPERATING COST PER PROPERTY SWF6, SWF7, SWF8, SWF9, SWF10

S**WF6a Routine maintenance: Stormwater:** The costs (including consultant and contractor costs) associated with scheduled operation and maintenance of the stormwater network.

S**WF6a Reactive maintenance: Stormwater:** The costs (including consultant and contractor costs) associated with operation and maintenance of the stormwater network, not included as routine maintenance.

SWF7: Management Costs: Organisation costs (includes salary, accommodation, IT, etc.).

SWF8: Council Overview Costs: Council's costs where management of the network is carried out by a Council Controlled Organisation.

SWF9: Operating Cost: Stormwater: Operating cost for the reporting year associated with providing stormwater services, automatically calculated based on the following formula:

$$Operating\ Cost: Stormwater \\ = Routine\ maintenance\ (SWF6a) + Reactive\ mainteanance\ (SWF6b) \\ + Management\ costs\ [SWF7] + Council\ Overview\ Costs(SWF8)$$

SWF10: Operating Cost per property: Stormwater: automatically calculated based on the following formula:

$$Operating\ Cost\ per\ property\ = \frac{Operating\ cost\ [SWF9]}{Total\ stormwater\ serviced\ properties\ [SWB4]}$$

4.26   ANNUAL DEPRECIATION   SWF11

The depreciation cost in the reporting year as reported in the latest replacement cost valuation.

4.27   INTEREST   SWF12a

The interest cost for the reporting year.

4.28   DEBT AFFORDABILITY   SWF12b

Interest as a proportion of operational revenue, automatically calculated using the following formula:

$$Debt\ affordability = \frac{Interest\ [SWF12a]}{Total\ Revenue: Stormwater\ [SWF3]}$$

4.29   OPERATIONAL COST COVERAGE   SWF13

Revenue (excluding developer contributions) as a proportion of annual costs (excluding CAPEX), automatically calculated using the following formula:

$$Operational\ Cost\ Coverage \\ = \frac{Stormwater\ Revenue\ [SWF1]}{Operating\ Cost\ [SWF9] + Annual\ Depreciation\ [SWF11] + Interest\ [SWF12a]}$$

4.30   TOTAL COST   SWF14

Total cost for the reporting year associated with stormwater services, automatically calculated using the following formula:

$$Total\ cost\ = Operating\ cost\ [SWF9] + Annual\ depreciation\ [SWF11] \\ + Interest\ [SWF12a] + Actual\ Capital\ Expenditure\ [SWF17]$$

4.31   TOTAL COST PER PROPERTY   SWF15

Total Cost per property, automatically calculated using the following formula:

$$Total\ cost\ per\ property\ = \frac{Total\ cost: Stormwater[SWF14]}{Total\ Stormwater\ Serviced\ Properties\ [SWB4]}$$

4.32   BUDGETED CAPITAL EXPENDITURE   SWF16, SWF16a, SWF16b, SWF16c

Capital expenditure budget for stormwater in the reporting year, automatically calculated by summing the values below.

SWF16a budgeted capital to meet additional demand: budgeted capital expenditure related to growth in the stormwater system including new works subdivided developments.

SWF16b budgeted capital to improve the level of service: budgeted capital expenditure on existing stormwater assets that is not driven by asset condition or age.

SWF16c budgeted capital to replace existing assets: budgeted capital expenditure related to renewals or replacements or other expenditure.

4.33   ACTUAL CAPITAL EXPENDITURE   SWF17, SWF17a, SWF17b, SWF17c

Capital expenditure for stormwater in the reporting year, automatically calculated by summing the values below.

SWF17a actual capital to meet additional demand: Capital expenditure related to growth in the stormwater system including new works subdivided developments.

SWF17b actual capital to improve level of service: Capital expenditure on existing stormwater assets that is not driven by asset condition or age.

SWF17c actual capital to replace existing assets: Capital expenditure related to renewals or replacements or other expenditure on stormwater assets that would otherwise be referred to as capital.

4.34   DEVELOPMENT CONTRIBUTIONS   SWF19

Value of assets vested in the council during the reporting year as part of development contributions (excludes cash payments).

Asset value

4.35   STROWMATER ASSET VALUE AT THE END OF THE REPORTING YEAR   SWF20

The closing book value of stormwater assets.

4.36   DECLINE IN SERVICE POTENTIAL: STORMWATER   SWF21

Ratio of Capital Expenditure to Replace Existing Assets to Annual Depreciation, automatically calculated using the following formula:

$$\textit{Decline in service potential} = \textit{Actual capital expenditure to replace existing assets } [SWF17b] /\textit{Depreciation } [SWF11]$$

Grants

4.37   EXTERNAL GRANTS   SWF22

Any external grants received (not awarded) during the financial year for capital or operational costs related to the wastewater scheme.

5 Data Confidence Definitions

RATING	DESCRIPTION	PROCESSES	ASSET DATA
5	Highly reliable/ Audited	Strictly formal process for collecting and analysing data. Process is documented and always followed by all staff. Process is recognised by industry as best method of assessment.	Very high level of data confidence. Data is believed to be 95-100% complete and + or - 5% accurate. Regular data audits verify high level of accuracy in data received.
4	Reliable/ Verified	Strong process to collect data. May not be fully documented but usually undertaken by most staff.	Good level of data confidence. Data is believed to be 80-95% complete and + or - 10% to15% accurate. Some minor data extrapolation or assumptions has been applied. Occasional data audits verify reasonable level of confidence.
3	Less Reliable	Process to collect data established. May not be fully documented but usually undertaken by most staff.	Average level of data confidence. Data is believed to be 50-80% complete and + or - 15to20% accurate. Some data extrapolation has been applied based on supported assumptions. Occasional data audits verify reasonable level of confidence.
2	Uncertain	Semi formal process usually followed. Poor documentation. Process to collect data followed about half the time.	Not sure of data confidence, or data confidence is good for some data, but most of dataset is based on extrapolation of incomplete data set with unsupported assumptions.
1	Very uncertain	Ad hoc procedures to collect data. Minimal or no process documentation. Process followed occasionally.	Very low data confidence. Data based on very large unsupported assumptions, cursory inspection and analysis. Data may have been developed by extrapolation from small, unverified data sets.