ATTACHMENTS

UNDER SEPARATE COVER

Audit and Risk Committee Meeting

28 May 2024

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CWMS Infrastructure Asset Valuation & Methodology

1 July 2023

Yorke Peninsula Council

14 May 2024
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Document History and Status

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1 Introduction

Yorke Peninsula Council (Council) manage 17 community wastewater management schemes (CWMS) across the 18 townships of Ardrossan, Balgowan, Black Point, Bluff Beach, Chinaman Wells, Foul Bay, Hardwicke Bay, Maitland, Point Turton, Port Julia, Port Victoria, Port Vincent, Rogues Point, Stansbury, Sultana Point, Yorketown, Edithburgh and Tiddy Widdy Beach.. As part of the comprehensive service to support Yorke Peninsula Council develop and maintain its corporate asset management solution (Conquest), we are pleased to present the CWMS infrastructure asset valuation and depreciation report as of 1 July 2023.

This report has been developed as an update to the initial 1 July 2014 CWMS asset valuation (our reference 20140062FR6C) and the 1 July 2019 valuation (our reference 20191364R001Rev0) undertaken by Tonkin for Yorke Peninsula Council. Asset registers of the 17 wastewater collection networks, the 43 pumping stations and the 17 wastewater treatment plants (WWTP) and associated storage lagoons have been reviewed and updated as part of this valuation.

As part of the previous valuation, Council developed digitised plans and assigned attribute data to the CWMS pipes and nodes within the collection networks in MapInfo. The data extracted from the digitised plans is the basis for the CWMS collection pipe and node asset registers. Council and Tonkin worked in conjunction to identify and define pumping station, wastewater treatment plant and storage lagoon assets. Tonkin provided a data dictionary to Council to identify assets and assign attributes to the assets. Council completed the asset lists and Tonkin assigned asset types to each of the assets. Tonkin did not undertake any site inspections during development of the asset registers.

This 2023 valuation has been developed from the CWMS asset register that was developed for pipes, nodes, pumping stations and wastewater treatment plants and has been updated annually with capital works in Conquest. While it is likely that not every pit/pipe has been site verified, the database still provides a reasonable basis for valuation purposes. A continued commitment by Council and Tonkin to correct any observed inconsistencies is encouraged.

Since 2014, Council has engaged a third-party to undertake CCTV inspections of a portion of the network (approximately 5% of the network). The condition scores provided were used as part of the valuation to support the consumption calculation of the asset and calculate the remaining life. This process is detailed in the relevant section within this report. A detailed assessment of the CCTV reports has not been undertaken, and therefore it is recommended that Council review the reports to determine the best course of action to maintain or renew the CWMS infrastructure to extend the serviceable life. Tonkin can provide Council support in this assessment separate to this valuation.

This current register is considered to be at a good standard of reliability to be used by Council for managing the assets. Any inconsistencies identified can be improved through ongoing development of the CWMS register within the Conquest/Spatial environment that has been created and managed by Tonkin in conjunction with Council.

The asset valuation of Council's CWMS assets was completed with a combination of rates from Rawlinsons Australian Handbook – Edition 41 (2023) and prices from suppliers.

This report provides a summary of the method used to value CWMS infrastructure assets and provides a summary of the results for:

- CWMS Nodes
- CWMS Pipes
- Pumping Stations
- Wastewater Treatment Plants and Storage

To assist with budgeting for the 2023/2024 financial year, a depreciation forecast is also provided.

2 Accounting Standards and Terminology

2.1 Overview

The Australian Accounting Standard AASB 116 and Local Government (financial management) Regulations 1999 require assets be recorded at fair value. AASB 116 defines fair value as "The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". As there is no active liquid market for infrastructure assets, AASB 116 allows fair value to be estimated using a depreciated replacement cost basis. The basis of this valuation is fair value expressed as Current Replacement Cost (CRC) of an asset minus any accumulated depreciation and impairment losses.

With respect to AASB 13 the cost approach "reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost)". This has been adopted as the valuation technique for the assets included in this valuation.

The Australian Accounting Standard AASB 13 Fair Value Measurement sets out the framework for measuring fair value and requirements for disclosures about fair value measurements. AASB 13 defines a hierarchy of inputs used to estimate fair value. The three input levels can be summarised as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at measurement date.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the asset or liability.

Paragraph 2 of AASB 13 states that the objective of a fair value measurement is to "estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions".

AASB 13 requires that the hierarchy of the fair value measurement be categorised in its entirety as the lowest level input that is significant to the entire measurement.

As there is no market for Council to use to determine fair value of its CWMS assets, all assets have been valued as Level 3 inputs using a cost approach.

2.2 Terminology

Accounting Standards

A set of rules that govern the way in which financial statements are prepared to ensure that these statements are comparable through time for and entity across similar entities.

Asset – Property, Plant & Equipment

A tangible item that is:

- Held for us in the production or supply of goods or services, for rental to others, or for administration purposes, and
- Expected to be used during more than one period

Asset Management Information System

An asset management information system is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment.

Australian Accounting Standards Board (AASB)

The AASB is an independent agency of the Australian Government with responsibility to make accounting standards under section 334 of the Corporations Act, to formulate accounting standards for other purposes and to participate in and contribute to the development of a single set of international accounting standards for worldwide use. The Chairman of the AASB reports to the responsible Minister regarding the organisation's operations.

Carrying Amount

The Carrying Amount of an asset is the amount at which the asset is recognised after deducting any accumulated depreciation and accumulated impairment losses. This value is often referred to as the "Written Down Value (WDV)".

Component

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Condition

The physical state of an infrastructure asset. Condition may be seen in some circumstances as a level of service proxy indicator of quality from the customer's view. Often though, other factors may be more or equally relevant.

Condition at End of Life (CEoL)

The condition to which an entity is allowed to deteriorate before renewal is required, this parameter is directly linked to the level of service for the particular asset.

Current Replacement Cost (CRC)

The cost required currently to replace the service capacity of an asset with a substitute asset of comparable utility and condition, i.e., the depreciated replacement cost of a new asset. It is based on the cost for a market participant buyer to acquire or construct a substitute asset of comparable utility or service capacity, adjusted for obsolescence. Obsolescence includes physical deterioration, as well as functional and economic obsolescence. The rational for this approach is that a market participant buyer would not pay more for an asset than the amount for which it could replace the service capacity of that asset.

Depreciable Amount

The cost of an asset, or other amount substituted for its cost, less its residual value. For assets with no residual value, the depreciable amount equals the current replacement cost (CRC).

Depreciation

Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life. The Conquest Asset Management System adopts a straight line method for depreciation.

Fair Value

The Fair Value of an asset is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

International Financial Reporting Standards (IFRSs)

Are Standards and Interpretations adopted by the International Accounting Standards Board (IASB) (Refer to Australian equivalents to IFRS).

Levels of Service

The parameters or combination of parameters that reflect social, political, environmental and economic outcomes that the organisation delivers. The parameters can include safety, customer satisfaction,

quality, capacity, reliability, responsiveness, environmental acceptability, cost and availability, etc. [ISO 55000:2014]. A level of service statement describes the outputs or objectives of an organisation or activity intents to deliver to customers [IIMM].

Market Value

The estimated amount for which an asset would be exchanged on the date of valuation, between a willing buyer and a willing seller, in an arm's length transaction and when the parties have each acted knowingly, prudently and without compulsion. Market value is based on highest and best use of the asset and not necessarily the existing uses.

Modern Equivalent Value

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing, it allows for technology changes and, improvements and efficiencies in production and installation techniques. The modern equivalent asset is evidenced by renewal strategies in asset management plans and financing in a long-term financial plan covering at least 10 years.

Remaining Useful Life

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life provides an estimate of useful life.

Residual Value (RV)

The amount an entity would currently obtain from the disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life. Residual value reflects consideration receivable from an asset at the end of its useful life to the entity and accordingly would not include cost savings from the re-use of insitu materials.

Revaluation Model

An item of property, plant and equipment is carried at its revalued amount when is fair value can be reliably measured. The revalued amount is the fair value at date of revaluation less any subsequent accumulated depreciation and subsequent impairment losses.

Service Potential

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Useful Life

The period over which an asset is expected to be available for use by an entity. It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the entity.

Valuation

The process of determining the worth of an asset or liability. Different methods may be appropriate in different circumstances (see also Fair Value). There are two different valuation methods, namely 'greenfield' and 'brownfield' used when establishing unit valuation rates.

- Greenfield periodic valuation: valuation method where the unit valuation rates are based on the cost to acquire/construct the asset in a 'green field' (undeveloped) location. This valuation approach does not assume as specific location of the asset. As a result, existing works are not taken into account in establishing asset values.

- Brownfield periodic valuation: valuation approach is based on the cost to replace the asset in its existing 'brownfield' (developed) location. This valuation approach is based on the specific location of the asset. As a result, existing works are taken into account in establishing asset values.

3 Valuation and Depreciation Methodology

3.1 Valuation Overview

Yorke Peninsula Council has a variety of CWMS assets that have been loaded into Conquest Asset Register in the following asset categories:

- CWMS Nodes
- CWMS Pipes
- CWMS Pump Stations
- CWMS WWTPs and Storage

These asset groups have been broken down further into their constituent parts for the purposes of valuation and to enable different useful lives to be assigned to different components.

Brownfield construction rates have been assumed for the replacement of all CWMS assets. As such, where applicable, allowances have been made for:

- Materials
- Plant/Equipment
- Contractors fees and labour

Assumptions made to calculate the current replacement cost (CRC) for the CWMS asset groups are outlined below.

3.2 Carrying Amount

The carrying amount for each infrastructure asset will be given by the Current Replacement Cost minus the accumulated depreciation.

$$CarryingAmount = CRC - AccumulatedDepreciation$$

Equation 3.1 Carrying Amount

The carrying amount is also referred to as the Written Down Value (WDV).

3.3 Depreciation

Conquest recalculates the Accumulated Depreciation every time a revaluation is performed. The Accumulated Depreciation of an asset is determined using the expiry date and useful life of the asset. The expiry date can be estimated using one of two methods:

1. Condition score – this document will refer to this as "Depreciation Using a Condition Score"
2. Age of the asset – this document will refer to this as "Depreciation Using Age"

Depreciation Using a Condition Score

For depreciation using a condition score it is assumed that the consumption of the economic benefit of an asset will be proportional to its condition. This results in the Accumulated Depreciation for assets with no residual value being calculated by:

$$AccumulatedDepreciation = (CRC) \times \left(\frac{ConditionScore}{EndOfLifeConditionScore} \right)$$

Equation 3.2 Accumulated Depreciation at Revaluation (Using Condition Score)

When an asset is new it will have a condition score of 0 and its Accumulated Depreciation will be 0. As it ages and its condition deteriorates the Accumulated Depreciation will increase accordingly. When an asset reaches the condition at which Council establishes that the asset has no further use the Accumulated Depreciation will equal the Depreciable Amount (Current Replacement Cost).

In order to perform depreciation using the condition score the assets will require regular condition assessment. For the periods between surveys, which will vary depending on the asset, it is assumed that the consumption of the economic benefits of the asset is appropriately modelled using straight line depreciation. In the period between surveys Conquest calculates the change in depreciation based on the carrying value and dates. In the absence of capital works and taken over the period of a year the depreciation would be calculated by:

$$AccumulatedDepreciation = PreviousAcumulatedDepreciation + (CRC) \times \left(\frac{1}{UsefulLife} \right)$$

Equation 3.3 Accumulated Depreciation Between Valuations (Using Condition Score)

Any changes in consumption patterns are picked up when the asset register is updated with new data. It is not planned to attempt to adopt a curve for this purpose.

Depreciation Using Age

For depreciation using age, it is assumed that the consumption of the economic benefit of an asset will be proportional to its age and therefore the assets value will be depreciated by comparing its age with its useful life. Using this method the accumulated depreciation for assets with no residual value will be given by:

$$AccumulatedDepreciation = (CRC) \times \left(\frac{Age}{UsefulLife} \right)$$

Equation 3.4 Accumulated Depreciation (Depreciation Using Age)

3.4 Acquisition, Valuation and Disposal

When most infrastructure assets are replaced with a new asset Council receives no proceeds from the salvage of the old asset, consequently the carrying amount of the existing asset will be written-off at disposal and the replacement asset will be added in as a new asset. It is assumed therefore that for most assets the residual value of the existing asset is zero as it cannot be capitalised (or re-used) into the new asset and is therefore written off.

When an asset is first acquired it is valued at its acquisition cost or its current replacement cost for vested assets. It is then depreciated until the next revaluation occurs. Council will also periodically conduct condition assessments where the condition scores will be updated picking up any changes in consumption patterns.

The cost to replace the asset will be the depreciable amount until the next valuation. When an asset's service can be preserved by partial replacement, the cost of the works will be added to the asset and the remaining life will be extended.

3.5 Aged Assets Still in Service

In previous years some assets held within the register were reported as expired assets as they had zero remaining life based on their age and standard useful life. These assets were no longer reporting annual depreciation. For this valuation, a list of assets that were identified as being older than their standard useful life were provided to Council for review and consideration of the expected remaining life or the planned renewal year of each asset. Council have provided expected remaining lives of each of

these older assets and these have been used to calculate the consumption score, the written down value and the annual depreciation forecast for each of these assets.

The only time an asset is classified as an expired asset is when the asset is no longer in service and is planned for disposal.

4 CWMS Assets

4.1 Overview

Yorke Peninsula Council is responsible for managing 17 community wastewater management schemes (CWMS) throughout the Council area. Within the systems there is approximately 110km of collection pipe assets, 43 pumping stations, 17 wastewater treatment plants and associated assets. A breakdown of the various CWMS assets within the systems is provided in Table 4.1 below.

Table 4.1 Overview of CWMS Assets

CWMS Asset Group	Quantity
CWMS Collection Networks	**17 CWMS schemes**
Collection nodes	4,039 nodes
Gravity pipes	75,769m
Rising mains	33,746m
CWMS Pumping Stations	**43 pumping stations**
PS Civil	171 assets
PS Electrical	205 assets
PS Pumps & Mechanical	257 assets
CWMS Wastewater Treatment Plants and Storage Assets	**17 wastewater treatment plants**
WWTP Civil, Tanks, Buildings & Facilities	311 assets
WWTP Electrical	91 assets
WWTP Pumps & Mechanical	347 assets
WWTP Pipework	1,746m

4.2 Current Replacement Cost (CRC)

As part of this valuation unit rates were developed by Tonkin using rates from Rawlinsons Australian Construction Handbook – Edition 41 (2023) and supply costs from Reece to develop a series of pipe replacement rates from first principles.

Rawlinson's is a leading reference on the various aspects of construction costs in Australia. For the purpose of this valuation it has been assumed that the rates in the 41th Edition, best represent the value of the assets as at 1 July 2023.

Brownfield construction rates have been assumed for the replacement of all CWMS assets. As such allowances have been made for:

- Removal and disposal of the existing asset
- Reinstatement of existing assets

The assumptions made in valuing assets in each category are outlined below.

4.3 CWMS Node Assets

The following collection node types have been included in the asset register:

- House connection
- Flushing point
- Inspection point
- Maintenance hole
- Isolation valve
- Oblique junction
- Air valve
- Maintenance shaft
- Valve box
- Check valve

The rates for nodes include the cost of construction and installing the asset together with the material costs and have been obtained from Rawlinsons and/or component suppliers.

The current replacement costs and useful lives for the CWMS node asset types are provided in Table 4.2.

Table 4.2 CWMS Node Asset Valuation Parameters

CWMS Node Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
House Connection	$495.42	Quantity	80
Flushing Point	$495.42	Quantity	80
Inspection Point	$495.42	Quantity	80
Maintenance Hole	$7,418.00	Quantity	70
Isolation Valve	$3,870.00	Quantity	20
Oblique Junction	$495.42	Quantity	70
Air Valve	$3,244.50	Quantity	20
Maintenance Shaft	$2,373.43	Quantity	80
Valve Box (Plastic)	$3,322.80	Quantity	50
Valve Box (Concrete)	$2,416.50	Quantity	50
75mm Check Valve	$810.88	Quantity	20

4.4 CWMS Pipe Assets

The CWMS pipe assets have been divided into the following components:

- House connection pipes

- Gravity mains
- Overflow pipes
- Rising mains

The unit rates developed for pipes include allowances for materials, excavation, bedding and backfilling. Rates for excavation and pipe supply were sourced from Rawlinsons and the following assumptions were adopted:

- 0.8m average cover for wastewater property connection pipes
- 1.6m average cover for wastewater gravity mains
- 0.6m average cover for wastewater pressure rising mains
- 0.25m average cover for reuse/irrigation pipe
- no saw cutting of the road surface is required for the house connection pipes as most of these pipes are within the road verges
- no saw cutting of the road surface is required for gravity mains <100mm diameter, 25% saw cutting of road surface required for gravity mains >100mm diameter
- 25% saw cutting of the road surface is required for pressure pipe
- no saw cutting of the road surface is required for reuse/irrigation pipe
- pipes are bedded on 50mm depth of sand
- trenches are backfilled with select fill.

No allowance is made for pavement or road seal reinstatement as these elements are valued separately with road assets.

It has also been assumed that gravity vitrified clay (VC) and earthenware pipes would be replaced with PVC pipe and the replacement unit rates for these pipes assume replacement with PVC pipe.

The current replacement costs and useful lives for the CWMS pipe asset types are provided in Table 4.3.

Table 4.3 CWMS Pipe Asset Valuation Parameters

CWMS Pipe Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
House Connection 32 UPVC	$105.00	lm	80
House Connection 63 UPVC	$110.01	lm	80
House Connection 80 UPVC	$117.41	lm	80
House Connection 100 UPVC	$113.16	lm	80
House Connection 150 UPVC	$133.84	lm	80
House Connection 100 PVC	$113.16	lm	80
House Connection 100 VC	$113.16	lm	75
House Connection 40 PE	$117.53	lm	80
House Connection 50 PE	$132.59	lm	80

CWMS Pipe Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
House Connection 63 PE	$114.50	lm	80
Gravity Main 63 UPVC	$178.65	lm	80
Gravity Main 100 UPVC	$184.88	lm	80
Gravity Main 150 UPVC	$205.56	lm	80
Gravity Main 225 UPVC	$258.54	lm	80
Gravity Main 150 PVC	$205.56	lm	80
Gravity Main 100 VC	$184.88	lm	75
Gravity Main 150 VC	$205.56	lm	75
Gravity Main 250 MSCL	$260.68	lm	75
Gravity Main 100 VC Lined (Difficult Access)	$816.00	lm	50
Rising Main 50 UPVC	$90.65	lm	60
Rising Main 65 UPVC	$130.24	lm	60
Rising Main 80 UPVC	$136.28	lm	60
Rising Main 100 UPVC	$136.61	lm	60
Rising Main 150 UPVC	$157.99	lm	60
Rising Main 65 PVC	$130.24	lm	60
Rising Main 50 VC	$90.65	lm	60
Rising Main 40 PE	$122.25	lm	70
Rising Main 50 PE	$137.31	lm	70
Rising Main 63 PE	$126.39	lm	70
Rising Main 75 PE	$143.13	lm	70
Rising Main 80 PE	$156.50	lm	70
Rising Main 90 PE	$157.36	lm	70
Rising Main 110 PE	$187.26	lm	70
Rising Main 160 PE	$276.64	lm	70
Overflow Pipe 150 UPVC	$205.56	lm	80

4.5 Pumping Station Assets

There are a total of 43 pumping stations across Council's CWMS collection systems. Assets at these pumping stations have been divided into the following asset groups:

- Civil
- Electrical
- Mechanical

4.5.1 Civil Assets

The replacement rates for the civil assets at pumping stations are based on supply cost estimates together with allowance for applicable labour, plant and excavation works to install the new asset and remove the old asset. The asset supply cost estimates for various civil assets are based on the following:

- Sump costs are based on equivalent sized (diameter and depth) packaged pump stations within Rawlinsons
- Sump lid costs include an allowance for constructing formed concrete for concrete lids and an area of steel or aluminium metallic lids
- Vent pipe costs include an allowance for the appropriate length of pipe material and type
- Concrete valve chamber costs include an allowance for constructing formed concrete walls and a base slab, a concrete lid
- Plastic valve chamber cost are based on estimated rates provided by Council.

The current replacement costs and useful lives for the miscellaneous civil asset types are provided in Table 4.4.

Table 4.4 PS Miscellaneous Civil Asset Valuation Parameters

PS Miscellaneous Civil Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Vent Pipe <3.5m	$567.50	Quantity	50
Vent Pipe 9m	$2,816.25	Quantity	50
Vent Pipe 12m	$5,081.25	Quantity	50
Vent Pipe (Height Unknown)	$2,816.25	Quantity	50
Bollards and Chains	$2,940.00	Quantity	50
Plastic Valve Chamber	$538.42	Quantity	50
Concrete Valve Chamber Small	$2,809.05	Quantity	50
Concrete Valve Chamber Large	$5,843.94	Quantity	50

The current replacement costs and useful lives for the sumps and lids asset types are provided in Table 4.5.

Table 4.5 PS Sumps and Lids Asset Valuation Parameters

PS Sumps and Lids Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
PS Fibreglass Plastic Sump 1.1m dia 2.5m deep	$17,013.50	Quantity	30
PS Sump 1.4-1.7m dia <3m deep	$37,263.97	Quantity	50
PS Sump 1.8m-2.2m dia <2m deep	$43,295.23	Quantity	50
PS Sump 1.8m-2.2m dia 2-3m deep	$48,879.73	Quantity	50
PS Sump 1.8m-2.2m dia 3-4m deep	$60,464.22	Quantity	50
PS Sump 1.8m-2.2m dia 4-5m deep	$72,048.71	Quantity	50
PS Sump 1.8m-2.2m dia 5-6.5m deep	$85,808.55	Quantity	50
PS Sump 2.5m dia 3m deep	$59,625.48	Quantity	50
PS Sump 2.5m dia 4m deep	$73,809.80	Quantity	50
PS Sump 3.5m dia 3m deep	$83,823.79	Quantity	50
PS Sump (size unknown)	$48,879.73	Quantity	50
PS Concrete Sump Lid 1.4-1.7m dia	$702.77	Quantity	50
PS Concrete Sump Lid 1.8-2.2m dia	$944.78	Quantity	50
PS Concrete Sump Lid 2.5m dia	$1,275.24	Quantity	50
PS Concrete Sump Lid 3.5m dia	$2,389.79	Quantity	50
PS Concrete Sump Lid (size unknown)	$944.78	Quantity	50
PS Steel Sump Lid 1.1m dia	$587.14	Quantity	25
PS Aluminium Sump Lid 1.5m dia	$910.69	Quantity	25
PS Aluminium Sump Lid 1.8-2.2m dia	$1,322.87	Quantity	25

4.5.2 Electrical Assets

During this 2023 valuation, most of the electrical assets at pumping stations have been further componentised to enable assigning different useful lives to each asset component in order to reflect asset replacement patterns or further defined by material or type as follows:

- The PS Switchboard and Meter Box assets were componentised into four assets for PS Switchboard, PS Program Logic Control, PS HMI unit, PS Variable Speed Drive.
- The PS Alarm System assets were further defined as either Wireless Alarm System or Landline Alarm System.
- The PS Control Cabinets were further defined by material type as PS Stainless Steel/Aluminium Control Cabinet and PS Mild Steel Control Cabinet.

Tonkin and Council have worked together to componentise these assets and develop replacement rates for the component assets. The replacement rates for the electrical assets are based on supply rates from Rawlinsons and estimated rates with a labour allowance for installation of new and removal of the old asset. The current replacement costs and useful lives for the electrical asset types are provided in Table 4.6.

Table 4.6 PS Electrical Asset Valuation Parameters

PS Electrical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
PS Switchboard	$6,951.00	Quantity	25
PS Wireless Alarm System (Modem)	$3,071.25	Quantity	10
PS Stainless Steel/Aluminium Control Cabinet	$7,152.00	Quantity	25
PS Landline Alarm System	$3,071.25	Quantity	25
PS Mild Steel Control Cabinet	$7,152.00	Quantity	20
PS Program Logic Control	$4,047.00	Quantity	15
PS HMI Unit	$2,091.91	Quantity	15
PS Variable Speed Drive	$4,545.00	Quantity	15
PS Odour Filter	$23,658.00	Quantity	15

4.5.3 Mechanical Assets

The replacement rates for the mechanical assets at pumping stations are based on supply costs together with an allowance for labour costs for the removal of the old and installation of the new asset. The asset supply cost estimates for the mechanical assets are based on the following:

- Pump costs have been obtained from equivalent sized pumps within Rawlinsons
- Valves and level control costs are based on equivalent sized assets within Rawlinsons
- Flowmeter costs are based on supplier prices for equivalent sized flowmeters.

The current replacement costs and useful lives for the pump asset types are provided in Table 4.7.

Table 4.7 PS Pump Asset Valuation Parameters

PS Pump Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Submersible pump 0.9-1.2kW	$2,954.25	Quantity	15
Submersible pump 1.3-1.9kW	$4,054.25	Quantity	15
Submersible pump 2.0-2.4kW	$5,504.25	Quantity	15
Submersible pump 3.0-4.0kW	$6,304.25	Quantity	15
Submersible pump 4.4kW	$6,512.75	Quantity	15
Submersible pump 6.0-7.4kW	$8,617.00	Quantity	15
Submersible pump 9kW	$11,825.50	Quantity	15
Submersible pump 11kW	$14,225.50	Quantity	15
Submersible pump 15kW	$15,375.50	Quantity	15
Submersible pump (unknown size)	$5,504.25	Quantity	15
Submersible pump 2.5-2.9kW	$6,004.25	Quantity	15

The current replacement costs and useful lives for the mechanical valve types are provided in Table 4.8.

Table 4.8 PS Valves Asset Valuation Parameters

PS Valve Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
50mm Check Valve	$478.25	Quantity	20
80mm Check Valve	$810.88	Quantity	20
100mm Check Valve	$1,107.88	Quantity	20
50mm Gate Valve	$482.22	Quantity	20
80mm Gate Valve	$654.24	Quantity	20
100mm Gate Valve	$754.53	Quantity	20
PS Basic Level Control	$1,512.13	Quantity	15
PS Advanced Level Control	$2,524.50	Quantity	15
50mm Magflo Flowmeter	$4,035.91	Quantity	20
100mm Magflo Flowmeter	$3,983.57	Quantity	20
150mm Knife Gate Valve	$2,613.60	Quantity	20

Rising Main Flush Point	$495.42	Quantity	60
40mm Check Valve	$478.25	Quantity	20
40mm Gate Valve	$301.61	Quantity	20

4.6 Wastewater Treatment Plant Assets

Council own and maintain the following 17 wastewater treatment plants:

- Ardrossan WWTP
- Balgowan WWTP
- Black Point WWTP
- Bluff Beach WWTP
- Chinamans Wells WWTP
- Foul Bay WWTP
- Hardwicke Bay WWTP
- Maitland WWTP
- Point Turton WWTP 1
- Point Turton WWTP 2
- Port Julia WWTP
- Port Victoria WWTP
- Port Vincent WWTP
- Rogues Point WWTP
- Stansbury WWTP
- Sultana Point WWTP
- Yorketown WWTP

Assets at these wastewater treatment plants have been divided into the following component groups:

- WWTP Building & Facilities
- WWTP Civil
- WWTP Electrical
- WWTP Mechanical
- WWTP Pipework

4.6.1 WWTP Building and Facilities Assets

The current replacement costs and useful lives for the WWTP Buildings & Facilities asset types are provided in Table 4.9. The replacement rates for buildings are based on equivalent sized buildings in Rawlinsons. The replacement rates for other building facilities are based on a combination of rates from Rawlinsons and suppliers with a labour allowance for removal of the old and installation of the new asset.

Table 4.9 WWTP Buildings and Facilities Asset Valuation Parameters

WWTP Building & Facilities Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Air Conditioner Type	$1,912.75	Quantity	25
Electrical Fittings Type	$912.75	Quantity	25
Shed 2m x 2m Type	$2,620.00	Quantity	50
Shed 2.5m x 3.5m Type	$5,731.25	Quantity	50
Shed 3m x 4m Type	$7,860.00	Quantity	50
Shed 3m x 5m Type	$9,825.00	Quantity	50
Shed 4m x 6m Type	$15,720.00	Quantity	50
Shed 3m x 9m Type	$17,685.00	Quantity	50
Emergency Shower & Eye Wash Type	$3,244.11	Quantity	25
Fall Prevention Facilities	$7,355.70	Quantity	25

4.6.2 WWTP Civil Assets

The replacement rates for concrete tanks are based on rates for formed concrete walls, a concrete base slab, an allowance for excavation and a labour and plant hire allowance to construct the new tank and remove the old tank. The replacement rates for concrete tank covers are based on rates for formed concrete. The replacement rates for corrugated iron tank covers and aluminium access hatches are based on rates from Rawlinsons for materials supply and a labour allowance to remove the old cover and install the new cover. The replacement rates for poly tanks, steel tanks and industrial poly tanks with bunding are based on supplier purchase prices and Rawlinsons tank rates with an allowance for transport from Adelaide and a labour allowance to install the new asset.

The current replacement costs and useful lives for the WWTP Tanks & Covers asset types are provided in Table 4.10.

Table 4.10 WWTP Tanks & Covers Asset Valuation Parameters

WWTP Tanks & Covers Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP Concrete Tank 9kL	$9,528.86	Quantity	50
WWTP Concrete Tank 12kL	$11,177.83	Quantity	50
WWTP Concrete Tank 14kL	$12,709.56	Quantity	50
WWTP Concrete Tank 18kL	$14,719.04	Quantity	50
WWTP Concrete Tank 22kL	$18,079.75	Quantity	50
WWTP Concrete Tank 38kL	$20,365.28	Quantity	50

WWTP Tanks & Covers Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP Concrete Tank 45kL	$22,877.14	Quantity	50
WWTP Concrete Tank 48kL	$25,805.54	Quantity	50
WWTP Concrete Tank 50kL	$28,184.29	Quantity	50
WWTP Concrete Tank 90kL	$37,777.76	Quantity	50
WWTP Concrete Tank 95kL	$39,529.77	Quantity	50
WWTP Concrete Tank 100kL	$38,349.63	Quantity	50
WWTP Concrete Tank 120kL	$41,431.37	Quantity	50
WWTP Concrete Tank 132kL	$46,235.69	Quantity	50
WWTP Concrete Tank 160kL	$49,776.44	Quantity	50
WWTP Concrete Tank 180kL	$55,865.78	Quantity	50
WWTP Concrete Tank 220kL	$66,553.79	Quantity	50
WWTP Poly Tank 1.2kL	$1,730.00	Quantity	50
WWTP Poly Tank 1.5kL	$1,873.00	Quantity	50
WWTP Poly Tank 2.5kL	$1,928.00	Quantity	50
WWTP Poly Tank 4.5kL	$2,104.00	Quantity	50
WWTP Poly Tank 8kL	$3,423.00	Quantity	50
WWTP Poly Tank 27kL	$5,150.00	Quantity	50
WWTP Poly Tank 36kL	$7,229.00	Quantity	50
WWTP Industrial Poly Tank 100L & Bunding	$1,520.50	Quantity	50
WWTP Industrial Poly Tank 200L & Bunding	$2,004.00	Quantity	50
WWTP Industrial Poly Tank 1kL & Bunding	$2,747.00	Quantity	50
WWTP Industrial Poly Tank 1.5kL & Bunding	$3,602.00	Quantity	50
WWTP Industrial Poly Tank 3kL & Bunding	$4,457.00	Quantity	50
WWTP Poly Tank 10kL	$3,500.00	Quantity	50
WWTP Galvanised Steel Tank 500L	$1,987.00	Quantity	50
WWTP Tank Cover 2 - 3m dia 150mm Concrete Type	$2,076.13	Quantity	50
WWTP Tank Cover 3 - 3.5m dia 150mm Concrete Type	$2,694.58	Quantity	50

WWTP Tanks & Covers Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP Tank Cover 5.5m dia 150mm Concrete Type	$6,119.83	Quantity	50
WWTP Tank Cover 6.7m dia 200mm Concrete Type	$11,753.10	Quantity	50
WWTP Tank Cover 7.5m dia 250mm Concrete Type	$18,566.86	Quantity	50
WWTP Tank Cover 7.5m dia 300mm Concrete Type	$22,134.83	Quantity	50
WWTP Tank Cover 8m dia 300mm Concrete Type	$25,084.36	Quantity	50
WWTP Tank Cover 9.2m dia 300mm Concrete Type	$32,939.61	Quantity	50
WWTP Tank cover 5.5m dia Corrugated Iron Type	$6,514.52	Quantity	25
WWTP Tank cover 7.5m - 8.5m dia Corrugated Iron Type	$12,160.55	Quantity	25
WWTP Tank cover 10m dia Corrugated Iron Type	$18,182.98	Quantity	25
WWTP Access Hatch 4mm Aluminium Checker Plate Type	$1,948.50	Quantity	25

The replacement rates for miscellaneous civil assets at WWTPs are based on available supplier purchase prices and Rawlinsons rates with an allowance for removal of the old assets and installation of the new asset. The current replacement costs and useful lives for the WWTP miscellaneous civil assets are provided in Table 4.11

Table 4.11 WWTP Miscellaneous Civil Asset Valuation Parameters

WWTP Miscellaneous Civil Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP Fence 2m high with barbed wire type	$80.00	lm	50
WWTP Vent Pipe 100mm dia x 2m high PVC Type	$242.38	Quantity	50
WWTP Vent Pipe 100mm dia x 3m high PVC Type	$285.38	Quantity	50
WWTP Vent Pipe 200mm dia x 12m high Galvanised Metal Type	$4,716.38	Quantity	50
WWTP Double Access Gate	$1,686.38	Quantity	50
WWTP Single Access Gate	$734.25	Quantity	50
WWTP Tank Stand	$2,274.00	Quantity	50
WWTP Sump 1.8m-2.2m dia 3-4m deep	$60,464.22	Quantity	50
Ground Mounted Odour Filter	$4,441.16	Quantity	25
Vent Mounted Odour Filter	$2,049.56	Quantity	25

Previously hardstand gravel surfaces and the earthworks for lagoon construction were valued assets. However, it is considered that the excavation and bund construction work required during initial lagoon construction is a one off cost that will not be required to renew the asset at end of life and therefore earthworks for lagoon construction are no longer valued assets. Hardstand areas will be managed under maintenance so these assets are also no longer valued.

4.6.3 WWTP Electrical Assets

During the previous 2019 valuation, some of the switchboard assets have been componentised to enable assigning different useful lives to each asset component whilst some of the switchboards have been maintained as single assets as they will be replaced as a whole unit. For those switchboards that have been componentised, separate asset components for Primary Switchboard, HMI Unit and VSD have been created. The same methodology has been used for this valuation.

Tonkin and Council have worked together to identify the electrical asset components at each WWTP and develop replacement rates. The replacement rates for the electrical assets are based on supply rates from Rawlinsons and estimated rates with a labour allowance for installation of new and removal of the old asset. The current replacement costs and useful lives for the electrical asset types are provided in Table 4.12.

Table 4.12 WWTP Electrical Asset Valuation Parameters

WWTP Electrical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP Alarm System Landline Type	$2,180.00	Quantity	25
WWTP Alarm System Wireless Type	$2,180.00	Quantity	10
WWTP PLC Controls Type	$9,519.00	Quantity	15
WWTP Small Switchboard & Cabinet Type	$23,722.00	Quantity	25
WWTP Medium Switchboard & Cabinet Type	$34,547.00	Quantity	25
WWTP Large Switchboard & Cabinet Type	$44,922.00	Quantity	25
WWTP Electrical Cabling	$9,136.00	Quantity	25
WWTP Small Primary Switchboard	$10,136.00	Quantity	25
WWTP Small VSD	$4,545.00	Quantity	15
WWTP Medium Primary Switchboard	$14,961.00	Quantity	25
WWTP Large VSD	$8,361.00	Quantity	15
WWTP Large Primary Switchboard	$19,586.00	Quantity	25
WWTP HMI Unit	$15,000.00	Quantity	15

4.6.4 WWTP Mechanical Assets

The replacement rates for chlorine analysers, filters and variable frequency drives are based on estimated supply rates with a labour allowance for installation of the new and removal of the old asset.

The replacement rates for the filter controller and the flow switch are based on supply rates from Rawlinsons with a labour allowance for installation of new and removal of the old asset.

The current replacement costs and useful lives for the WWTP Miscellaneous Mechanical asset types are provided in Table 4.13.

Table 4.13 WWTP Miscellaneous Mechanical Asset Valuation Parameters

WWTP Miscellaneous Mechanical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP Basic Level Regulator	$1,460.00	Quantity	15
WWTP Chlorine Analyser Type	$8,254.95	Quantity	25
WWTP 40mm-80mm Filter	$3,365.10	Quantity	25
Filter Controller Type	$1,160.00	Quantity	25
Irrigation Flow Switch Type	$1,346.04	Quantity	25
Variable Frequency Drive Type	$6,730.20	Quantity	25
WWTP Advanced Level Regulator	$1,586.25	Quantity	15
WWTP Chlorine Tank Level Monitor	$4,996.07	Quantity	15
WWTP Water Conditioner	$10,726.28	Quantity	15
Dissolved Oxygen Meter System	$2,704.15	Quantity	15

The current replacement costs and useful lives for the WWTP Pumps asset types are provided in Table 4.14. The replacement rates for the WWTP pumps are based on supply rates from Rawlinsons for equivalent sized pumps with a labour allowance for installation of new and removal of the old asset.

Table 4.14 WWTP Pumps Asset Valuation Parameters

WWTP Pumps Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Channel Aerator 2.2kW Type	$13,750.00	Quantity	20
Aerator 4kW Type	$14,707.00	Quantity	20
Aerator 7.5kW Type	$16,010.44	Quantity	20
Chlorine Circulation Pump Type	$5,608.50	Quantity	15
Chlorine Dosing Pump and Meter Type	$6,168.00	Quantity	15
Air Compressor Medium Type	$1,380.34	Quantity	15
Decant Pump 0.6-0.8kW Type	$2,654.25	Quantity	15
Decant Pump 0.9-1.2kW Type	$2,954.25	Quantity	15

Decant Pump 2.2kW Type	$5,504.25	Quantity	15
Decant Pump 3.1-3.5kW Type	$6,304.25	Quantity	15
Decant Pump 5.3kW Type	$7,712.75	Quantity	15
Decant Pump 22kW Type	$19,625.50	Quantity	15
Irrigation Pump 2.2kW Type	$4,704.25	Quantity	15
Irrigation Pump 4kW Type	$6,312.75	Quantity	15
Irrigation Pump 5.5kW Type	$7,112.75	Quantity	15
Irrigation Pump 11kW Type	$8,225.50	Quantity	15
Rainwater Tank Pressure Pump Type	$4,704.25	Quantity	15
RAS Pump 3.0-4.4kW Type	$7,425.50	Quantity	15
Submersible Pump 7.4kW	$8,825.50	Quantity	15
Tank Mixer Type	$6,025.50	Quantity	15
Ventilation Fan	$1,173.97	Quantity	15
WAS Pump 1.2-1.9kW Type	$5,325.50	Quantity	15
WAS Pump 2.0-2.6kW Type	$5,825.50	Quantity	15
WAS Pump 3.0-4.4kW Type	$7,425.50	Quantity	15
Aerator (Floating) 1.2kW Type	$8,492.47	Quantity	20
Submersible pump 0.2-0.9kW	$2,479.25	Quantity	15

The current replacement costs and useful lives for the WWTP Valve & Flowmeters asset types are provided in Table 4.15. The replacement rates for valves are based on rates from Rawlinsons with a labour allowance for installation and removal of old. The replacement rates for flowmeters are based on rates from Rawlinsons with a labour allowance for installation and removal of old.

Table 4.15 WWTP Valves & Flowmeters Asset Valuation Parameters

WWTP Valves & Flowmeters Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP 50mm Ball Valve	$421.24	Quantity	20
WWTP 50mm Gate Valve	$534.35	Quantity	20
WWTP 50mm Non-Return Valve	$530.38	Quantity	20
WWTP 100mm Gate Valve	$858.78	Quantity	20
WWTP 80mm Gate Valve	$654.24	Quantity	20
WWTP 100mm Non-Return Valve	$1,212.13	Quantity	20

WWTP Valves & Flowmeters Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
WWTP 100mm Flow Control Valve	$1,212.13	Quantity	20
WWTP 100mm Solenoid Valve	$1,676.18	Quantity	20
WWTP 50mm Gate Valve Electrical Operation Type	$1,371.63	Quantity	20
WWTP 100mm Gate Valve Electrical Operation Type	$1,875.43	Quantity	20
WWTP 225mm Gate Valve Electrical Operation Type	$4,203.03	Quantity	20
WWTP 50mm Flowmeter	$3,931.66	Quantity	20
WWTP 80mm Flowmeter	$3,973.19	Quantity	20
WWTP 100mm Flowmeter	$3,879.32	Quantity	20
WWTP 150mm Flowmeter	$4,682.85	Quantity	20
WWTP 150mm Knife Gate Valve	$2,613.60	Quantity	20

4.6.5 WWTP Pipework Assets

The current replacement costs and useful lives for the WWTP Pipework asset types are provided in Table 4.16. The replacement rates for pipework at the wastewater treatment plants is based on supply rates from Rawlinsons with a labour allowance to install and remove the old asset.

Table 4.16 WWTP Pipework Asset Valuation Parameters

WWTP Pipework Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Pipework 50mm PVC Type	$48.48	lm	50
Pipework 100mm PVC Type	$97.73	lm	50
Pipework 150mm PVC Type	$117.92	lm	50
Pipework 225mm PVC Type	$183.31	lm	50
Pipework 50mm HDPE Type	$56.13	lm	50
Pipework 63mm HDPE Type	$38.68	lm	50
Pipework 80mm HDPE Type	$64.72	lm	50
Pipework 110mm HDPE Type	$83.83	lm	50
Pipework 150mm HDPE Type	$154.68	lm	50
Pipework 50mm Copper Type	$134.32	lm	50
Filter Decant Pipe 1.2m x 150mm Stainless Steel Screen Type	$486.00	lm	50

Pipework 40mm HDPE Type	$43.22	lm	50

4.7 Establishing Useful Life

Yorke Peninsula Council value their assets at a component level which enables assets to be assigned an average useful life for each component to determine depreciation rates.

The useful life of a CWMS asset is assumed to be the time that an asset is expected to last before total replacement is required. It is likely that during their useful life, some assets will require maintenance.

The useful life of CWMS assets is governed by two factors:

- Structural deterioration – i.e. when a pipe or pit or any asset fails due to age/physical deterioration and renewal is required.
- Suitability - when despite being in physically good condition an asset is no longer suitable for purpose, e.g. when a pipe's capacity is exceeded

The useful lives that are assigned to different CWMS asset types are based on industry standards and have been provided in the tables in the previous section. Measuring Consumption

The consumption of the economic benefit of CWMS assets will be measured based on the asset's age and the standard useful life.

For each asset the construction date recorded against each asset and the standard useful life of the asset type is used to determine the remaining life of the asset. Where an asset is older than the standard useful life and is still in service the remaining life is adjusted to ensure it is not fully depreciated and annual depreciation is reported in accordance with the process outlined in section 3.5.

4.8 Measuring Consumption

The consumption of the economic benefit of CWMS assets will be measured based on the asset's age and the standard useful life.

For each asset the construction date recorded against each asset and the standard useful life of the asset type is used to determine the remaining life of the asset (see Equation 4.1). Where an asset is older than the standard useful life and is still in service the remaining life is adjusted to ensure it is not fully depreciated and annual depreciation is reported in accordance with the process outlined in section 3.5.

$$AgeScore = \left(\frac{ValuationDate - ConstructionDate}{StandardLife}\right)$$

Equation 4.1 CWMS Drain Age Score

Various asset classes included a condition assessment. Council engaged a third-party to undertake CCTV inspections of a portion of the underground drain network (approximately 5% of the network) progressively since 2014. The condition scores provided were used as part of the valuation to support the consumption calculation of the asset and calculate the remaining life, as described in the following sub-sections. A detailed assessment of the CCTV reports has not been undertaken, and therefore it is recommended that Council review the reports to determine the best course of action to maintain or renew the CWMS infrastructure to extend the serviceable life.

High valued tank assets (>90kL tanks) were condition inspected by Council to support the calculation of the remaining life for valuation purposes. This process is described in the following sub-section.

4.8.1 Drain Consumption

The consumption of the economic benefit of CWMS drains will be measured based on the drain's age and condition for the 176 drains with condition scores. For the remaining 3648 drains that were not condition assessed, the consumption will be based on age and standard useful life only.

For each drain asset the construction date recorded against each asset is used to determine an age score as the percentage of the asset's age compared to the expected useful life of the asset.

Drains Not Condition Assessed

For the remaining drains that have not been condition assessed the overall condition score was recorded as the age score only as follows:

$$Score = (AgeScore)$$

Equation 4.2 CWMS Drain Overall Age Condition Score for Drains Not Assessed

Condition Assessed Drains

Since 2014, Plumbing and Pipeline Solutions (PPS) have been progressively undertaking condition assessments of Councils township node and pipe assets. Currently, approximately 5% of Councils underground pipe assets have been condition inspected.

For each drain, both a serviceability and a condition score were recorded by PPS. In some cases, the drain was blocked and did not allow for a condition inspection to be undertaken. In these cases, a serviceability score of 4 to 5 was recorded (representing poor serviceability) and no condition score was recorded.

For those assets that could be assessed, a condition rating between 1 and 5 was assigned by PPS to each segment in accordance with WSA 2013. These scores were converted to condition scores between 1 and 100 as shown in Table 4.17 below.

Table 4.17 – CWMS Pipe Condition Scoring

Condition	Structural Condition Score
1 - Very Good	0
2 - Good	25
3 - Fair	50
4 - Poor	75
5 - Very Poor	100

The overall condition score was then calculated, also considering the age of the pipe, using the following formula:

$$Score = \frac{1}{10} \times (3 \times AgeScore + 7 \times ConditionScore)$$

Equation 4.3 CWMS Drain Overall Condition Score for Assessed Drains

It should be noted, for various inspections the CCTV inspection has picked up isolated failed sections within the pipe that require immediate remediation/renewal. However, the remaining life of the overall pipe for valuation purposes resulted in a remaining life greater than 10 years following the consumption

methodology above. This is due to the isolated nature of the failure points, general condition of the remainder of pipe, and the age of pipe. However, if Council do not undertake the required remediation works, this may result in failure of the asset. It is recommended that Council consider maintenance/repair works to remediate these isolated failures to extend the remaining life and serviceability of the pipe.

4.8.2 Node Consumption

The consumption of the economic benefit of CWMS nodes will be measured based on the nodes age and condition for the 103 nodes with condition scores. For the remaining 3936 nodes that were not condition assessed, the consumption will be based on age and standard useful life only.

For each node asset the construction date recorded against each asset is used to determine an age score as the percentage of the asset's age compared to the expected useful life of the asset.

Nodes without Condition Scores

For the 3936 nodes without condition scores for the pit, the overall age condition score was recorded as the age score only as follows:

Overall Age Condition Score

$$Score = (AgeScore)$$

Equation 4.4 CWMS Node Overall Age Score for Nodes Not Assessed

Condition Assessed Nodes

For the 103 nodes with pit condition scores, a condition score between 0-100 was calculated as outlined in Equation 4.5. The same methodology as the CWMS drains was used, as detailed in the previous sub-section. The overall age condition score was then calculated from the age score and the condition score as follows:

CWMS Node Overall Age Condition Score

$$Score = \frac{1}{10} \times (3 \times AgeScore + 7 \times NodeConditionScore)$$

Equation 4.5 CWMS Node Overall Condition Score

4.8.3 Tank Consumption

For high valued Tank assets (>90L Tank), Council undertook a condition inspection to inform the remaining life. The condition data collected for each asset was used to calculate a consumption score (0 - 100) to determine the remaining life for valuation purposes. The condition assessment was developed based on the criteria below.

Table 4.18 - Consumption Criteria

Condition	Description	Consumption Score
1 - Very Good	Excellent physical condition. Observable deterioration is insignificant.	0

Condition	Description	Consumption Score
2 - Good	Observation indicates that the asset is meeting all service requirements. South physical condition, minor deterioration/minor defects observed.	30
3 - Fair to Moderate	Moderate deterioration evident, minor components or isolated sections of the asset need replacement/repair now but not affecting short term structural integrity.	60
4 - Poor	Serious deterioration and significant defects evident affecting structural integrity. Asset is now moving into zone of failure.	80
5 - Very Poor	Failed or failure imminent. Immediate action to replace most or all of asset. Asset is unable to support the target level of service though may still be providing some level of service.	95
6 - Expired	Expired Asset	100

4.9 Service Level

The service level of CWMS is measured by the ability of the assets to effectively transfer and treat wastewater. The level of service of CWMS assets will need to be maintained at a high level as there are public health implications associated with failure of the system. For this reason CWMS assets may be replaced before total physical deterioration occurs. When assessing the service level of CWMS assets the following factors have been considered:

- Safety – Risk of untreated effluent escaping from the system
- Cost Effectiveness – As assets age their ongoing maintenance costs increase and there will come a stage when it is more cost effective to replace rather than maintain
- Customer Satisfaction
- Capacity – Do specific components of the system have the capacity to carry/treat current and predicted future loads?

It is assumed for this valuation that existing CWMS assets will maintain their existing service and if upgrading is required this will be undertaken by duplication of the CWMS system. No allowance has been made for shorter useful lives that would result due to replacement being driven by improvement in asset capacity.

5 Valuation Summary

A summary of the valuation as of 1 July 2023 for Yorke Peninsula Council CWMS Infrastructure is shown below in Table 5.1, itemised into locations.

Table 5.1 CWMS Infrastructure Asset Valuation Summary

Location	Current Replacement Cost	Accumulated Depreciation	Written Down Value	Remaining %
Ardrossan	$6,281,112	$3,113,592	$3,167,520	50%
Balgowan	$486,385	$162,943	$323,442	66%
Black Point	$1,800,831	$764,614	$1,036,217	58%
Bluff Beach	$540,629	$211,151	$329,479	61%
Chinaman Wells	$688,298	$289,649	$398,650	58%
Edithburgh	$693,432	$134,714	$558,718	81%
Foul Bay	$294,328	$143,110	$151,218	51%
Hardwicke Bay	$1,472,224	$525,953	$946,271	64%
Maitland	$4,223,028	$2,649,622	$1,573,406	37%
Point Turton	$2,205,159	$638,051	$1,567,108	71%
Port Julia	$561,038	$195,051	$365,987	65%
Port Victoria	$1,623,723	$474,450	$1,149,273	71%
Port Vincent	$2,428,092	$837,156	$1,590,936	66%
Rogues Point	$411,957	$198,183	$213,773	52%
Stansbury	$2,975,178	$897,048	$2,078,130	70%
Sultana Point	$646,876	$301,858	$345,017	53%
Tiddy Widdy Beach	$1,225,140	$674,416	$550,724	45%
Yorketown	$4,155,356	$1,430,889	$2,724,467	66%
Total	**$32,712,785**	**$13,642,449**	**$19,070,336**	**58%**

The Written Down Value (WDV) is the depreciated replacement cost and is the "carrying amount" of the assets as of 1 July 2023 as per AASB 116. Together the table illustrates the total fair value of the asset (current replacement cost (CRC)), the amount consumed (accumulated depreciation) and the amount remaining (written down value (WDV)) for each asset. The Conquest summary report is provided in Appendix A.

6 Depreciation Forecast

The annual depreciation forecast calculated for the 2023/2024 financial year for Council's CWMS infrastructure assets is summarised in Table 6.1, itemised into locations. This table provides a predicted depreciation expense for each asset type for the 2023/2024 financial year and provides an indication of the rate at which the various asset types are being consumed annually in relation to the CRC.

Table 6.1 Depreciation Forecast 2023/2024

Location	Annual Depreciation Forecast	Annual Consumption Forecast
Ardrossan	$108,246	1.7%
Balgowan	$15,990	3.3%
Black Point	$40,879	2.3%
Bluff Beach	$16,663	3.1%
Chinaman Wells	$21,557	3.1%
Edithburgh	$11,351	1.6%
Foul Bay	$9,545	3.2%
Hardwicke Bay	$38,993	2.6%
Maitland	$74,823	1.8%
Point Turton	$48,980	2.2%
Port Julia	$17,409	3.1%
Port Victoria	$37,424	2.3%
Port Vincent	$53,933	2.2%
Rogues Point	$12,202	3.0%
Stansbury	$61,613	2.1%
Sultana Point	$19,096	3.0%
Tiddy Widdy Beach	$18,540	1.5%
Yorketown	$84,347	2.0%
Total	**$691,589**	**2.1%**

Whilst the depreciation forecast will provide an estimate of the depreciation that would be expected for 2023/2024, the actual depreciation will need to include any additions and disposals of assets that occur during the period.

To predict the forecast depreciation the Conquest system considers assets that have reached their condition at end of life to have been entirely consumed and hence does not calculate depreciation against the asset. As at 1 July 2023 there are no CWMS assets that have expired.

7 Outcomes of Revaluation

The financial changes from 30 June 2023 (sourced from the 22-23 Asset Movement Report) to this 1 July 2023 valuation is summarised in the table below.

Table 7.1 Outcome of Revaluation

Asset Type	Current Replacement Cost	Accumulated Depreciation	Depreciated Replacement Cost	Annual Depreciation Forecast
Pipes	17%	16%	17%	16%
Nodes	12%	5%	18%	6%
Pumping Stations	11%	6%	16%	27%
Wastewater Treatment and Reuse	18%	13%	23%	26%
TOTAL	**16%**	**13%**	**18%**	**21%**

The critical changes to note since the previous valuation and financials as of 30 June 2023, as sourced from 22-23 Asset Movement Report, are addressed in the following points:

- The previous valuation was undertaken as of 1 July 2019. The BPI since the previous valuation is 19%. The CRC increase is a little lower than BPI, however generally in line with industry trends over the last 4 years. The overall annual depreciation increased more than the CRC. This is primarily due to the increase for Pumping Stations and Wasterwater Treatment and Reuse assets, which is commented on in the dot point below.
- The overall Annual Depreciation increased more than the CRC. This is primarily due to the increase for Pumping Stations and Wasterwater Treatment and Reuse assets, due to the expired assets now having remaining life and therefore now reporting annual depreciation.
- The standard life for nodes was increased for various asset types to align with the standard life of the adjoining pipes, as Council confirmed that they typically replace nodes at the same time as replacement of the pipe. The increase in standard life resulted in an increase in remaining life for the relevant nodes, which therefore resulted in a higher increase in the Depreciated Replacement cost in comparison to the Accumulated Depreciation.
- High valued tanks were also condition inspected by Council. The condition inspection results indicated that the condition of the tanks has slightly improved resulting in an increase of the remaining life, which therefore resulted in a higher increase in the Depreciated Replacement cost in comparison to the Accumulated Depreciation.

Appendix A – Conquest Asset Valuation Summary Report

Asset Values At 1/07/2023

ConQUEST

Grouping: Family Code

Current Filter: CWMS Assets

Family Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
003	**3 CWMS Assets**	$32,712,785	$32,712,785		$13,642,449	$19,070,336
003.001	**Ardrossan**	$6,281,112	$6,281,112		$3,113,592	$3,167,520
003.001.001	**Ardrossan Collection System**	$5,079,508	$5,079,508		$2,527,677	$2,551,831
003.001.002	**Ardrossan Pump Stations**	$582,367	$582,367		$321,486	$260,881
003.001.003	**Ardrossan Treatment & Storage**	$619,236	$619,236		$264,429	$354,807
003.002	**Balgowan**	$486,385	$486,385		$162,943	$323,442
003.002.001	**Balgowan Collection System**	$145,014	$145,014		$40,083	$104,931
003.002.002	**Balgowan Pump Stations**	$143,305	$143,305		$39,530	$103,775
003.002.003	**Balgowan Treatment & Storage**	$198,067	$198,067		$83,330	$114,737
003.003	**Black Point**	$1,800,831	$1,800,831		$764,614	$1,036,217
003.003.001	**Black Point Collection System**	$1,046,860	$1,046,860		$366,415	$680,445
003.003.002	**Black Point Pump Stations**	$386,092	$386,092		$185,074	$201,018
003.003.003	**Black Point Treatment & Storage**	$367,878	$367,878		$213,125	$154,754
003.004	**Bluff Beach**	$540,629	$540,629		$211,151	$329,479
003.004.001	**Bluff Beach Collection System**	$211,444	$211,444		$57,851	$153,593
003.004.002	**Bluff Beach Pump Stations**	$73,311	$73,311		$32,278	$41,033
003.004.003	**Bluff Beach Treatment & Storage**	$255,874	$255,874		$121,022	$134,853
003.005	**Chinaman Wells**	$688,298	$688,298		$289,649	$398,650
003.005.001	**Chinaman Wells Collection System**	$284,866	$284,866		$86,216	$198,650
003.005.002	**Chinaman Wells Pump Stations**	$144,644	$144,644		$82,480	$62,164
003.005.003	**Chinaman Wells Treatment & Storage**	$258,789	$258,789		$120,954	$137,836
003.006	**Edithburgh**	$693,432	$693,432		$134,714	$558,718
003.006.001	**Edithburgh Collection System**	$582,999	$582,999		$100,774	$482,225
003.006.002	**Edithburgh Pump Stations**	$110,433	$110,433		$33,939	$76,494
003.007	**Foul Bay**	$294,328	$294,328		$143,110	$151,218
003.007.001	**Foul Bay Collection System**	$100,468	$100,468		$34,544	$65,925

Family Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
003.007.002	Foul Bay Treatment & Storage	$193,859	$193,859		$108,566	$85,293
003.008	Hardwicke Bay	$1,472,224	$1,472,224		$525,953	$946,271
003.008.001	Hardwicke Bay Collection System	$662,645	$662,645		$174,230	$488,415
003.008.002	Hardwicke Bay Pump Stations	$515,024	$515,024		$191,610	$323,415
003.008.003	Hardwicke Bay Treatment & Storage	$294,555	$294,555		$160,113	$134,442
003.009	Maitland	$4,223,028	$4,223,028		$2,649,622	$1,573,406
003.009.001	Maitland Collection System	$3,401,952	$3,401,952		$2,245,286	$1,156,666
003.009.002	Maitland Pump Stations	$239,486	$239,486		$127,749	$111,737
003.009.003	Maitland Treatment & Storage	$581,591	$581,591		$276,587	$305,003
003.010	Point Turton	$2,205,159	$2,205,159		$638,051	$1,567,108
003.010.001	Point Turton Collection System	$1,320,488	$1,320,488		$270,421	$1,050,067
003.010.002	Point Turton Pump Stations	$217,712	$217,712		$45,214	$172,498
003.010.003	Point Turton Treatment & Storage	$657,958	$657,958		$321,262	$336,696
003.010.004	Caravan Park Connection	$9,002	$9,002		$1,154	$7,848
003.011	Port Julia	$561,038	$561,038		$195,051	$365,987
003.011.001	Port Julia Collection System	$197,212	$197,212		$30,101	$167,110
003.011.002	Port Julia Pump Stations	$191,253	$191,253		$60,293	$130,960
003.011.003	Port Julia Treatment & Storage	$172,574	$172,574		$104,657	$67,916
003.012	Port Victoria	$1,623,723	$1,623,723		$474,450	$1,149,273
003.012.001	Port Victoria Collection System	$1,000,868	$1,000,868		$219,732	$781,137
003.012.002	Port Victoria Pump Stations	$274,679	$274,679		$93,718	$180,961
003.012.003	Port Victoria Treatment & Storage	$348,176	$348,176		$161,001	$187,175
003.013	Port Vincent	$2,428,092	$2,428,092		$837,156	$1,590,936
003.013.001	Port Vincent Collection System	$1,554,138	$1,554,138		$429,416	$1,124,722
003.013.002	Port Vincent Pump Stations	$398,205	$398,205		$171,532	$226,673
003.013.003	Port Vincent Treatment & Storage	$475,749	$475,749		$236,208	$239,540
003.014	Rogues Point	$411,957	$411,957		$198,183	$213,773
003.014.001	Rogues Point Collection System	$188,035	$188,035		$57,380	$130,655
003.014.002	Rogues Point Treatment & Storage	$223,921	$223,921		$140,803	$83,118
003.015	Stansbury	$2,975,178	$2,975,178		$897,048	$2,078,130
003.015.001	Stansbury Collection System	$1,954,951	$1,954,951		$447,259	$1,507,691

Family Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
003.015.002	Stansbury Pump Stations	$631,881	$631,881		$254,428	$377,452
003.015.003	Stansbury Treatment & Storage	$388,346	$388,346		$195,360	$192,986
003.016	**Sultana Point**	$646,876	$646,876		$301,858	$345,017
003.016.001	Sultana Point Collection System	$220,605	$220,605		$86,030	$134,575
003.016.002	Sultana Point Treatment & Storage	$426,271	$426,271		$215,828	$210,443
003.017	**Tiddy Widdy Beach**	$1,225,140	$1,225,140		$674,416	$550,724
003.017.001	Tiddy Widdy Beach Collection System	$1,140,858	$1,140,858		$627,449	$513,410
003.017.002	Tiddy Widdy Beach Pump Stations	$84,281	$84,281		$46,967	$37,314
003.018	**Yorketown**	$4,155,356	$4,155,356		$1,430,889	$2,724,467
003.018.001	Yorketown Collection System	$2,860,788	$2,860,788		$853,248	$2,007,540
003.018.002	Yorketown Pump Stations	$716,039	$716,039		$321,180	$394,858
003.018.003	Yorketown Treatment & Storage	$578,529	$578,529		$256,461	$322,068
	Grand Total	$32,712,785	$32,712,785	$0	$13,642,449	$19,070,336

Appendix B – Conquest Asset Depreciation Forecast Summary Report

Depreciation Forecast

Grouping: Family Code
Current Filter: CWMS Assets
Report Period: 1/07/2023-1/07/2024

Family Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
003	**3 CWMS Assets**	$32,712,785	$13,642,449	$14,334,038	$691,589
003.001	**Ardrossan**	$6,281,112	$3,113,592	$3,221,838	$108,246
003.001.001	**Ardrossan Collection System**	$5,079,508	$2,527,677	$2,593,123	$65,446
003.001.002	**Ardrossan Pump Stations**	$582,367	$321,486	$341,896	$20,410
003.001.003	**Ardrossan Treatment & Storage**	$619,236	$264,429	$286,819	$22,390
003.002	**Balgowan**	$486,385	$162,943	$178,933	$15,990
003.002.001	**Balgowan Collection System**	$145,014	$40,083	$42,197	$2,114
003.002.002	**Balgowan Pump Stations**	$143,305	$39,530	$45,012	$5,482
003.002.003	**Balgowan Treatment & Storage**	$198,067	$83,330	$91,723	$8,394
003.003	**Black Point**	$1,800,831	$764,614	$805,493	$40,879
003.003.001	**Black Point Collection System**	$1,046,860	$366,415	$379,922	$13,506
003.003.002	**Black Point Pump Stations**	$386,092	$185,074	$197,813	$12,740
003.003.003	**Black Point Treatment & Storage**	$367,878	$213,125	$227,757	$14,633
003.004	**Bluff Beach**	$540,629	$211,151	$227,813	$16,663
003.004.001	**Bluff Beach Collection System**	$211,444	$57,851	$60,707	$2,856
003.004.002	**Bluff Beach Pump Stations**	$73,311	$32,278	$35,570	$3,292
003.004.003	**Bluff Beach Treatment & Storage**	$255,874	$121,022	$131,537	$10,515
003.005	**Chinaman Wells**	$688,298	$289,649	$311,206	$21,557
003.005.001	**Chinaman Wells Collection System**	$284,866	$86,216	$90,141	$3,926
003.005.002	**Chinaman Wells Pump Stations**	$144,644	$82,480	$89,271	$6,791
003.005.003	**Chinaman Wells Treatment & Storage**	$258,789	$120,954	$131,794	$10,840

Family Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
003.006	**Edithburgh**	$693,432	$134,714	$146,065	$11,351
003.006.001	**Edithburgh Collection System**	$582,999	$100,774	$108,504	$7,730
003.006.002	**Edithburgh Pump Stations**	$110,433	$33,939	$37,561	$3,621
003.007	**Foul Bay**	$294,328	$143,110	$152,654	$9,545
003.007.001	**Foul Bay Collection System**	$100,468	$34,544	$36,116	$1,572
003.007.002	**Foul Bay Treatment & Storage**	$193,859	$108,566	$116,538	$7,972
003.008	**Hardwicke Bay**	$1,472,224	$525,953	$564,946	$38,993
003.008.001	**Hardwicke Bay Collection System**	$662,645	$174,230	$183,098	$8,868
003.008.002	**Hardwicke Bay Pump Stations**	$515,024	$191,610	$210,220	$18,610
003.008.003	**Hardwicke Bay Treatment & Storage**	$294,555	$160,113	$171,628	$11,515
003.009	**Maitland**	$4,223,028	$2,649,622	$2,724,445	$74,823
003.009.001	**Maitland Collection System**	$3,401,952	$2,245,286	$2,291,220	$45,934
003.009.002	**Maitland Pump Stations**	$239,486	$127,749	$136,699	$8,950
003.009.003	**Maitland Treatment & Storage**	$581,591	$276,587	$296,526	$19,939
003.010	**Point Turton**	$2,205,159	$638,051	$687,031	$48,980
003.010.001	**Point Turton Collection System**	$1,320,488	$270,421	$288,809	$18,388
003.010.002	**Point Turton Pump Stations**	$217,712	$45,214	$52,723	$7,509
003.010.003	**Point Turton Treatment & Storage**	$657,958	$321,262	$344,113	$22,851
003.010.004	**Caravan Park Connection**	$9,002	$1,154	$1,385	$231
003.011	**Port Julia**	$561,038	$195,051	$212,460	$17,409
003.011.001	**Port Julia Collection System**	$197,212	$30,101	$33,081	$2,979
003.011.002	**Port Julia Pump Stations**	$191,253	$60,293	$67,348	$7,055
003.011.003	**Port Julia Treatment & Storage**	$172,574	$104,657	$112,031	$7,374
003.012	**Port Victoria**	$1,623,723	$474,450	$511,874	$37,424
003.012.001	**Port Victoria Collection System**	$1,000,868	$219,732	$233,486	$13,754
003.012.002	**Port Victoria Pump Stations**	$274,679	$93,718	$103,463	$9,745
003.012.003	**Port Victoria Treatment & Storage**	$348,176	$161,001	$174,925	$13,925

Family Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
003.013	**Port Vincent**	$2,428,092	$837,156	$891,089	$53,933
003.013.001	**Port Vincent Collection System**	$1,554,138	$429,416	$450,020	$20,604
003.013.002	**Port Vincent Pump Stations**	$398,205	$171,532	$186,470	$14,938
003.013.003	**Port Vincent Treatment & Storage**	$475,749	$236,208	$254,599	$18,391
003.014	**Rogues Point**	$411,957	$198,183	$210,385	$12,202
003.014.001	**Rogues Point Collection System**	$188,035	$57,380	$60,214	$2,834
003.014.002	**Rogues Point Treatment & Storage**	$223,921	$140,803	$150,171	$9,368
003.015	**Stansbury**	$2,975,178	$897,048	$958,661	$61,613
003.015.001	**Stansbury Collection System**	$1,954,951	$447,259	$473,912	$26,653
003.015.002	**Stansbury Pump Stations**	$631,881	$254,428	$274,375	$19,946
003.015.003	**Stansbury Treatment & Storage**	$388,346	$195,360	$210,374	$15,014
003.016	**Sultana Point**	$646,876	$301,858	$320,954	$19,096
003.016.001	**Sultana Point Collection System**	$220,605	$86,030	$89,546	$3,516
003.016.002	**Sultana Point Treatment & Storage**	$426,271	$215,828	$231,408	$15,580
003.017	**Tiddy Widdy Beach**	$1,225,140	$674,416	$692,955	$18,540
003.017.001	**Tiddy Widdy Beach Collection System**	$1,140,858	$627,449	$642,806	$15,358
003.017.002	**Tiddy Widdy Beach Pump Stations**	$84,281	$46,967	$50,149	$3,182
003.018	**Yorketown**	$4,155,356	$1,430,889	$1,515,236	$84,347
003.018.001	**Yorketown Collection System**	$2,860,788	$853,248	$890,654	$37,405
003.018.002	**Yorketown Pump Stations**	$716,039	$321,180	$346,063	$24,883
003.018.003	**Yorketown Treatment & Storage**	$578,529	$256,461	$278,519	$22,059
	Grand Total	**$32,712,785**	**$13,642,449**	**$14,334,038**	**$691,589**

Stormwater Infrastructure Asset Valuation & Methodology

1 July 2023

Yorke Peninsula Council

14 May 2024
Ref: 231226.02R002RevA

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Building exceptional outcomes together

Document History and Status

Rev	Description	Author	Reviewed	Approved	Date
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Appendices

1 Introduction

Yorke Peninsula Council (Council) own and manage stormwater assets within 22 towns and communities across the Yorke Peninsula. Assets include stormwater pipes (excluding rural cross drains), box culverts and nodes including pits and headwalls. In the towns of Maitland, Ardrossan and Minlaton there are also stormwater reuse facilities including pumping and storage assets. As part of the comprehensive service to support Yorke Peninsula Council develop and maintain its corporate asset management solution (Conquest), we are pleased to present this Stormwater Infrastructure Asset Valuation and Depreciation Report as of 1 July 2023.

This report has been developed as an update to the initial 1 July 2014 Stormwater asset valuation (our reference 20140062FR7B) and the 1 July 2019 Valuation (our reference 20191364R002Rev0) undertaken by Tonkin for Yorke Peninsula Council. The stormwater asset register developed for the previous valuation has been reviewed and updated as part of this valuation.

As part of the previous valuations, Council developed digitised plans and assigned attribute data to the stormwater drains and nodes within the networks in MapInfo. The data extracted from the digitised plans is the basis for the stormwater asset register. Council also previously provided asset lists and details for assets at reuse pumping sheds and stormwater storage facilities based on a data dictionary originally provided by Tonkin. Council provided sufficient asset details to enable asset types and attributes to be defined in order to develop unit rates for current replacement costs of assets. Tonkin did not undertake any site inspections during development of the asset registers for the previous valuations.

This 2023 valuation has been developed from the stormwater asset register that was developed in 2014 and has been updated annually with capital works in Conquest. As part of this valuation, Council engaged a third-party to undertake CCTV inspections of a small portion of the network (approximately 5% of the network). The condition scores provided were used as part of the valuation to support the consumption calculation of the asset and calculate the remaining life. This process is detailed in the relevant section within this report. A detailed assessment of the CCTV reports has not been undertaken, and therefore it is recommended that Council review the reports to determine the best course of action to maintain or renew the stormwater infrastructure to extend the serviceable life. Tonkin can provide Council support in this assessment separate to this valuation.

Council also undertook visual site inspections of various sites, in which additional drain and node assets were identified. Council provided the details of these newly identified assets, included the type, location and measurements. These newly identified assets were included in the valuation. While it is likely that not every pit/pipe has been site verified, the database still provides a reasonable basis for valuation purposes. A continued commitment by Council and Tonkin to correct any observed inconsistencies is encouraged.

This register is considered to be at a good standard of reliability to be used by Council for managing the assets. Any inconsistencies identified can be improved through ongoing development of the Stormwater register within the Conquest/Spatial environment that has been created and managed by Tonkin in conjunction with Council.

The asset valuation of Council's Stormwater assets was completed with a combination of rates from Rawlinsons Australian Handbook – Edition 41 (2023) and prices from suppliers.

This report provides a summary of the method used to value Stormwater infrastructure assets and provides a summary of the results for:

- Stormwater Drains
- Stormwater Nodes
- Stormwater Reuse and Storage

To assist with budgeting for the 2023/2024 financial year, a depreciation forecast is also provided.

2 Accounting Standards and Terminology

2.1 Overview

The Australian Accounting Standard AASB 116 and Local Government (financial management) Regulations 1999 require assets be recorded at fair value. AASB 116 defines fair value as "The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". As there is no active liquid market for infrastructure assets, AASB 116 allows fair value to be estimated using a depreciated replacement cost basis. The basis of this valuation is fair value expressed as Current Replacement Cost (CRC) of an asset minus any accumulated depreciation and impairment losses.

With respect to AASB 13 the cost approach "reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost)". This has been adopted as the valuation technique for the assets included in this valuation.

The Australian Accounting Standard AASB 13 Fair Value Measurement sets out the framework for measuring fair value and requirements for disclosures about fair value measurements. AASB 13 defines a hierarchy of inputs used to estimate fair value. The three input levels can be summarised as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at measurement date.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the asset or liability.

Paragraph 2 of AASB 13 states that the objective of a fair value measurement is to "estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions".

AASB 13 requires that the hierarchy of the fair value measurement be categorised in its entirety as the lowest level input that is significant to the entire measurement.

As there is no market for Council to use to determine fair value of its Stormwater assets, all assets have been valued as Level 3 inputs using a cost approach.

2.2 Terminology

Accounting Standards

A set of rules that govern the way in which financial statements are prepared to ensure that these statements are comparable through time for and entity across similar entities.

Asset – Property, Plant & Equipment

A tangible item that is:

- Held for us in the production or supply of goods or services, for rental to others, or for administration purposes, and
- Expected to be used during more than one period

Asset Management Information System

An asset management information system is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment.

Australian Accounting Standards Board (AASB)

The AASB is an independent agency of the Australian Government with responsibility to make accounting standards under section 334 of the Corporations Act, to formulate accounting standards for other purposes and to participate in and contribute to the development of a single set of international accounting standards for worldwide use. The Chairman of the AASB reports to the responsible Minister regarding the organisation's operations.

Carrying Amount

The Carrying Amount of an asset is the amount at which the asset is recognised after deducting any accumulated depreciation and accumulated impairment losses. This value is often referred to as the "Written Down Value (WDV)".

Component

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Condition

The physical state of an infrastructure asset. Condition may be seen in some circumstances as a level of service proxy indicator of quality from the customer's view. Often though, other factors may be more or equally relevant.

Condition at End of Life (CEoL)

The condition to which an entity is allowed to deteriorate before renewal is required, this parameter is directly linked to the level of service for the particular asset.

Current Replacement Cost (CRC)

The cost required currently to replace the service capacity of an asset with a substitute asset of comparable utility and condition, i.e., the depreciated replacement cost of a new asset. It is based on the cost for a market participant buyer to acquire or construct a substitute asset of comparable utility or service capacity, adjusted for obsolescence. Obsolescence includes physical deterioration, as well as functional and economic obsolescence. The rational for this approach is that a market participant buyer would not pay more for an asset than the amount for which it could replace the service capacity of that asset.

Depreciable Amount

The cost of an asset, or other amount substituted for its cost, less its residual value. For assets with no residual value, the depreciable amount equals the current replacement cost (CRC).

Depreciation

Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life. The Conquest Asset Management System adopts a straight line method for depreciation.

Fair Value

The Fair Value of an asset is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

International Financial Reporting Standards (IFRSs)

Are Standards and Interpretations adopted by the International Accounting Standards Board (IASB) (Refer to Australian equivalents to IFRS).

Levels of Service

The parameters or combination of parameters that reflect social, political, environmental and economic outcomes that the organisation delivers. The parameters can include safety, customer satisfaction,

quality, capacity, reliability, responsiveness, environmental acceptability, cost and availability, etc. [ISO 55000:2014]. A level of service statement describes the outputs or objectives of an organisation or activity intents to deliver to customers [IIMM].

Market Value

The estimated amount for which an asset would be exchanged on the date of valuation, between a willing buyer and a willing seller, in an arm's length transaction and when the parties have each acted knowingly, prudently and without compulsion. Market value is based on highest and best use of the asset and not necessarily the existing uses.

Modern Equivalent Value

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing, it allows for technology changes and, improvements and efficiencies in production and installation techniques. The modern equivalent asset is evidenced by renewal strategies in asset management plans and financing in a long-term financial plan covering at least 10 years.

Remaining Useful Life

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life provides an estimate of useful life.

Residual Value (RV)

The amount an entity would currently obtain from the disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life. Residual value reflects consideration receivable from an asset at the end of its useful life to the entity and accordingly would not include cost savings from the re-use of in situ materials.

Revaluation Model

An item of property, plant and equipment is carried at its revalued amount when is fair value can be reliably measured. The revalued amount is the fair value at date of revaluation less any subsequent accumulated depreciation and subsequent impairment losses.

Service Potential

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Useful Life

The period over which an asset is expected to be available for use by an entity. It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the entity.

Valuation

The process of determining the worth of an asset or liability. Different methods may be appropriate in different circumstances (see also Fair Value). There are two different valuation methods, namely 'greenfield' and 'brownfield' used when establishing unit valuation rates.

- Greenfield periodic valuation: valuation method where the unit valuation rates are based on the cost to acquire/construct the asset in a 'green field' (undeveloped) location. This valuation approach does not assume as specific location of the asset. As a result, existing works are not taken into account in establishing asset values.

- Brownfield periodic valuation: valuation approach is based on the cost to replace the asset in its existing 'brownfield' (developed) location. This valuation approach is based on the specific location of the asset. As a result, existing works are taken into account in establishing asset values.

3 Valuation and Depreciation Methodology

3.1 Valuation Overview

Yorke Peninsula Council has a variety of Stormwater assets that have been loaded into the Conquest Asset Register in the following asset categories:

- Stormwater Drains
- Stormwater Nodes
- Stormwater Reuse and Storage

These asset groups have been broken down further into their constituent parts for the purposes of valuation and to enable different useful lives to be assigned to different components.

Brownfield construction rates have been assumed for the replacement of all Stormwater assets. As such, where applicable, allowances have been made for:

- Supply and install costs
- Excavation and disposal costs
- Allowances for additional works, such as service alterations

Assumptions made to calculate the current replacement cost (CRC) for the Stormwater asset groups are outlined below.

3.2 Carrying Amount

The carrying amount for each infrastructure asset will be given by the Current Replacement Cost minus the accumulated depreciation.

$$CarryingAmount = CRC - AccumulatedDepreciation$$

Equation 3.1 Carrying Amount

The carrying amount is also referred to as the Written Down Value (WDV).

3.3 Depreciation

Conquest recalculates the Accumulated Depreciation every time a revaluation is performed. The Accumulated Depreciation of an asset is determined using the expiry date and useful life of the asset. The expiry date can be estimated using one of two methods:

1. Condition score – this document will refer to this as "Depreciation Using a Condition Score"
2. Age of the asset – this document will refer to this as "Depreciation Using Age"
3. Depreciation Using a Condition Score

Depreciation Using a Condition Score

For depreciation using a condition score it is assumed that the consumption of the economic benefit of an asset will be proportional to its condition. This results in the Accumulated Depreciation for assets with no residual value being calculated by:

$$AccumulatedDepreciation = (CRC) \times \left(\frac{ConditionScore}{EndOfLifeConditionScore}\right)$$

Equation 3.2 Accumulated Depreciation at Revaluation (Using Condition Score)

When an asset is new it will have a condition score of 0 and its Accumulated Depreciation will be 0. As it ages and its condition deteriorates the Accumulated Depreciation will increase accordingly. When an asset reaches the condition at which Council establishes that the asset has no further use the Accumulated Depreciation will equal the Depreciable Amount (Current Replacement Cost).

In order to perform depreciation using the condition score the assets will require regular condition assessment. For the periods between surveys, which will vary depending on the asset, it is assumed that the consumption of the economic benefits of the asset is appropriately modelled using straight line depreciation. In the period between surveys Conquest calculates the change in depreciation based on the carrying value and dates. In the absence of capital works and taken over the period of a year the depreciation would be calculated by:

$$AccumulatedDepreciation = PreviousAcumulatedDepreciation + (CRC) \times \left(\frac{1}{UsefulLife}\right)$$

Equation 3.3 Accumulated Depreciation Between Valuations (Using Condition Score)

Any changes in consumption patterns are picked up when the asset register is updated with new data. It is not planned to attempt to adopt a curve for this purpose.

Depreciation Using Age

For depreciation using age, it is assumed that the consumption of the economic benefit of an asset will be proportional to its age and therefore the assets value will be depreciated by comparing its age with its useful life. Using this method the accumulated depreciation for assets with no residual value will be given by:

$$AccumulatedDepreciation = (CRC) \times \left(\frac{Age}{UsefulLife}\right)$$

Equation 3.4 Accumulated Depreciation (Depreciation Using Age)

3.4 Acquisition, Valuation and Disposal

When most infrastructure assets are replaced with a new asset Council receives no proceeds from the salvage of the old asset, consequently the carrying amount of the existing asset will be written-off at disposal and the replacement asset will be added in as a new asset. It is assumed that the residual value of an existing asset is zero as it cannot be capitalised (or re-used) into the new asset and is therefore written off.

When an asset is first acquired it is valued at its acquisition cost or its current replacement cost for vested assets. It is then depreciated until the next revaluation occurs. Council will also periodically conduct condition assessments where the condition scores will be updated picking up any changes in consumption patterns.

The cost to replace the asset will be the depreciable amount until the next valuation. When an asset's service can be preserved by partial replacement, the cost of the works will be added to the asset and the remaining life will be extended.

3.5 Aged Assets Still in Service

In previous years some assets held within the register were reported as expired assets as they had zero remaining life based on their age and standard useful life. These assets were no longer reporting annual depreciation. For this valuation, a list of assets that were identified as being older than their standard useful life were provided to Council for review and consideration of the expected remaining life or the planned renewal year of each asset. Council have provided expected remaining lives of each of

these older assets and these have been used to calculate the consumption score, the written down value and the annual depreciation forecast for each of these assets.

The only time an asset is classified as an expired asset is when the asset is no longer in service and is planned for disposal.

4 Stormwater Assets

4.1 Overview

Yorke Peninsula Council is responsible for maintaining approximately 40.5km of stormwater pipes, box culverts, spoondrain and open drains and 961 stormwater nodes including pits, headwalls and other nodes throughout the Council area. Council is also responsible for 143 stormwater pumping, storage and reuse assets. A breakdown of the various stormwater assets owned by Council is provided in Table 4.1 below.

Table 4.1 Summary of Assets in Stormwater Network

Stormwater Asset Group	Quantity
Stormwater Nodes	
Pits	704 Items
Headwalls	151 Items
Miscellaneous Nodes	106 Items
Stormwater Drains	
Pipes	27,960m
Box Culverts	1,505m
Open Drains	1,149m
Spoondrains	9,928m
Stormwater Pumping, Storage and Reuse Assets	
SW Civil Types	44 Items
SW Tank Types	10 Items
SW Storage Dam Types	2 Items
SW Electrical Types	23 Items
SW Mechanical Types	50 Items
SW Pump Types	14 Items

4.2 Current Replacement Cost (CRC)

As part of this valuation unit rates were developed by Tonkin using rates from Rawlinsons Australian Construction Handbook – Edition 41 (2023) and Reece supply costs (where applicable) to develop a series of pipe replacement rates from first principles.

Rawlinson's is a leading reference on the various aspects of construction costs in Australia. For the purpose of this valuation it has been assumed that the rates in the 41th Edition, best represent the value of the assets as at 1 July 2023.

Brownfield construction rates have been assumed for the replacement of all stormwater assets. As such allowances have been made for:

- Removal and disposal of the existing asset
- Reinstatement of existing assets

The assumptions made in valuing assets in each category are outlined below.

4.3 Stormwater Node Assets

4.3.1 Side Entry Pits, Junction Boxes, Grated Inlet Pits and Gross Pollutant Traps

The replacement rates for side entry pits, junction boxes, grated inlet pits and gross pollutant traps have been calculated using Rawlinsons rates and standard industry rates and include allowances for:

- Removal and disposal of existing concrete structure
- Supply and installation of the new concrete asset including lid
- Backfilling using excavated material and reinstatement

For non-standard pit sizes, the rates of standard sizes have been interpolated to provide an appropriate replacement rate.

The current replacement costs and useful lives for the stormwater pit types are provided in Table 4.2.

Table 4.2 Stormwater Node Asset Valuation Parameters

Stormwater Node Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Side Entry Pit - Single	$2,934.01	Quantity	100
Side Entry Pit - Double	$4,942.36	Quantity	100
Side Entry Pit - Triple	$6,306.31	Quantity	100
Side Entry Pit (with Deflectors) - Single	$2,934.01	Quantity	100
Side Entry Pit (with Deflectors) - Double	$4,942.36	Quantity	100
Side Entry Pit (with Deflectors) - Triple	$6,306.31	Quantity	100
Grated Inlet Pit	$2,719.83	Quantity	100
Grated Outlet Pit	$2,719.83	Quantity	100
Grated Inlet Pit - Single	$2,719.83	Quantity	100
Grated Inlet Pit - Quadruple	$6,737.48	Quantity	100
Brick Junction Box	$3,771.88	Quantity	100
Concrete Junction Box	$3,771.88	Quantity	100
Inlet Pit	$2,719.83	Quantity	100
Junction Box	$3,771.88	Quantity	100
Outlet Pit	$2,719.83	Quantity	100
PVC Junction Box	$3,543.01	Quantity	100

Grated Inlet Pit & Sump	$10,000.00	Quantity	100

The current replacement costs and useful lives for the miscellaneous stormwater nodes are provided in Table 4.3.

Table 4.3 Miscellaneous Stormwater Nodes Valuation Parameters

Stormwater Node Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Air Valve	$2,492.00	Quantity	25
Allotment Connection	$501.48	Quantity	75
Concrete Inspection Point	$541.98	Quantity	75
Gross Pollutant Trap - RSF 4450	$28,372.52	Quantity	75
Gross Pollutant Trap (unspecified)	$28,372.52	Quantity	75
PVC Inspection Point	$541.98	Quantity	75
Stormwater Dissipator	$67,301.98	Quantity	75
Stormwater Outfall Structure	$28,372.52	Quantity	75
Detention Basin	Non-valued		100

4.4 Stormwater Drain Assets

4.4.1 Reinforced Concrete Pipes (225mm to 3000mm dia)

It is assumed that all concrete pipes are Rubber Ring Joints and Class 3. While this is dependent on construction loads, on a case by case basis this is considered a reasonable average assumption for the purposes of valuation.

The replacement rates make allowance for:

- Trench excavation and saw cut, with an average cover to pipe 600mm
- Removal and disposal of recyclable material, road base and existing pipe
- Supply and laying of new pipe, sourced from Rawlinson's
- 50mm bedding to new pipe and trench backfill
- 10% allowance for service adjustment.

The cost of road pavement and road seal reinstatement has not been included as it is assumed that stormwater pipe renewal would generally coincide with road renewal and that pavement and seal reinstatement is covered under roadwork replacement/renewal cost estimation. For asset planning purposes Council may need to add in those costs if work is undertaken independent of road renewal.

For supply and install of pipes that were not available in Rawlinsons, an interpolated rate has been calculated based on known rates and sizes.

The current replacement costs and useful lives for concrete stormwater pipe assets are provided in Table 4.4.

Table 4.4 Concrete Stormwater Pipe Asset Valuation Parameters

Concrete Stormwater Pipe Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
<225mm RC SW Pipe	$274.49	lm	100
225mm RC SW Pipe	$274.49	lm	100
250mm RC SW Pipe	$304.98	lm	100
300mm RC SW Pipe	$365.98	lm	100
350mm RC SW Pipe	$387.04	lm	100
375mm RC SW Pipe	$403.16	lm	100
380mm RC SW Pipe	$407.05	lm	100
400mm RC SW Pipe	$422.63	lm	100
450mm RC SW Pipe	$510.49	lm	100
475mm RC SW Pipe	$537.23	lm	100
500mm RC SW Pipe	$564.24	lm	100
525mm RC SW Pipe	$619.02	lm	100
600mm RC SW Pipe	$740.98	lm	100
675mm RC SW Pipe	$815.90	lm	100
700mm RC SW Pipe	$867.08	lm	100
750mm RC SW Pipe	$893.25	lm	100
800mm RC SW Pipe	$956.44	lm	100
825mm RC SW Pipe	$1,077.55	lm	100
900mm RC SW Pipe	$1,264.29	lm	100
1050mm RC SW Pipe	$1,551.61	lm	100
1200mm RC SW Pipe	$1,848.70	lm	100

4.4.2 UPVC and HDPE Stormwater Pipes

The replacement rates for PVC and polyethylene pipes were calculated using Rawlinsons rates. For non-standard PVC or HDPE pipe sizes, the rates of standard sizes have been interpolated or extrapolated to provide a replacement rate. The replacement rates make allowance for:

- Trench excavation and saw cut, with an average cover to pipe 300mm as confirmed with Council
- Removal and disposal of recyclable material, road base and existing pipe
- Supply and laying of new pipe, sourced from Rawlinson's
- 50mm bedding to new pipe and trench backfill
- 10% allowance for service adjustment.

No allowance has been made for road pavement or road seal reinstatement as this is assumed to be allowed for in the road renewal valuations as discussed above.

The current replacement costs and useful lives for the plastic stormwater pipe asset types are provided in Table 4.5.

Table 4.5 Plastic Stormwater Pipes Asset Valuation Parameters

Plastic Stormwater Pipe Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
100mm PVC SW Pipe	$167.16	lm	80
150mm PVC SW Pipe	$192.70	lm	80
225mm PVC SW Pipe	$271.87	lm	80
300mm PVC SW Pipe	$360.58	lm	80
375mm PVC SW Pipe	$412.31	lm	80
400mm PVC SW Pipe	$429.66	lm	80
100mm PVC SW Rising Main Pipe	$167.16	lm	70
32mm HDPE SW Pipe	$149.63	lm	70
50mm HDPE SW Pipe	$172.72	lm	70
63mm HDPE SW Pipe	$155.82	lm	70
110mm HDPE SW Pipe	$213.93	lm	70
125mm HDPE SW Rising Main Pipe	$201.31	lm	70
300mm PE SW Pipe	$590.31	lm	70
400mm PE SW Pipe	$927.23	lm	70
300mm RIBLOC SW Pipe	$341.78	lm	70
180mm HDPE SW Pipe	$314.03	lm	70

4.4.3 Box Culverts

The replacement rates for box culverts were also calculated using Rawlinsons rates. For non-standard culvert sizes, rates for standard size box culverts have been used or rates have been extrapolated to provide a replacement rate. The rates calculated for culverts include:

- Excavation
- Removal and disposal of recyclable material, road base
- Removal and disposal of existing culvert
- Supply and laying of new culvert
- Backfilling using excavated material
- 10% allowance for service adjustment.

No allowance has been made for road pavement or road seal reinstatement as this is assumed to be allowed for in the road renewal valuations as discussed above for pipes.

For supply and install of culverts that were not available in Rawlinsons, an interpolated rate has been calculated based on known rates and sizes.

The current replacement costs and useful lives for the stormwater box culvert asset types are provided in Table 4.6 below.

Table 4.6 Stormwater Box Culvert Asset Valuation Parameters

Stormwater Box Culvert Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
<300mm SW Box Culvert	$545.15	lm	80
300mmx150mm SW Box Culvert	$545.15	lm	80
300mmx225mm SW Box Culvert	$648.78	lm	80
450mmx150mm SW Box Culvert	$814.63	lm	80
450mmx225mm SW Box Culvert	$881.77	lm	80
450mmx300mm SW Box Culvert	$997.26	lm	80
600mmx150mm SW Box Culvert	$910.90	lm	80
600mmx225mm SW Box Culvert	$1,095.10	lm	80
600mmx300mm SW Box Culvert	$1,237.25	lm	80
600mmx450mm SW Box Culvert	$1,302.54	lm	80
750mmx150mm SW Box Culvert	$910.90	lm	80
750mmx225mm SW Box Culvert	$1,224.11	lm	80
900mmx225mm SW Box Culvert	$1,248.23	lm	80
900mmx300mm SW Box Culvert	$1,499.12	lm	80
1200mmx300mm SW Box Culvert	$2,333.52	lm	80

Stormwater Box Culvert Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
1200mmx450mm SW Box Culvert	$2,509.77	lm	80
1200mmx600mm SW Box Culvert	$2,697.82	lm	80
1800mmx900mm SW Box Culvert	$3,804.98	lm	80
1200mmx900mm SW Box Culvert	$3,068.03	lm	80
300mmx300mm SW Box Culvert	$808.21	lm	80
375mmx225mm SW Box Culvert	$780.15	lm	80

4.5 Stormwater Headwalls

The replacement rates for headwalls were calculated using manufacturers' prices and Rawlinsons rates. The rates calculated for headwalls include allowances for:

- Removal and disposal of existing concrete structure, based on assumed volume of concrete depending on the size of the inlet/outlet pipe
- Supply and installation of the new concrete asset, sourced from Rawlinson's.

For supply and install of headwalls that were not available in Rawlinson's, an interpolated rate has been calculated based on known rates and sizes.

The current replacement costs and useful lives for the stormwater headwall asset types are provided in Table 4.7.

Table 4.7 Stormwater Headwalls Asset Valuation Parameters

Stormwater Headwall Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
<300mm Pipe SW Headwall	$1,091.06	Quantity	100
300-450mm Pipe SW Headwall	$1,216.06	Quantity	100
525-600mm Pipe SW Headwall	$1,566.06	Quantity	100
675-800mm Pipe SW Headwall	$1,755.24	Quantity	100
825-1200mm Pipe SW Headwall	$2,963.63	Quantity	100
450mm x 225mm Box Culvert SW Headwall	$1,216.06	Quantity	80
600mm x 150mm Box Culvert SW Headwall	$1,566.06	Quantity	80
600mm x 225mm Box Culvert SW Headwall	$1,566.06	Quantity	80
600mm x 300mm Box Culvert SW Headwall	$1,566.06	Quantity	80
750mm x 150mm Box Culvert SW Headwall	$1,944.42	Quantity	80

Stormwater Headwall Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
900mm x 150mm Box Culvert SW Headwall	$2,808.57	Quantity	80
900mm x 300mm Box Culvert SW Headwall	$2,808.57	Quantity	80
1200mm x 300mm Box Culvert SW Headwall	$3,118.69	Quantity	80
1200mm x 450mm Box Culvert SW Headwall	$3,118.69	Quantity	80
1200mm x 600mm Box Culvert SW Headwall	$3,118.69	Quantity	80
Unspecified SW Headwall	$1,944.42	Quantity	70
1800mm x 900mm SW Box Culvert Headwall	$4,910.99	Quantity	80
375mm x 225mm Box Culvert SW Headwall	$1,216.06	Quantity	80
450mm x 300mm Box Culvert SW Headwall	$1,216.06	Quantity	80
300mm x 225mm Box Culvert SW Headwall	$1,216.06	Quantity	80

4.6 Stormwater Drainage Channels

4.6.1 Spoon Drains

The replacement rates for concrete spoon drains were calculated using Rawlinsons rates. The replacement rates make allowance for:

- Removal and disposal of existing concrete spoondrain (recyclable material). A factor has been applied to compensate for the small material quantity.
- Supply and laying of new spoon drain, using Rawlinson's inputs.

The current replacement costs and useful lives for the stormwater spoon drain asset types are provided in Table 4.8.

Table 4.8 Stormwater Spoon Drain Asset Valuation Parameters

Stormwater Spoon Drain Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
400mm Concrete Spoon Drain	$131.37	lm	80
500mm Concrete Spoon Drain	$164.22	lm	80
600mm Concrete Spoon Drain	$197.06	lm	80
700mm Concrete Spoon Drain	$229.90	lm	80
800mm Concrete Spoon Drain	$263.63	lm	80
900mm Concrete Spoon Drain	$296.58	lm	80
1000mm Concrete Spoon Drain	$329.53	lm	80

Stormwater Spoon Drain Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
1100mm Concrete Spoon Drain	$362.49	lm	80
1200mm Concrete Spoon Drain	$421.22	lm	80
1300mm Concrete Spoon Drain	$456.32	lm	80
1400mm Concrete Spoon Drain	$491.42	lm	80
1500mm Concrete Spoon Drain	$526.52	lm	80
1600mm Concrete Spoon Drain	$561.62	lm	80
1800mm Concrete Spoon Drain	$631.83	lm	80
2000mm Concrete Spoon Drain	$702.03	lm	80
2500mm Concrete Spoon Drain	$877.54	lm	80
4200mm Concrete Spoon Drain	$1,474.26	lm	80
5000mm Concrete Spoon Drain	$1,755.07	lm	80
750mm Concrete Spoon Drain	$246.33	lm	80
1700mm Concrete Spoon Drain	$596.72	lm	80

4.6.2 Open Drains

Stormwater open drain infrastructure consists of open drains and swale drains. These drainage channels include concrete lined, bitumen lined, jetpatched and earth drains. For the purposes of valuation it has been determined that any earthworks required for maintaining drainage channels will be managed as maintenance rather than capital works so earthworks for open drainage has not been valued as an asset. The sealed surfaces for open drains will however be replaced periodically and have therefore been valued as assets.

The replacement rates for drainage channel concrete, bitumen and jetpatched surfaces were calculated using Rawlinsons rates. The replacement rates make allowance for:

- Removal and disposal of existing concrete channel (for concrete assets only)
- Supply and laying of new drain surface. Council provided costs for bitumous rates, and Rawlinsons was used for concrete supply costs.

The current replacement costs and useful lives for the stormwater open drain surface types are provided in Table 4.9.

Table 4.9 Stormwater Open Drain Surface Asset Valuation Parameters

Stormwater Open Drain Surface Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Concrete Lining for Open Drain 2.5m wide	$774.15	lm	50

Concrete Lining for Swale Drain 2.8m wide	$833.95	lm	50
Jetpatch Surface for Swale Drain 1m wide	$30.65	lm	30
Bitumen Surface for Swale Drain 2.0m wide	$38.77	lm	30
Bitumen Surface for Swale Drain 2.5m wide	$43.88	lm	30

4.7 Stormwater Pumping, Reuse and Storage Assets

The Stormwater Pumping, Reuse and Storage assets have been divided into the following component groups:

- Civil Assets
- Electrical Assets
- Mechanical Assets

4.7.1 Civil Assets

The replacement rates for civil assets at the stormwater pumping, storage and reuse sites were calculated using rates from Rawlinsons and supplier prices. Replacement rates include allowances for materials supply, installation of new and removal of the old asset and labour allowances. The replacement rates for storage tanks also include an allowance for transport from Adelaide.

Previously hardstand gravel surfaces and the earthworks for lagoon construction were valued assets. However, as of the 2019 valuation, it is considered that the excavation and bund construction work required during initial lagoon construction is a one-off cost that will not be required to renew the asset at end of life and therefore earthworks for lagoon construction are no longer valued assets. Hardstand areas will be managed under maintenance so these assets are also no longer valued.

The current replacement costs and useful lives for the civil assets at stormwater pumping and reuse sites are provided in Table 4.10.

Table 4.10 Stormwater Pumping, Reuse and Storage – Civil Assets Valuation Parameters

Stormwater Civil Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Shed 3m x 2m Type	$3,930.00	Quantity	50
Shed 3m x 3m Type	$5,895.00	Quantity	50
Shed 4m x 3m Type	$7,860.00	Quantity	50
Shed 6.2m x 3.1m Type	$12,589.10	Quantity	50
Fence 2m High with Barbed Wire Type	$80.00	lm	50
Cyclone Fence Type	$73.00	lm	50
Double Access Gate	$1,707.38	Quantity	50
Single Access Gate	$748.25	Quantity	50
Hardstand 25mm Gravel Type	$3.95	m2	
Hardstand 75mm Dolomite Type	$5.93	m2	
Pipework 50mm PVC Type	$48.48	lm	50
Pipework 50mm HDPE Type	$56.13	lm	50
Pipework 63mm HDPE Type	$56.13	lm	50
Pipework 80mm HDPE Type	$64.72	lm	50

Stormwater Civil Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Pipework 100mm HDPE Type	$83.83	lm	50
Pipework 150mm HDPE Type	$154.68	lm	50
Overflow Pipe 300mm Concrete	$262.50	lm	50
Emergency Shower & Eye Wash Type	$3,286.11	Quantity	25
Emergency Eye Wash Type	$3,286.11	Quantity	25
10m Tyre & Chain Ladder Type	$1,061.75	Quantity	50
Concrete spillway 20m x 2m wide	$4,146.20	Quantity	50
Concrete spillway 16m x 2m wide	$3,754.16	Quantity	50
1m x 2m Concrete Sump	$4,393.00	Quantity	50
Elevated Concrete Walkway 1.2m x 5m	$8,096.00	Quantity	60
Elevated Concrete Platform 2m x 2m	$6,126.00	Quantity	60
Fall Prevention Facilities	$7,439.70	Quantity	50
Pipework 110mm HDPE Type	$83.83	lm	50
Concrete spillway 10m x 2.1m wide	$3,215.11	Quantity	50
Industrial Poly Tank 200L & Bunding	$1,733.00	Quantity	50
Poly Tank 1kL	$1,793.00	Quantity	50
Poly Tank 1.5kL	$1,863.00	Quantity	50
Poly Tank 27kL	$5,093.00	Quantity	50
Steel Lined Tank 12kL	$7,026.57	Quantity	50
Lined Tank 215kL	$70,853.50	Quantity	50
Poly Tank 40kL	$6,868.00	Quantity	50
Storage Dam HDPE Liner	$38.27	m2	50
Overflow Pipe 300mm Concrete	$262.50	lm	50

4.7.2 Electrical Assets

For the previous valuation in 2019, several of the electrical assets have been further componentised to enable assigning different useful lives to each asset component in order to reflect asset replacement patterns. Tonkin and Council have worked together to componentise these assets and develop replacement rates for the component assets. The same methodology has been used for this valuation.

The replacement rates for electrical assets at the stormwater pumping and reuse sites are based on supply rates from Rawlinson's and/or Council inputs, and estimated rates with a labour allowance for installation of new and removal of the old asset.

The current replacement costs and useful lives for the stormwater reuse pump station and storage electrical asset types are provided in Table 4.11 below.

Table 4.11 Stormwater Pumping, Reuse and Storage – Electrical Assets Valuation Parameters

Stormwater Electrical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
Electrical Fittings Type	$954.75	Quantity	25
Reuse Flow Switch	$1,236.50	Quantity	25
Isolation Switch	$1,236.50	Quantity	25
Small Switchboard	$21,780.00	Quantity	25
PLC Controls Type	$9,911.00	Quantity	15
Alarm System Wireless Type	$5,018.00	Quantity	10
HMI Unit	$2,100.35	Quantity	15

4.7.3 Mechanical Assets

The replacement rates for the mechanical assets at the pumping and reuse sites are based on supply rates for equivalent sized assets with a labour allowance for installation of the new asset and removal of the old asset. A combination of Rawlinson's, Council input and online supply costs have been used for the supply cost.

The current replacement costs and useful lives for the stormwater reuse pump station and storage mechanical asset types are provided in Table 4.12 below.

Table 4.12 Stormwater Pumping, Reuse and Storage – Mechanical Assets Valuation Parameters

Stormwater Mechanical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life of Service Standard
50mm Air Valve	$1,011.50	Quantity	20
50mm Gate Valve	$555.35	Quantity	20
100mm Gate Valve	$893.78	Quantity	20
150mm Gate Valve	$1,361.06	Quantity	20
50mm Non-Return Valve	$551.38	Quantity	20
100mm Non-Return Valve	$1,247.13	Quantity	20
50mm Flowmeter	$3,952.66	Quantity	20

80mm Flowmeter	$3,994.19	Quantity	20
100mm Flowmeter	$3,900.32	Quantity	20
150mm Flowmeter	$4,703.85	Quantity	20
Basic Level Regulator	$660.63	Quantity	20
Advanced Level Regulator	$1,656.25	Quantity	20
Foot Valve & Screen 100mm	$1,356.40	Quantity	20
Screen Filtration	$9,892.00	Quantity	25
Chlorine Dosing Unit	$6,392.00	Quantity	25
Irrigation Filter System	$9,892.00	Quantity	15
Pump Flotation Module	$4,215.80	Quantity	20
Variable Speed Drive Unit	$5,254.50	Quantity	20
150mm Knife Gate Valve	$3,796.10	Quantity	20
100mm Check Valve	$1,247.13	Quantity	20
Fresh Water Pump 0.3kW	$2,493.25	Quantity	15
Transfer Pump 2.2kW	$4,718.25	Quantity	15
Irrigation Pump 2.2kW	$4,718.25	Quantity	15
Stock Pump 3.0kW	$5,629.75	Quantity	15
Transfer Pump 5.5kW	$7,154.75	Quantity	15
Transfer Pump 10kW	$8,309.50	Quantity	15
Transfer Pump 30kW	$13,709.50	Quantity	15
Transfer Pump 3.0kW	$4,954.75	Quantity	15

4.8 Establishing Useful Life

Yorke Peninsula Council value their assets at a component level which enables assets to be assigned an average useful life for each component to determine depreciation rates.

The useful life of a stormwater asset is assumed to be the time that an asset is expected to last before total replacement is required. It is likely that during their useful life, some assets will require maintenance.

The useful life of stormwater assets is governed by two factors:

- Structural deterioration – i.e. when a pipe or pit or any asset fails due to age/physical deterioration and renewal is required.
- Suitability - when despite being in physically good condition an asset is no longer suitable for purpose, e.g. when a pipe's capacity is exceeded.

The useful lives that are assigned to different stormwater asset types are based on industry standards and have been provided in tables in the previous section.

4.9 Measuring Consumption

The consumption of the economic benefit of stormwater assets will be measured based on the asset's age and the standard useful life.

For each asset the construction date recorded against each asset and the standard useful life of the asset type is used to determine the remaining life of the asset (see Equation 4.1). Where an asset is older than the standard useful life and is still in service the remaining life is adjusted to ensure it is not fully depreciated and annual depreciation is reported in accordance with the process outlined in section 3.5.

$$AgeScore = \left(\frac{ValuationDate - ConstructionDate}{StandardLife}\right)$$

Equation 4.1 Stormwater Drain Age Score

Various asset classes included a condition assessment. Council engaged a third-party to undertake CCTV inspections of a small portion of the underground drain network (approximately 5% of the network). The condition scores provided were used as part of the valuation to support the consumption calculation of the asset and calculate the remaining life, as described in the following sub-sections. A detailed assessment of the CCTV reports has not been undertaken, and therefore it is recommended that Council review the reports to determine the best course of action to maintain or renew the stormwater infrastructure to extend the serviceable life.

High valued tank assets (215kL tanks) were condition inspected by Council to support the calculation of the remaining life for valuation purposes. This process is described in the following sub-section.

4.9.1 Drain Consumption

The consumption of the economic benefit of stormwater drains will be measured based on the drain's age and condition for the 54 drains with condition scores. For the remaining 1137 drains that were not condition assessed, the consumption will be based on age and standard useful life only.

For each drain asset the construction date recorded against each asset is used to determine an age score as the percentage of the asset's age compared to the expected useful life of the asset.

Drains Not Condition Assessed

For the remaining drains that have not been condition assessed the overall condition score was recorded as the age score only as follows:

$$Score = (AgeScore)$$

Equation 4.2 Stormwater Drain Overall Age Condition Score for Drains Not Assessed

Condition Assessed Drains

Since 2019, Plumbing and Pipeline Solutions (PPS) have been progressively undertaking condition assessments of Councils township node and pipe assets. Currently, approximately 5% of Councils underground pipe assets have been condition inspected.

For each drain, both a serviceability and a condition score were recorded by PPS. In some cases, the drain was blocked and did not allow for a condition inspection to be undertaken. In these cases, a serviceability score of 4 to 5 was recorded (representing poor serviceability) and no condition score was recorded.

For those assets that could be assessed, a condition rating between 1 and 5 was assigned by PPS to each segment in accordance with IPWEA Practice Note 5 (Stormwater Condition Assessment). These scores were converted to condition scores between 1 and 100 as shown in Table 4.13 below.

Table 4.13 – Stormwater Pipe Condition Scoring

Condition	Structural Condition Score
1 - Very Good	0
2 - Good	25
3 - Fair	50
4 - Poor	75
5 - Very Poor	100

The overall condition score was then calculated, also considering the age of the pipe, using the following formula:

$$Score = \frac{1}{10} \times (3 \times AgeScore + 7 \times ConditionScore)$$

Equation 4.3 Stormwater Drain Overall Condition Score for Assessed Drains

It should be noted, for various inspections the CCTV inspection has picked up isolated failed sections within the pipe that require immediate remediation/renewal. However, the remaining life of the overall pipe for valuation purposes resulted in a remaining life greater than 10 years following the consumption methodology above. This is due to the isolated nature of the failure points, general condition of the remainder of pipe, and the age of pipe. However, if Council do not undertake the required remediation works, this may result in failure of the asset. It is recommended that Council consider maintenance/repair works to remediate these isolated failures to extend the remaining life and serviceability of the pipe.

4.9.2 Node Consumption

The consumption of the economic benefit of stormwater nodes will be measured based on the nodes age and condition for the 138 drains with condition scores. For the remaining 823 nodes that were not condition assessed, the consumption will be based on age and standard useful life only.

For each node asset the construction date recorded against each asset is used to determine an age score as the percentage of the asset's age compared to the expected useful life of the asset.

Nodes without Condition Scores

For the 830 nodes without condition scores for the pit, the overall age condition score was recorded as the age score only as follows:

Overall Age Condition Score

$$Score = (AgeScore)$$

Equation 4.4 Stormwater Node Overall Age Score for Nodes Not Assessed

Condition Assessed Nodes

For the 131 nodes with pit condition scores, a condition score between 0-100 was calculated as outlined in Equation 4.5. The same methodology as the stormwater drains was used, as detailed in the previous sub-section. The overall age condition score was then calculated from the age score and the condition score as follows:

Stormwater Node Overall Age Condition Score

$$Score = \frac{1}{10} \times (3 \times AgeScore + 7 \times NodeConditionScore)$$

Equation 4.5 Stormwater Node Overall Condition Score

4.9.3 Tank Consumption

For high valued Tank assets (215kL Tank), Council undertook a condition inspection to inform the remaining life. The condition data collected for each asset was used to calculate a consumption score (0 - 100) to determine the remaining life for valuation purposes. The condition assessment was developed based on the criteria below.

Table 4.14 - Consumption Criteria

Condition	Description	Consumption Score
1 - Very Good	Excellent physical condition. Observable deterioration is insignificant.	0
2 - Good	Observation indicates that the asset is meeting all service requirements. South physical condition, minor deterioration/minor defects observed.	30
3 - Fair to Moderate	Moderate deterioration evident, minor components or isolated sections of the asset need replacement/repair now but not affecting short term structural integrity.	60
4 - Poor	Serious deterioration and significant defects evident affecting structural integrity. Asset is now moving into zone of failure.	80
5 - Very Poor	Failed or failure imminent. Immediate action to replace most or all of asset. Asset is unable to support the target level of service though may still be providing some level of service.	95
6 - Expired	Expired Asset	100

4.10 Service Level

The service level of Stormwater Infrastructure is measured by the ability of the assets to collect and channel stormwater runoff effectively in rainfall events of its design Average Recurrence Interval (ARI). The level of service of the asset will be determined by the structural condition and also by capacity. It may be necessary to replace assets in good physical condition in order to upgrade capacity.

It is assumed for this valuation that existing stormwater assets will maintain their existing service and if upgrading is required this will be undertaken by duplication of the pipe system. No allowance has been made for shorter useful lives that would result due to replacement being driven by improvement in asset capacity.

5 Valuation Summary

A summary of the valuation as of 1 July 2023 for Yorke Peninsula Council Stormwater Infrastructure is shown below in Table 5.1.

Table 5.1 Stormwater Infrastructure Asset Valuation Summary – Depreciable Assets

Asset Type	Current Replacement Cost	Accumulated Depreciation	Written Down Value	Remaining %
Stormwater Drains	$17,463,547	$5,351,461	$12,112,085	69%
Stormwater Nodes	$3,465,571	$1,057,270	$2,408,301	69%
Stormwater Pumping, Reuse and Storage	$1,387,985	$441,234	$946,751	68%
Total	**$22,317,103**	**$6,849,966**	**$15,467,137**	**69%**

The Written Down Value (WDV) is the depreciated replacement cost and is the "carrying amount" of the assets as of 1 July 2019 as per AASB 116. Together the table illustrates the total fair value of the asset (current replacement cost (CRC)), the amount consumed (accumulated depreciation) and the amount remaining (written down value (WDV)) for each asset. The Conquest summary report is provided in Appendix A.

The impact and outcome of the valuation is described in Section 7.

6 Depreciation Forecast

The annual depreciation forecast calculated for the 2023/2024 financial year for Council's Stormwater infrastructure assets is summarised in Table 6.1. This table provides a predicted depreciation expense for each asset group for the 2023/2024 financial year and provides an indication of the rate at which the various asset types are being consumed annually in relation to the CRC.

Table 6.1 Depreciation Forecast 2023/2024

Asset Type	Annual Depreciation Forecast	Annual Consumption Forecast
Stormwater Drains	$192,956	1.1%
Stormwater Nodes	$43,576	1.3%
Stormwater Pumping, Reuse and Storage	$41,622	3.0%
Total	**$278,154**	**1.2%**

Whilst the depreciation forecast will provide an estimate of the depreciation that would be expected for 2023/2024, the actual depreciation will need to include any additions and disposals of assets that occur during the period.

To predict the forecast depreciation the Conquest system considers assets that have reached their condition at end of life to have been entirely consumed and hence does not calculate depreciation against the asset. As at 1 July 2023 there are no Stormwater assets that have expired.

The impact and outcome of the valuation is described in Section 7.

7 Outcomes of Revaluation

The financial changes from 30 June 2023 (sourced from the 22-23 Asset Movement Report) this 1 July 2023 valuation is summarised in the table below.

Table 7.1 Financial changes from 30 June 2023 vs 1 July 2023

Asset Type	Current Replacement Cost	Accumulated Depreciation	Depreciated Replacement Cost	Annual Depreciation Forecast
Stormwater Drains	56%	48%	60%	46%
Stormwater Nodes	17%	17%	17%	24%
Stormwater Pumping, Storage and Reuse	10%	2%	14%	12%
Total	**45%**	**38%**	**48%**	**36%**

The critical changes to note since the previous valuation and financials as of 30 June 2023, as sourced from 22-23 Asset Movement Report, are addressed in the following points:

- The previous valuation was undertaken as of 1 July 2019. The BPI since the previous valuation is 19%. The overall 45% CRC increase is considerably higher than BPI. Since 2019, the industry has experienced a high increase in the supply and installation of stormwater culverts and pipes due to various industrial pressures, such as concrete cost escalations, supply issues and contractor work demands. The calculated replacement costs for drains have been compared against recent capital works which further supports the rate increase.
- The Annual Depreciation for nodes increased higher than the CRC increased. This was typically due to extending the remaining life of numerous SEP nodes to align closer to the expected replacement year, as they were previously due to expire in the asset register and thus not reporting annual depreciation.
- Concrete Spoon Drain standard life was extended to 80 year life to match kerbing assets. Headwalls standard life was also extended to match the adjoining drain asset, i.e. pipe (100 years) or culvert (80 years). Extended the standard life of the asset types reduced the impact of the annual depreciation.
- The Accumulated Depreciation for Stormwater Pumping, Storage and Reuse asset sub-class had a lower increase compared to the Depreciated Replacement Cost. This is likely due to the latest condition assessment, indicating that the condition has improved more than the previous valuation, and therefore increased the remaining life.

Appendix A – Conquest Asset Valuation Summary Report

Asset Values At 1/07/2023

Grouping: Type Code

Current Filter: Stormwater Asset

Type Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
04	**4 Stormwater Asset Types**	$22,317,103	$22,317,103		$6,849,966	$15,467,137
04.01	**Stormwater Drain Types**	$17,463,547	$17,463,547		$5,351,461	$12,112,085
04.01.01	**SW Pipe Types**	$12,536,678	$12,536,678		$3,888,664	$8,648,014
04.01.02	**SW Box Culvert Types**	$2,111,680	$2,111,680		$746,457	$1,365,223
04.01.03	**SW Open Drain Types**	$90,277	$90,277		$53,599	$36,678
04.01.05	**SW Spoon Drain Types**	$2,724,911	$2,724,911		$662,741	$2,062,170
04.02	**Stormwater Node Types**	$3,465,571	$3,465,571		$1,057,270	$2,408,301
04.02.01	**SW Pit Types**	$2,804,078	$2,804,078		$922,019	$1,882,059
04.02.02	**SW Headwall Types**	$247,583	$247,583		$48,383	$199,200
04.02.03	**SW Miscellaneous Node Types**	$413,910	$413,910		$86,868	$327,041
04.04	**SW Reuse & Storage Types**	$1,387,985	$1,387,985		$441,234	$946,751
04.04.01	**SW Civil Types**	$290,966	$290,966		$79,315	$211,650
04.04.02	**SW Tank Types**	$243,964	$243,964		$48,928	$195,036
04.04.03	**SW Storage Dam Types**	$478,375	$478,375		$125,169	$353,206
04.04.04	**SW Electrical Types**	$149,751	$149,751		$75,062	$74,689
04.04.05	**SW Mechanical Types**	$145,664	$145,664		$67,384	$78,279
04.04.06	**SW Pump Types**	$79,266	$79,266		$45,376	$33,890
	Grand Total	$22,317,103	$22,317,103	$0	$6,849,966	$15,467,137

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Appendix B – Conquest Asset Depreciation Forecast Summary Report

Depreciation Forecast

ConQUEST

Grouping: Type Code

Current Filter: Stormwater Assets

Report Period: 1/07/2023-1/07/2024

Type Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
04	**4 Stormwater Asset Types**	$22,317,103	$6,849,966	$7,128,119	$278,154
04.01	**Stormwater Drain Types**	$17,463,547	$5,351,461	$5,544,417	$192,956
04.01.01	**SW Pipe Types**	$12,536,678	$3,888,664	$4,018,641	$129,977
04.01.02	**SW Box Culvert Types**	$2,111,680	$746,457	$772,908	$26,451
04.01.03	**SW Open Drain Types**	$90,277	$53,599	$55,996	$2,396
04.01.05	**SW Spoon Drain Types**	$2,724,911	$662,741	$696,873	$34,132
04.02	**Stormwater Node Types**	$3,465,571	$1,057,270	$1,100,846	$43,576
04.02.01	**SW Pit Types**	$2,804,078	$922,019	$957,142	$35,123
04.02.02	**SW Headwall Types**	$247,583	$48,383	$51,172	$2,789
04.02.03	**SW Miscellaneous Node Types**	$413,910	$86,868	$92,532	$5,664
04.04	**SW Reuse & Storage Types**	$1,387,985	$441,234	$482,856	$41,622
04.04.01	**SW Civil Types**	$290,966	$79,315	$85,231	$5,916
04.04.02	**SW Tank Types**	$243,964	$48,928	$53,817	$4,890
04.04.03	**SW Storage Dam Types**	$478,375	$125,169	$134,757	$9,588
04.04.04	**SW Electrical Types**	$149,751	$75,062	$83,758	$8,696
04.04.05	**SW Mechanical Types**	$145,664	$67,384	$74,621	$7,237
04.04.06	**SW Pump Types**	$79,266	$45,376	$50,672	$5,296
	Grand Total	**$22,317,103**	**$6,849,966**	**$7,128,119**	**$278,154**

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Potable Water Infrastructure Asset Valuation & Methodology

1 July 2023

Yorke Peninsula Council

14 May 2024
Ref: 231226.02R003Rev0

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Document History and Status

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Contents

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1 Introduction

Yorke Peninsula Council (Council) own and manage Potable Water assets in the six Yorke Peninsula towns/communities of Marion Bay, Balgowan, Black Point, Hardwicke Bay, Pine Point and Warooka. In three of these communities, water is provided via an SA Water main offtake and Council own and manage the storage and supply assets downstream of the offtake in each community. Pine Point and Warooka include standpipe related assets only. The potable water supplied in Marion Bay is provided from a desalination plant which sources salt water from a beach well bore. Water is desalinated by a reverse osmosis process. Assets in the supply networks include pipes and nodes such as water meters, valves and hydrants. Storage and treatment assets include tanks, pumps, treatment and dosing assets, electrical control systems and switchboards, valves and other civil, mechanical and electrical assets.

As part of the comprehensive service to support Yorke Peninsula Council develop and maintain its corporate asset management solution (Conquest), we are pleased to present this Potable Water Infrastructure Asset Valuation and Depreciation Report as of 1 July 2023.

This report has been developed as an update to the initial 1 July 2015 Potable Water asset valuation (our reference 20140062FR8B) and 1 July 2019 valuation (our reference 20191364R003Rev0) undertaken by Tonkin for Yorke Peninsula Council. The potable water asset register has been developed by Yorke Peninsula Council and has been reviewed and updated as part of this valuation.

As part of the initial 2015 valuation, Council developed digitised plans and assigned attribute data to the potable water pipes and nodes within the networks in MapInfo. The data extracted from the digitised plans is the basis for the potable water asset register. Council also provided asset lists and details for assets at the storage, pumping and treatment sites and provided sufficient asset details to enable asset types and attributes to be defined in order to develop unit rates for current replacement costs of assets. Tonkin did not undertake any site inspections during development of the asset registers.

This 2023 valuation has been developed from the potable water asset register that was developed in 2015 and has been updated annually with capital works in Conquest.

While it is likely that not every pit/pipe has been site verified, the database still provides a reasonable basis for valuation purposes. A continued commitment by Council and Tonkin to correct any observed inconsistencies is encouraged.

This register is considered to be at a good standard of reliability to be used by Council for managing the assets. Any inconsistencies identified can be improved through ongoing development of the Potable Water register within the Conquest/Spatial environment that has been created and managed by Tonkin in conjunction with Council.

The asset valuation of Council's Potable Water assets was developed using a combination of rates from Rawlinsons Australian Handbook – Edition 41 (2023) and prices provided by suppliers. Tonkin and Council reviewed the developed rates and Council provided unit rates for several specific asset types where replacement costs were known.

This report provides a summary of the method used to value Potable Water infrastructure assets and provides a summary of the results for:

- Potable Water Pipes
- Potable Water Nodes
- Potable Water Pumping, Storage and Treatment Assets.
- Potable Water Standpipe Assets

To assist with budgeting for the 2023/2024 financial year, a depreciation forecast is also provided.

2 Accounting Standards and Terminology

2.1 Overview

The Australian Accounting Standard AASB 116 and Local Government (financial management) Regulations 1999 require assets be recorded at fair value. AASB 116 defines fair value as "The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". As there is no active liquid market for infrastructure assets, AASB 116 allows fair value to be estimated using a depreciated replacement cost basis. The basis of this valuation is fair value expressed as Current Replacement Cost (CRC) of an asset minus any accumulated depreciation and impairment losses.

With respect to AASB 13 the cost approach "reflects the amount that would be required currently to replace the service capacity of an asset (often referred to as current replacement cost)". This has been adopted as the valuation technique for the assets included in this valuation.

The Australian Accounting Standard AASB 13 Fair Value Measurement sets out the framework for measuring fair value and requirements for disclosures about fair value measurements. AASB 13 defines a hierarchy of inputs used to estimate fair value. The three input levels can be summarised as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at measurement date.
- Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are unobservable inputs for the asset or liability.

Paragraph 2 of AASB 13 states that the objective of a fair value measurement is to "estimate the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions".

AASB 13 requires that the hierarchy of the fair value measurement be categorised in its entirety as the lowest level input that is significant to the entire measurement.

As there is no market for Council to use to determine fair value of its Potable Water assets, all assets have been valued as Level 3 inputs using a cost approach.

2.2 Terminology

Accounting Standards

A set of rules that govern the way in which financial statements are prepared to ensure that these statements are comparable through time for and entity across similar entities.

Asset – Property, Plant & Equipment

A tangible item that is:

- Held for us in the production or supply of goods or services, for rental to others, or for administration purposes, and
- Expected to be used during more than one period

Asset Management Information System

An asset management information system is a combination of processes, data and software applied to provide the essential outputs for effective asset management such as reduced risk and optimum infrastructure investment.

Australian Accounting Standards Board (AASB)

The AASB is an independent agency of the Australian Government with responsibility to make accounting standards under section 334 of the Corporations Act, to formulate accounting standards for other purposes and to participate in and contribute to the development of a single set of international accounting standards for worldwide use. The Chairman of the AASB reports to the responsible Minister regarding the organisation's operations.

Carrying Amount

The Carrying Amount of an asset is the amount at which the asset is recognised after deducting any accumulated depreciation and accumulated impairment losses. This value is often referred to as the "Written Down Value (WDV)".

Component

Specific parts of an asset having independent physical or functional identity and having specific attributes such as different life expectancy, maintenance regimes, risk or criticality.

Condition

The physical state of an infrastructure asset. Condition may be seen in some circumstances as a level of service proxy indicator of quality from the customer's view. Often though, other factors may be more or equally relevant.

Condition at End of Life (CEoL)

The condition to which an entity is allowed to deteriorate before renewal is required, this parameter is directly linked to the level of service for the particular asset.

Current Replacement Cost (CRC)

The cost required currently to replace the service capacity of an asset with a substitute asset of comparable utility and condition, i.e., the depreciated replacement cost of a new asset. It is based on the cost for a market participant buyer to acquire or construct a substitute asset of comparable utility or service capacity, adjusted for obsolescence. Obsolescence includes physical deterioration, as well as functional and economic obsolescence. The rational for this approach is that a market participant buyer would not pay more for an asset than the amount for which it could replace the service capacity of that asset.

Depreciable Amount

The cost of an asset, or other amount substituted for its cost, less its residual value. For assets with no residual value, the depreciable amount equals the current replacement cost (CRC).

Depreciation

Depreciation is the systematic allocation of the depreciable amount of an asset over its useful life. The Conquest Asset Management System adopts a straight line method for depreciation.

Fair Value

The Fair Value of an asset is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

International Financial Reporting Standards (IFRSs)

Are Standards and Interpretations adopted by the International Accounting Standards Board (IASB) (Refer to Australian equivalents to IFRS).

Levels of Service

The parameters or combination of parameters that reflect social, political, environmental and economic outcomes that the organisation delivers. The parameters can include safety, customer satisfaction,

quality, capacity, reliability, responsiveness, environmental acceptability, cost and availability, etc. [ISO 55000:2014]. A level of service statement describes the outputs or objectives of an organisation or activity intents to deliver to customers [IIMM].

Market Value

The estimated amount for which an asset would be exchanged on the date of valuation, between a willing buyer and a willing seller, in an arm's length transaction and when the parties have each acted knowingly, prudently and without compulsion. Market value is based on highest and best use of the asset and not necessarily the existing uses.

Modern Equivalent Value

Assets that replicate what is in existence with the most cost-effective asset performing the same level of service. It is the most cost efficient, currently available asset which will provide the same stream of services as the existing asset is capable of producing, it allows for technology changes and, improvements and efficiencies in production and installation techniques. The modern equivalent asset is evidenced by renewal strategies in asset management plans and financing in a long-term financial plan covering at least 10 years.

Remaining Useful Life

The time remaining until an asset ceases to provide the required service level or economic usefulness. Age plus remaining useful life provides an estimate of useful life.

Residual Value (RV)

The amount an entity would currently obtain from the disposal of the asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life. Residual value reflects consideration receivable from an asset at the end of its useful life to the entity and accordingly would not include cost savings from the re-use of insitu materials.

Revaluation Model

An item of property, plant and equipment is carried at its revalued amount when is fair value can be reliably measured. The revalued amount is the fair value at date of revaluation less any subsequent accumulated depreciation and subsequent impairment losses.

Service Potential

The total future service capacity of an asset. It is normally determined by reference to the operating capacity and economic life of an asset. A measure of service potential is used in the not-for-profit sector/public sector to value assets, particularly those not producing a cash flow.

Useful Life

The period over which an asset is expected to be available for use by an entity. It is estimated or expected time between placing the asset into service and removing it from service, or the estimated period of time over which the future economic benefits embodied in a depreciable asset, are expected to be consumed by the entity.

Valuation

The process of determining the worth of an asset or liability. Different methods may be appropriate in different circumstances (see also Fair Value). There are two different valuation methods, namely 'greenfield' and 'brownfield' used when establishing unit valuation rates.

- Greenfield periodic valuation: valuation method where the unit valuation rates are based on the cost to acquire/construct the asset in a 'green field' (undeveloped) location. This valuation approach does not assume as specific location of the asset. As a result, existing works are not taken into account in establishing asset values.

- Brownfield periodic valuation: valuation approach is based on the cost to replace the asset in its existing 'brownfield' (developed) location. This valuation approach is based on the specific location of the asset. As a result, existing works are taken into account in establishing asset values.

3 Valuation and Depreciation Methodology

3.1 Valuation Overview

Yorke Peninsula Council has a variety of Potable Water assets that have been loaded into Conquest Asset Register in the following asset categories:

- Potable Water Nodes
- Potable Water Pipes
- Potable Water Pumping Storage and Treatment Assets

These asset groups have been broken down further into their constituent parts for the purposes of valuation and to enable different useful lives to be assigned to different components.

Brownfield construction rates have been assumed for the replacement of all Potable Water assets. As such, where applicable, allowances have been made for:

- Materials
- Plant/Equipment
- Contractors fees and labour

Assumptions made to calculate the current replacement cost (CRC) for the Potable Water asset groups are outlined below.

3.2 Carrying Amount

The carrying amount for each infrastructure asset will be given by the Current Replacement Cost minus the accumulated depreciation.

$$CarryingAmount = CRC - AccumulatedDepreciation$$

Equation 3.1 Carrying Amount

The carrying amount is also referred to as the Written Down Value (WDV).

3.3 Depreciation

Conquest recalculates the Accumulated Depreciation every time a revaluation is performed. The Accumulated Depreciation of an asset is determined using the expiry date and useful life of the asset. The expiry date can be estimated using one of two methods:

1. Condition score – this document will refer to this as "Depreciation Using a Condition Score"
2. Age of the asset – this document will refer to this as "Depreciation Using Age"

Depreciation Using a Condition Score

For depreciation using a condition score it is assumed that the consumption of the economic benefit of an asset will be proportional to its condition. This results in the Accumulated Depreciation for assets with no residual value being calculated by:

$$AccumulatedDepreciation = (CRC) \times \left(\frac{ConditionScore}{EndOfLifeConditionScore} \right)$$

Equation 3.2 Accumulated Depreciation at Revaluation (Using Condition Score)

When an asset is new it will have a condition score of 0 and its Accumulated Depreciation will be 0. As it ages and its condition deteriorates the Accumulated Depreciation will increase accordingly. When an asset reaches the condition at which Council establishes that the asset has no further use the Accumulated Depreciation will equal the Depreciable Amount (Current Replacement Cost).

In order to perform depreciation using the condition score the assets will require regular condition assessment. For the periods between surveys, which will vary depending on the asset, it is assumed that the consumption of the economic benefits of the asset is appropriately modelled using straight line depreciation. In the period between surveys Conquest calculates the change in depreciation based on the carrying value and dates. In the absence of capital works and taken over the period of a year the depreciation would be calculated by:

$$AccumulatedDepreciation = PreviousAcumulatedDepreciation + (CRC) \times \left(\frac{1}{UsefulLife} \right)$$

Equation 3.3 Accumulated Depreciation Between Valuations (Using Condition Score)

Any changes in consumption patterns are picked up when the asset register is updated with new data. It is not planned to attempt to adopt a curve for this purpose.

Depreciation Using Age

For depreciation using age, it is assumed that the consumption of the economic benefit of an asset will be proportional to its age and therefore the assets value will be depreciated by comparing its age with its useful life. Using this method the accumulated depreciation for assets with no residual value will be given by:

$$AccumulatedDepreciation = (CRC) \times \left(\frac{Age}{UsefulLife} \right)$$

Equation 3.4 Accumulated Depreciation (Depreciation Using Age)

3.4 Acquisition, Valuation and Disposal

When most infrastructure assets are replaced with a new asset Council receives no proceeds from the salvage of the old asset, consequently the carrying amount of the existing asset will be written-off at disposal and the replacement asset will be added in as a new asset. It is assumed therefore that for most assets the residual value of the existing asset is zero as it cannot be capitalised (or re-used) into the new asset and is therefore written off.

When an asset is first acquired it is valued at its acquisition cost or its current replacement cost for vested assets. It is then depreciated until the next revaluation occurs. Council will also periodically conduct condition assessments where the condition scores will be updated picking up any changes in consumption patterns.

The cost to replace the asset will be the depreciable amount until the next valuation. When an asset's service can be preserved by partial replacement, the cost of the works will be added to the asset and the remaining life will be extended.

3.5 Aged Assets Still in Service

In previous years, some assets held within the register were reported as expired assets as they had zero remaining life based on their age and standard useful life. These assets were no longer reporting annual depreciation. For this valuation, a list of assets that were identified as being older than their standard useful life were provided to Council for review and consideration of the expected remaining life or the planned renewal year of each asset. Council have provided expected remaining lives of each of these older assets and these have been used to calculate the consumption score, the written down value and the annual depreciation forecast for each of these assets.

The only time an asset is classified as an expired asset is when the asset is no longer in service and is planned for disposal.

4 Potable Water Assets

4.1 Overview

Yorke Peninsula Council is responsible for four potable water supplies in Balgowan, Black Point, Hardwicke Bay and Marion Bay. A breakdown of the various potable water assets across the four supply areas is provided in Table 4.1 below.

Table 4.1 Summary of Assets in Potable Water Network

Potable Water Asset Group	Quantity
Potable Water Nodes	962 nodes
Potable Water Pipes	35,049m
Potable Water Pumping, Storage & Treatment	
Tank & Civil Assets	52 assets
Standpipe Related Assets	56 assets
Pump & Mechanical Assets	117 assets
Electrical Assets	38 assets
Pipework Assets	2,665m
Fence Assets	659m

4.2 Current Replacement Cost (CRC)

As part of this valuation unit rates were developed by Tonkin using rates from Rawlinsons Australian Construction Handbook – Edition 41 (2023) and online supply costs to develop a series of asset replacement rates from first principles. Council has also provided replacement costs for several specific assets where costs were known.

Rawlinsons is a leading reference on the various aspects of construction costs in Australia. For the purpose of this valuation it has been assumed that the rates in the 41st Edition, best represent the value of the assets as at 1 July 2023.

Brownfield construction rates have been assumed for the replacement of all Potable Water assets. As such allowances have been made for:

- Removal and disposal of the existing asset
- Material supply and installation of the new asset including labour, plant and equipment costs

Assumptions used to calculate the current replacement cost for the Potable Water assets are outlined below.

4.3 Potable Water Node Assets

The replacement rates for the node assets within the supply network have been calculated using Rawlinsons rates and standard industry rates and include allowances for:

- Supply cost of the asset
- Labour to install the new and remove the old asset.

The current replacement costs and useful lives for the potable water node asset types are provided in Table 4.2.

Table 4.2 Potable Water Node Asset Valuation Parameters

Potable Water Node Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Air Valve	$1,704.38	Quantity	30
End Cap	$250.52	Quantity	50
Fire Hydrant	$2,383.00	Quantity	50
Fire Plug	$2,383.00	Quantity	50
Reducer	$280.25	Quantity	60
Seat Gate Valve	$2,954.75	Quantity	60
50mm Stop Valve	$619.61	Quantity	60
80mm Stop Valve	$730.30	Quantity	60
100mm Stop Valve	$1,027.30	Quantity	60
150mm Stop Valve	$2,693.80	Quantity	60
Water Meter	$100.00	Quantity	30
Pile on Poly Clamp (Stainless Steel) for Salt Water Line 75mm HDPE on Jetty	$949.37	Quantity	25

4.4 Potable Water Pipe Assets

The replacement rates for the pipes within the supply network have been calculated using Rawlinsons rates and standard industry rates and include allowances for:

- Trench excavation
  - Average cover to water main pipe 400mm
  - Average cover to connection lines 300mm
- Supply and laying of new pipe, including supply costs from Reece
- 50mm bedding to new pipe and trench backfill
- 10% allowance for service adjustment.

The cost of road pavement and road seal reinstatement has not been included as it is assumed that potable water and salt water pipes are generally laid in road verges or that renewal would generally coincide with road renewal and that pavement and seal reinstatement is covered under roadwork replacement/renewal cost estimation. For asset planning purposes Council may need to add in those costs if work is undertaken independent of road renewal.

The current replacement costs and useful lives of the water pipes are provided in Table 4.3.

Table 4.3 Water Pipe Asset Valuation Parameters

Water Pipe Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Connection 25mm PE	$49.11	lm	60
Connection 25mm PE100	$49.11	lm	60
Connection 25mm PE80	$49.11	lm	60
Connection 40mm PE80	$65.39	lm	60
Main 100mm PVC	$129.24	lm	100
Main 110mm PVC	$129.24	lm	100
Main 150mm PVC	$150.62	lm	100
Main 150mm uPVC	$150.62	lm	100
Main 160mm PVC	$150.62	lm	100
Main 25mm PE	$57.69	lm	100
Main 25mm PE80	$57.69	lm	100
Main 50mm MDPE	$89.03	lm	100
Main 50mm PE	$89.03	lm	100
Main 50mm PE80	$89.03	lm	100
Main 80mm PE	$88.11	lm	100
Main 90mm MDPE	$101.92	lm	100
Main 90mm PE	$101.92	lm	100
Main 160mm HDPE	$216.11	lm	100
Main 160mm PE	$216.11	lm	100
Main 160mm PE80	$216.11	lm	100
Plant Water Line 63mm HDPE	$56.13	lm	100
Potable Water Line 25mm HDPE	$57.69	lm	100
Potable Water Line 50mm HDPE	$89.03	lm	100
Potable Water Line 75mm HDPE	$87.68	lm	100
Salt Water Line 75mm HDPE	$87.68	lm	100

4.5 Potable Water Pumping, Storage and Treatment Assets

The potable water pumping, storage and treatment assets have been divided into six asset groups as follows:

- Potable water tank types
- Potable water pipework types
- Potable water civil types
- Potable water electrical types
- Potable water pump types
- Potable water mechanical types.

A combination of online supply costs from relevant Australian suppliers and Rawlinson's construction rates were utilised to calculate an appropriate replacement cost of these asset types. For rates that included product supply costs, additional cost was associated for the install and delivery of the product.

4.5.1 Tank Assets

The replacement rates for the tank assets have been calculated using rates from Rawlinsons for the roof assets and supplier prices for the pressure vessels. The current replacement costs and useful lives of the tank asset types are provided in Table 4.4.

Table 4.4 Pumping, Storage and Treatment – Tank Assets Valuation Parameters

Tank Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
200kL Concrete Tank	$58,005.55	Quantity	50
159kL Concrete Tank	$49,888.44	Quantity	50
150kL Concrete Tank	$48,366.10	Quantity	50
133kL Lined Tank	$44,947.15	Quantity	50
Corrugated Iron Tank Roof 12m dia	$24,089.73	Quantity	50
Corrugated Iron Tank Roof 10m dia	$16,728.98	Quantity	50
Corrugated Iron Roof Hatches	$1,495.00	Quantity	50
Pressure Vessel 80L	$828.50	Quantity	25
Pressure Vessel 18L	$399.50	Quantity	25
Buffer Tank 500L	$1,007.86	Quantity	50
Poly Tank 50kL	$7,276.50	Quantity	50
Poly Tank 2.2kL & Bunding	$2,018.50	Quantity	50

4.5.2 Pipework Assets

The replacement rates for the pipework at the pumping, storage and treatment sites have been calculated using Rawlinsons rates and include allowance for:

- Pipe supply
- Allowance for joints
- Labour allowance to remove the old pipework and install new pipework.

The current replacement costs and useful lives of the pipework asset types are provided in Table 4.5.

Table 4.5 Pumping, Storage and Treatment – Pipework Assets Valuation Parameters

Pipework Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Pipework 50mm HDPE	$56.13	lm	50
Pipework 63mm HDPE	$56.13	lm	50
Pipework 80mm HDPE	$64.72	lm	50
Pipework 80mm PVC	$97.73	lm	50
Pipework 80mm SS	$97.73	lm	50
Pipework 80mm Cu	$97.73	lm	50
Pipework 100mm PVC	$97.73	lm	50
Pipework 150mm PVC	$117.92	lm	50
Pipework 150mm HDPE	$154.68	lm	50

4.5.3 Civil Assets

The replacement rates for the civil assets at the pumping, storage and treatment sites have been developed from several sources including Rawlinsons, suppliers costs and some costs provided by Council. For rates that included product supply costs, additional cost was associated for the install and delivery of the product.

The current replacement costs and useful lives of the civil asset types at the pumping, storage and treatment sites are provided in Table 4.6.

Table 4.6 Pumping, Storage and Treatment – Civil Assets Valuation Parameters

Civil Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Hardstand 25mm Gravel	$4.90	m2	50
Fence 2m High with Barbed Wire	$80.00	Lm	50
Double Access Gate	$1,150.00	Quantity	50
Personnel Access Gate	$630.00	Quantity	50
Lined Shipping Container Shed	$4,026.00	Quantity	50
Shed 2m x 2m Type	$2,620.00	Quantity	30
Shed 3m x 1.5m Type	$3,438.75	Quantity	30
Shed 4.5m x 3m Type	$8,842.50	Quantity	30
Basic Eye Wash	$3,286.11	Quantity	30
Hose Reel	$479.25	Quantity	30
Water Bore	$11,867.14	Quantity	50
Contractor Supply Stand Pipe	$2,608.33	Quantity	50
Public Water Supply Access Point	$23.10	Quantity	25
Shed 5.7m x 4m x 3m (H) Type	$14,934.00	Quantity	30
Pipework	$2,095.81	Quantity	50
Water Bore Sand Bag Protection	$24,530.19	Quantity	10

4.5.4 Electrical Assets

During this previous valuation, several of the electrical assets were further componentised to enable assigning different useful lives to each asset component in order to reflect asset replacement patterns. Tonkin and Council worked together to componentise these assets and develop replacement rates for the component assets. The same methodology was used for this valuation.

Rates have been developed using Rawlinsons rates and supplier costs and include allowance for:

- Supply cost, sourced either from Council, Rawlinsons or online Australian suppliers
- Labour allowance to remove the old asset and install the new asset.

The current replacement costs and useful lives of the electrical assets are provided in Table 4.7.

Table 4.7 Pumping, Storage and Treatment – Electrical Assets Valuation Parameters

Electrical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Electrical Fittings Type	$954.75	Quantity	25
Switchboard	$21,780.00	Quantity	25
PLC Controls	$9,911.00	Quantity	25
Alarm System	$2,180.00	Quantity	25
Air Conditioning Unit	$1,836.50	Quantity	25
Pressure & Quality Sensor	$3,054.75	Quantity	25
Solar Panel and Regulator	$20,470.82	Quantity	20
Solar Panel System	$16,758.78	Quantity	25
Alarm & Monitoring System	$12,738.00	Quantity	25
Pump VSD (Variable Speed Drive)	$4,545.00	Quantity	15
HMI Unit	$2,100.35	Quantity	15
Pump Large VSD (Variable Speed Drive)	$8,361.00	Quantity	15
Modem	$5,398.00	Quantity	25
CO2 Dosing System	$9,115.77	Quantity	10

4.5.5 Pump Assets

The replacement rates for the pump assets have been developed using Rawlinsons rates and supplier costs and include allowance for:

- Supply cost, sourced either from Council, Rawlinson's or online Australian suppliers
- Labour allowance to remove the old asset and install the new asset.

The current replacement costs and useful lives of the pump assets are provided in Table 4.8.

Table 4.8 Pumping, Storage and Treatment – Pump Assets Valuation Parameters

Pump Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Transfer Pump 3kW	$6,304.75	Quantity	20
Submersible Bore Pump	$6,942.32	Quantity	15
Feed Pump 30kW	$13,709.50	Quantity	20
Filter Feed Pump	$2,623.71	Quantity	20
Distribution Pump 2.4kW	$6,304.75	Quantity	20
Distribution Pump 4kW	$6,473.00	Quantity	20
Dosing Pump	$4,168.98	Quantity	15

4.5.6 Mechanical Assets

The replacement rates for the other mechanical assets have been developed using rates from Rawlinsons and supplier costs and include allowance for:

- Supply cost, sourced either from Council, Rawlinson's or online Australian suppliers
- Labour allowance to remove the old asset and install the new asset

The current replacement costs and useful lives of the pump assets are provided in Table 4.9.

Table 4.9 Pumping, Storage and Treatment – Mechanical Assets Valuation Parameters

Mechanical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
Tank Filling Control System	$3,560.14	Quantity	15
Level Regulator	$2,467.63	Quantity	20
Magflow Meter	$3,900.32	Quantity	25
25mm Gate Valve	$276.46	Quantity	20
50mm Gate Valve	$534.35	Quantity	20
80mm Gate Valve	$654.24	Quantity	20
50mm Flowmeter	$3,931.66	Quantity	20

Mechanical Assets	Current Replacement Cost (CRC)	Valuation Unit	Useful Life for Service Standard (years)
80mm Flowmeter	$3,973.19	Quantity	20
50mm Electric Butterfly Valve	$860.13	Quantity	20
25mm Air Release Valve	$264.38	Quantity	20
50mm Solenoid Valve	$630.63	Quantity	20
50mm Pressure Gauge	$355.05	Quantity	20
75mm Pressure Gauge	$355.05	Quantity	20
Backflush Controller	$2,645.46	Quantity	20
40mm Filter	$3,543.32	Quantity	25
50mm Filter	$3,543.32	Quantity	25
Multimedia Filter	$2,032.23	Quantity	10
Cartridge Filter	$2,032.23	Quantity	15
Calcite Filter	$13,632.00	Quantity	15
Energy Recovery Turbine	$35,084.50	Quantity	10
Reverse Osmosis System	$21,810.00	Quantity	15
Hypochlorite Dosing System	$7,338.00	Quantity	15
Dosing System Analyser	$11,082.50	Quantity	10
Water Distributor	Non-valued	Quantity	15
100mm Gate Valve	$754.53	Quantity	20
Corrosion Coupon Rack	$3,739.81	Quantity	10
Tank Water Level Indicator	$298.38	Quantity	15
Overflow Unit (Tanks)	$2,355.99	Quantity	25
50mm Tank Fittings	$69.38	Quantity	25
100mm Tank Fittings	$210.91	Quantity	25

4.6 Establishing Useful Life

Yorke Peninsula Council value their assets at a component level which enables assets to be assigned an average useful life for each component to determine depreciation rates.

The useful life of a potable water asset is assumed to be the time that an asset is expected to last before total replacement is required. It is likely that during their useful life, some assets will require maintenance.

The useful life of potable water assets is governed by two factors:

- Structural deterioration – i.e. when a pipe or pit or any asset fails due to age/physical deterioration and renewal is required
- Suitability - when despite being in physically good condition, an asset is no longer suitable for purpose, e.g. when a pipe's capacity is exceeded

The useful lives that are assigned to different potable water asset types are based on industry standards and have been provided in Table 4.2 to Table 4.9 above.

4.7 Measuring Consumption

The consumption of the economic benefit of potable water assets will be measured based on the asset's age and the standard useful life.

For each asset the construction date recorded against each asset and the standard useful life of the asset type is used to determine the remaining life of the asset. Where an asset is older than the standard useful life and is still in service the remaining life is adjusted to ensure it is not fully depreciated and annual depreciation is reported in accordance with the process outlined in section 3.5.

For high valued Tank assets, Council undertook a condition inspection to inform the remaining life. The condition data collected for each asset was used to calculate a consumption score (0 - 100) to determine the remaining life for valuation purposes. The condition assessment was developed based on the criteria below.

Table 10 - Consumption Criteria

Condition	Description	Consumption Score
1 - Very Good	Excellent physical condition. Observable deterioration is insignificant.	0
2 - Good	Observation indicates that the asset is meeting all service requirements. South physical condition, minor deterioration/minor defects observed.	30
3 - Fair to Moderate	Moderate deterioration evident, minor components or isolated sections of the asset need replacement/repair now but not affecting short term structural integrity.	60
4 - Poor	Serious deterioration and significant defects evident affecting structural integrity. Asset is now moving into zone of failure.	80
5 - Very Poor	Failed or failure imminent. Immediate action to replace most or all of asset. Asset is unable to support the target level of service though may still be providing some level of service.	95

Condition	Description	Consumption Score
6 - Expired	Expired Asset	100

4.8 Service Level

The service level of Potable Water Infrastructure is measured by the ability of the assets to transfer and deliver potable water to customers. The level of service of the asset will be determined by the structural condition and also by capacity. It may be necessary to replace assets in good physical condition in order to upgrade capacity.

It is assumed for this valuation that existing potable water assets will maintain their existing service and if upgrading is required this will be undertaken by duplication of the pipe system. No allowance has been made for shorter useful lives that would result due to replacement being driven by improvement in asset capacity.

5 Valuation Summary

A summary of the valuation as of 1 July 2023 for Yorke Peninsula Council Potable Water Infrastructure is shown below in Table 5.1, itemised per township. A summary valuation report, itemised per asset type, is included in Appendix A.

Table 5.1 Potable Water Asset Valuation Summary per Township

Location	Current Replacement Cost	Accumulated Depreciation	Written Down Value	Remaining %
Balgowan	$1,480,569	$465,907	$1,014,662	69%
Black Point	$1,834,602	$508,004	$1,326,598	72%
Hardwicke Bay	$1,509,376	$468,259	$1,041,117	69%
Marion Bay	$980,653	$315,066	$665,587	68%
Pine Point	$51,647	$2,388	$49,259	95%
Warooka	$51,647	$2,388	$49,259	95%
Total	**$5,908,494**	**$1,762,011**	**$4,146,483**	**70%**

The Written Down Value (WDV) is the depreciated replacement cost and is the "carrying amount" of the assets as of 1 July 2023 as per AASB 116. Together the table illustrates the total fair value of the asset (current replacement cost (CRC), the amount consumed (accumulated depreciation) and the amount remaining (written down value (WDV)) for each asset. The Conquest summary report is provided in Appendix A.

The impact and outcome of the valuation is described in Section 7.

6 Depreciation Forecast

The annual depreciation forecast calculated for the 2023/2024 financial year for Council's Potable Water infrastructure assets is summarised in Table 6.1. This table provides a predicted depreciation expense for each asset group for the 2023/2024 financial year and provides an indication of the rate at which the various asset types are being consumed annually in relation to the CRC. A summary depreciation forecast report, itemised per asset type, is included in Appendix B.

Table 6.1 Depreciation Forecast 2023/2024

Asset Types	Annual Depreciation Forecast	Annual Consumption Forecast
Balgowan	$20,255	1.4%
Black Point	$22,314	1.2%
Hardwicke Bay	$24,386	1.6%
Marion Bay	$36,078	3.7%
Pine Point	$2,388	4.6%
Warooka	$2,388	4.6%
Total	**$107,808**	**1.8%**

To predict the forecast depreciation the Conquest system considers assets that have reached their condition at end of life to have been entirely consumed and hence does not calculate depreciation against the asset. As at 1 July 2023 there are no expired potable water assets.

Whilst the depreciation forecast will provide an estimate of the depreciation that would be expected for 2023/2024, the actual depreciation will need to include any additions and disposals of assets that occur during the period.

The impact and outcome of the valuation is described in Section 7.

7 Outcomes of Revaluation

The financial changes from 30 June 2023 (sourced from the 22-23 Asset Movement Report) this 1 July 2023 valuation is summarised in the table below.

Location	Current Replacement Cost	Accumulated Depreciation	Depreciated Replacement Cost	Annual Depreciation Forecast
Potable Water Pipes	31%	31%	32%	30%
Potable Water Nodes	-9%	-5%	-12%	-3%
Pumping, Storage & Treatment	10%	16%	4%	20%
Potable Water Standpipe	8%	2%	9%	49%
Total	**22%**	**21%**	**23%**	**23%**

The critical changes to note since the previous valuation and financials as of 30 June 2023, as sourced from 22-23 Asset Movement Report, are addressed in the following points:

- The previous valuation was undertaken as of 1 July 2019. The BPI since the previous valuation is 19%. The overall 22% CRC increase is a little higher than BPI, however generally in line with industry trends over the last 4 years. The Annual Depreciation increased by 23% overall, which aligns with the increase in CRC.
- Nodes decreased in value. This is due to water meter costs remaining the same as last valuation ($100 /meter) as confirmed by Council, and the replacement cost for specific valves decreasing in value due to change in methodology. The replacement rate for valves is now calculated using actual supply costs and installation costs, which was a change in methodology compared to last valuation.
- Potable Water Standpipe annual deprecation had a higher increase in annual depreciation compared to the increase of the replacement cost. This is likely due to the recent capital works, in which the assets were valued at capital cost. It should be noted, this sub-asset class has a relatively low value compared to the other sub-classes, and therefore has less of an impact to the overall financial summary.
- The Accumulated Depreciation for Pumping, Storage & Treatment asset sub-class had a higher increase compared to the Written Down Value. This is due to the latest condition assessment, indicating that the condition has degraded more than the previous valuation, and therefore reduced the remaining life.

Appendix A – Conquest Asset Valuation Summary Report

Asset Values At 1/07/2023

Grouping: Family Code

Current Filter: Potable Water Assets

Family Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
005	**5 Potable Water Assets**	$5,908,494	$5,908,494		$1,762,011	$4,146,483
005.001	**Balgowan**	$1,480,569	$1,480,569		$465,907	$1,014,662
005.002	**Black Point**	$1,834,602	$1,834,602		$508,004	$1,326,598
005.003	**Hardwicke Bay**	$1,509,376	$1,509,376		$468,259	$1,041,117
005.004	**Marion Bay**	$980,653	$980,653		$315,066	$665,587
005.005	**Pine Point**	$51,647	$51,647		$2,388	$49,259
005.006	**Warooka**	$51,647	$51,647		$2,388	$49,259
	Grand Total	$5,908,494	$5,908,494	$0	$1,762,011	$4,146,483

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Asset Values At 1/07/2023

ConQUEST

Grouping: Type Code

Current Filter: Potable Water Assets

Type Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
05	**5 Potable Water Asset Types**	$5,908,494	$5,908,494		$1,762,011	$4,146,483
05.01	**Potable Water Node Types**	$311,666	$311,666		$168,119	$143,548
05.01.01	**Air Valve**	$40,905	$40,905		$27,614	$13,292
05.01.02	**End Cap**	$3,006	$3,006		$1,433	$1,573
05.01.03	**Fire Hydrant**	$2,383	$2,383		$858	$1,525
05.01.04	**Fire Plug**	$121,533	$121,533		$57,673	$63,860
05.01.05	**Reducer**	$3,643	$3,643		$1,252	$2,391
05.01.06	**Seat Gate Valve**	$11,819	$11,819		$5,516	$6,303
05.01.07	**50mm Stop Valve**	$3,098	$3,098		$929	$2,169
05.01.08	**80mm Stop Valve**	$2,921	$2,921		$864	$2,057
05.01.09	**100mm Stop Valve**	$8,218	$8,218		$3,099	$5,119
05.01.10	**150mm Stop Valve**	$24,244	$24,244		$8,755	$15,489
05.01.11	**Water Meter**	$82,300	$82,300		$58,302	$23,998
05.01.12	**Pile on Poly Clamp (Stainless Steeel) for Salt Water Line 75mm HDPE on Jetty**	$7,595	$7,595		$1,823	$5,772
05.02	**Potable Water Pipe Types**	$4,033,132	$4,033,132		$932,005	$3,101,127
05.02.01	**Connection 25mm PE**	$117,844	$117,844		$38,988	$78,856
05.02.02	**Connection 25mm PE100**	$2,431	$2,431		$446	$1,985
05.02.03	**Connection 25mm PE80**	$140,803	$140,803		$49,920	$90,884
05.02.04	**Connection 40mm PE80**	$242	$242		$73	$169
05.02.05	**Main 100mm PVC**	$73,124	$73,124		$14,455	$58,669
05.02.06	**Main 110mm PVC**	$350,951	$350,951		$80,723	$270,228
05.02.07	**Main 150mm PVC**	$14,158	$14,158		$2,832	$11,326
05.02.08	**Main 150mm uPVC**	$47,009	$47,009		$9,873	$37,135
05.02.09	**Main 160mm PVC**	$2,304	$2,304		$530	$1,774
05.02.10	**Main 25mm PE**	$196	$196		$51	$145

Type Code	Asset Description	Replacement	Last Valuation	Additions	Accum Depr.	WDV
05.02.11	Main 25mm PE80	$1,990	$1,990		$418	$1,572
05.02.12	Main 50mm MDPE	$37,802	$37,802		$6,427	$31,375
05.02.13	Main 50mm PE	$385,509	$385,509		$69,399	$316,110
05.02.14	Main 50mm PE80	$3,321	$3,321		$598	$2,723
05.02.15	Main 80mm PE	$458,727	$458,727		$82,579	$376,148
05.02.16	Main 90mm MDPE	$503,342	$503,342		$135,906	$367,436
05.02.17	Main 90mm PE	$48,708	$48,708		$11,317	$37,390
05.02.18	Main 160mm HDPE	$507,189	$507,189		$116,660	$390,529
05.02.19	Main 160mm PE	$943,104	$943,104		$247,697	$695,407
05.02.20	Main 160mm PE80	$99,346	$99,346		$15,898	$83,447
05.02.21	Plant Water Line 63mm HDPE	$7,959	$7,959		$1,274	$6,686
05.02.22	Potable Water Line 25mm HDPE	$1,275	$1,275		$204	$1,071
05.02.23	Potable Water Line 50mm HDPE	$117,680	$117,680		$18,833	$98,847
05.02.24	Potable Water Line 75mm HDPE	$18,641	$18,641		$2,983	$15,658
05.02.25	Salt Water Line 75mm HDPE	$149,477	$149,477		$23,921	$125,556
05.03	Potable Water Pump Storage Treatment Types	$1,413,739	$1,413,739		$657,105	$756,633
05.03.01	Potable Water Tank Types	$512,597	$512,597		$272,661	$239,936
05.03.02	Potable Water Pump & Plant Pipework Types	$177,466	$177,466		$67,295	$110,171
05.03.03	Potable Water Civil Types	$159,987	$159,987		$55,570	$104,417
05.03.04	Potable Water Electrical Types	$278,758	$278,758		$140,140	$138,618
05.03.05	Potable Water Pump Types	$82,538	$82,538		$39,605	$42,933
05.03.06	Potable Water Mechanical Types	$202,392	$202,392		$81,834	$120,559
05.05	Potable Water Standpipe Types	$149,956	$149,956		$4,782	$145,175
05.05.01	Potable Water Standpipe Civil Types	$29,398	$29,398		$681	$28,717
05.05.02	Potable Water Standpipe Electrical Types	$91,053	$91,053		$3,088	$87,965
05.05.03	Potable Water Standpipe Mechanical Types	$29,506	$29,506		$1,013	$28,493
	Grand Total	$5,908,494	$5,908,494	$0	$1,762,011	$4,146,483

Appendix B – Conquest Asset Depreciation Forecast Summary Report

Depreciation Forecast

ConQUEST

Grouping: Family Code

Current Filter: Potable Water Assets

Report Period: 1/07/2023-1/07/2024

Family Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
005	**5 Potable Water Assets**	$5,908,494	$1,762,011	$1,869,819	$107,808
005.001	**Balgowan**	$1,480,569	$465,907	$486,162	$20,255
005.002	**Black Point**	$1,834,602	$508,004	$530,317	$22,314
005.003	**Hardwicke Bay**	$1,509,376	$468,259	$492,645	$24,386
005.004	**Marion Bay**	$980,653	$315,066	$351,143	$36,078
005.005	**Pine Point**	$51,647	$2,388	$4,776	$2,388
005.006	**Warooka**	$51,647	$2,388	$4,776	$2,388
	Grand Total	**$5,908,494**	**$1,762,011**	**$1,869,819**	**$107,808**

Depreciation Forecast

ConQUEST

Grouping: Type Code

Current Filter: Potable Water Assets

Report Period: 1/07/2023-1/07/2024

Type Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
05	**5 Potable Water Asset Types**	$5,908,494	$1,762,011	$1,869,819	$107,808
05.01	**Potable Water Node Types**	$311,666	$168,119	$175,983	$7,864
05.01.01	**Air Valve**	$40,905	$27,614	$28,980	$1,366
05.01.02	**End Cap**	$3,006	$1,433	$1,493	$60
05.01.03	**Fire Hydrant**	$2,383	$858	$906	$48
05.01.04	**Fire Plug**	$121,533	$57,673	$60,108	$2,436
05.01.05	**Reducer**	$3,643	$1,252	$1,313	$61
05.01.06	**Seat Gate Valve**	$11,819	$5,516	$5,713	$197
05.01.07	**50mm Stop Valve**	$3,098	$929	$981	$52
05.01.08	**80mm Stop Valve**	$2,921	$864	$913	$49
05.01.09	**100mm Stop Valve**	$8,218	$3,099	$3,236	$137
05.01.10	**150mm Stop Valve**	$24,244	$8,755	$9,160	$405
05.01.11	**Water Meter**	$82,300	$58,302	$61,051	$2,749
05.01.12	**Pile on Poly Clamp (Stainless Steeel) for Salt Water Line 75mm HDPE on Jetty**	$7,595	$1,823	$2,128	$304
05.02	**Potable Water Pipe Types**	$4,033,132	$932,005	$974,166	$42,160
05.02.01	**Connection 25mm PE**	$117,844	$38,988	$40,956	$1,968
05.02.02	**Connection 25mm PE100**	$2,431	$446	$486	$41
05.02.03	**Connection 25mm PE80**	$140,803	$49,920	$52,271	$2,352
05.02.04	**Connection 40mm PE80**	$242	$73	$77	$4
05.02.05	**Main 100mm PVC**	$73,124	$14,455	$15,188	$733
05.02.06	**Main 110mm PVC**	$350,951	$80,723	$84,240	$3,517
05.02.07	**Main 150mm PVC**	$14,158	$2,832	$2,974	$142

Type Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
05.02.08	Main 150mm uPVC	$47,009	$9,873	$10,344	$471
05.02.09	Main 160mm PVC	$2,304	$530	$553	$23
05.02.10	Main 25mm PE	$196	$51	$53	$2
05.02.11	Main 25mm PE80	$1,990	$418	$438	$20
05.02.12	Main 50mm MDPE	$37,802	$6,427	$6,806	$379
05.02.13	Main 50mm PE	$385,509	$69,399	$73,262	$3,863
05.02.14	Main 50mm PE80	$3,321	$598	$631	$33
05.02.15	Main 80mm PE	$458,727	$82,579	$87,176	$4,597
05.02.16	Main 90mm MDPE	$503,342	$135,906	$140,950	$5,044
05.02.17	Main 90mm PE	$48,708	$11,317	$11,805	$488
05.02.18	Main 160mm HDPE	$507,189	$116,660	$121,742	$5,082
05.02.19	Main 160mm PE	$943,104	$247,697	$257,148	$9,450
05.02.20	Main 160mm PE80	$99,346	$15,898	$16,894	$996
05.02.21	Plant Water Line 63mm HDPE	$7,959	$1,274	$1,353	$80
05.02.22	Potable Water Line 25mm HDPE	$1,275	$204	$217	$13
05.02.23	Potable Water Line 50mm HDPE	$117,680	$18,833	$20,012	$1,179
05.02.24	Potable Water Line 75mm HDPE	$18,641	$2,983	$3,170	$187
05.02.25	Salt Water Line 75mm HDPE	$149,477	$23,921	$25,419	$1,498
05.03	Potable Water Pump Storage Treatment Types	$1,413,739	$657,105	$707,925	$50,819
05.03.01	Potable Water Tank Types	$512,597	$272,661	$282,959	$10,298
05.03.02	Potable Water Pump & Plant Pipework Types	$177,466	$67,295	$70,852	$3,557
05.03.03	Potable Water Civil Types	$159,987	$55,570	$61,644	$6,073
05.03.04	Potable Water Electrical Types	$278,758	$140,140	$153,029	$12,889
05.03.05	Potable Water Pump Types	$82,538	$39,605	$44,042	$4,438
05.03.06	Potable Water Mechanical Types	$202,392	$81,834	$95,399	$13,565
05.05	Potable Water Standpipe Types	$149,956	$4,782	$11,746	$6,964
05.05.01	Potable Water Standpipe Civil Types	$29,398	$681	$1,701	$1,020

Type Code	Asset Description	Replacement	Opening Dep.	Closing Dep.	Dep. Charge
05.05.02	**Potable Water Standpipe Electrical Types**	$91,053	$3,088	$7,515	$4,427
05.05.03	**Potable Water Standpipe Mechanical Types**	$29,506	$1,013	$2,530	$1,517
	Grand Total	**$5,908,494**	**$1,762,011**	**$1,869,819**	**$107,808**