



10

Our role, operations and operating context



Technical Paper 10

-  Hunter Water is the second largest urban water utility in NSW and amongst the group of 15 major urban water utilities in Australia with more than 100,000 customers.
-  Our primary purpose is to provide drinking water, wastewater, stormwater and some recycled water services to homes and businesses in the Lower Hunter.
-  We operate within a comprehensive regulatory framework that includes regulation under various state and federal legislation and guidelines, which are administered by various government agencies.
-  The prices that we charge our customers are set by IPART through various reviews and determinations. This submission relates to our main retail services.

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1. Our role and operations

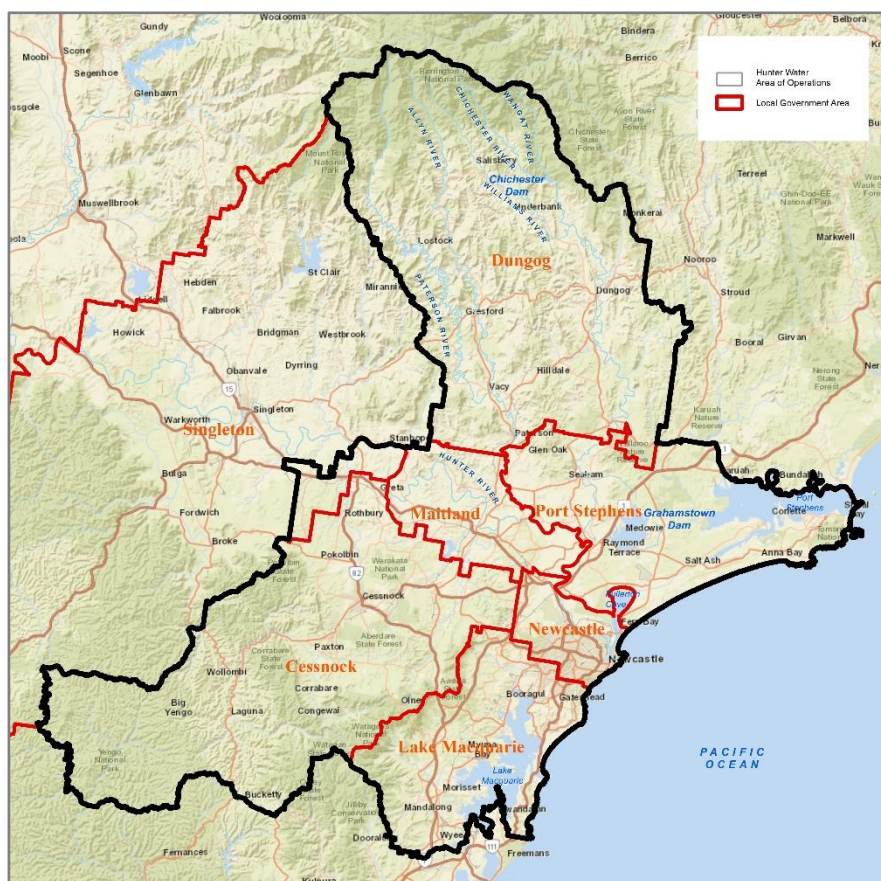
1.1 Role

Hunter Water is a public utility that serves a population of almost 600,000 in homes and businesses in the Lower Hunter region of New South Wales. We are a vertically integrated water utility – an operator and retailer from catchment to tap. Our primary purpose is to supply reliable, high quality water and wastewater services to the people of the Lower Hunter region. We also provide some stormwater services in the Newcastle, Lake Macquarie and Cessnock local government areas, but this only affects about thirty per cent of our water and wastewater customers. We also provide some trade waste services, unfiltered water and recycled water services.

1.2 Operations

Hunter Water's area of operation is 5,366 square kilometres and consists of the local government areas of Cessnock, Dungog, Lake Macquarie, Maitland, Newcastle, Port Stephens and a small part of Singleton Shire. This area is specified from time to time by the NSW Governor but has not changed since 2008.

Figure 1.1 Hunter Water area of operations



Source: Hunter Water.

When most people turn on the tap or use the bathroom, they do not think about the services that they are using or how they come about. Here at Hunter Water, we have about 300 operations and field staff working across the day and night, in all weather conditions, to make sure that we deliver our services to customers.

We provide services to our customers using large assets with a written down value of \$2.66 billion and a gross replacement cost of \$7.7 billion. Our prices are based on a regulatory asset base with a value of approximately \$2.9 billion. These assets are described in the following sections.

1.2.1 Water services

Our drinking water system consists of raw water extraction and storages, water treatment plants and water distribution network.

Raw water extraction and storages

Water is collected in the natural landscape by creeks, rivers and groundwater systems. Water is stored in dams and groundwater sandbeds (aquifers) before being diverted from natural drinking water catchments to water treatment plants (WTP) for treatment to drinking standards. An overview of our raw water assets is provided in Table 1.1.

Table 1.1 Raw water assets at a glance

Asset type	Size
Water storages	ML
Chichester Dam	18,356
Grahamstown Dam	182,305
Tomago sandbeds	60,000
Tomaree sandbeds	16,024
Borefields	ML per day
Tomago sandbeds	75
Lemon Tree Passage (eastern end of Tomago sandbeds)	5
Tomaree sandbeds	12
Bulk supply trunk mains and borefield supply mains	130 km
Raw water pump stations	ML per day
Balickera pump station	1,650
Campvale pump station	455
George Schroder pump station	340
Allyn and Paterson River supply	1
Tunnels and canals	No.
Balickera	1
Campvale	1

Source: Hunter Water.

Water treatment

We own six water treatment plants (WTPs) that treat water to a quality suitable to safely drink. We also own three pre-treatment assets. An overview of our raw water assets is provided in Table 1.2.

The location of the WTPs and interconnectivity within the water supply network allow for limited supply between areas. The combined maximum treatment design capacity is 372 ML per day. The maximum available capacity is lower than this design capacity when equipment, raw water quality and process reliability factors are taken into account. Peak flow to maintain supply was 330 ML per day in 2017-18.

Table 1.2 Drinking water treatment assets at a glance

Asset	Capacity (ML/day)	Primary supply area(s)	Secondary supply area(s)
Grahamstown WTP	257	Newcastle, Lake Macquarie, Raymond Terrace, Medowie & Tomaree	Port Stephens (Anna Bay, Nelson Bay), Cessnock, Maitland, Beresfield and Thornton.
Dungog WTP	85	Dungog, Cessnock, Maitland	Newcastle, Lake Macquarie
Anna Bay WTP	12	Anna Bay	Nelson Bay
Lemon Tree Passage WTP	12	Lemon Tree Passage/Tanilba Bay	None
Nelson Bay WTP	5	Nelson Bay	None
Gresford WTP	0.6	Gresford	None
Chichester Dam destratification (pre-treatment)	Not applicable	See Dungog WTP	See Dungog WTP
Chichester Dam chlorination (pre-treatment)	Not applicable	See Dungog WTP	See Dungog WTP
Grahamstown Dam powdered activated carbon dosing facility (pre-treatment)	Not applicable	See Grahamstown WTP	See Grahamstown WTP
Dungog powdered activated carbon dosing facility (pre-treatment) ¹	Not applicable	See Dungog WTP	See Dungog WTP

Note:

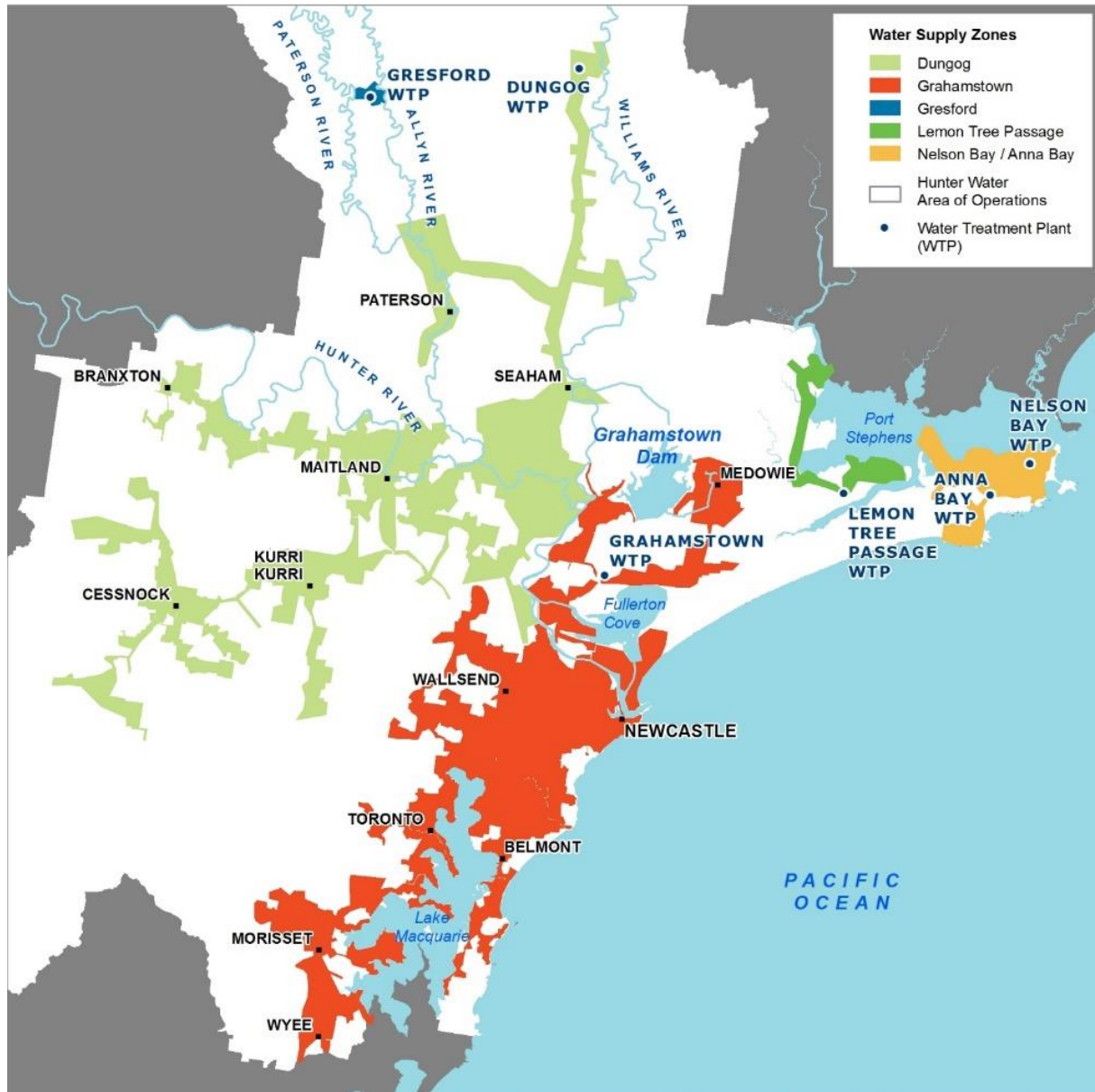
1. Temporary facility that is established when necessary.

Source: Hunter Water.

Water distribution network

The water distribution network incorporates all assets that transport flows from the WTPs to customers including water mains, pumping stations, reservoirs and tanks, chlorination units, valves and fittings, control devices and customer meters. Water supply systems are shown in Figure 1.2. Water network assets are listed in Table 1.3.

Figure 1.2 Hunter Water's drinking water supply systems



Source: Hunter Water.

Our water mains are classified as trunk, distribution, reticulation and service mains, generally by diminishing size. These water mains are constructed of varying materials and there are a broad range of classes, age, size and internal linings. Hunter Water does not own the service mains between the reticulation water main and the customer meter, however Hunter Water may maintain and repair the service mains for properties with a standard connection.¹ The customer meter is owned and maintained by Hunter Water.²

¹ Hunter Water Customer Contract, clauses 12.3 and 20.3.

² Hunter Water Customer Contract, clause 15.

Table 1.3 Water network assets at a glance

Assets	Quantity
Reticulation mains (< 200 mm diameter)	3,519 km
Trunk/distribution mains (≥ 200 mm diameter)	1,471 km
Pump stations	97
Reservoirs/tanks	77
Valves	29,812
Hydrants	50,715
Control devices (e.g. pressure reducing valves)	93
Monitoring devices (e.g. flow meters)	106
Chlorinators	6
Customer meters	217,153

Source: Hunter Water.

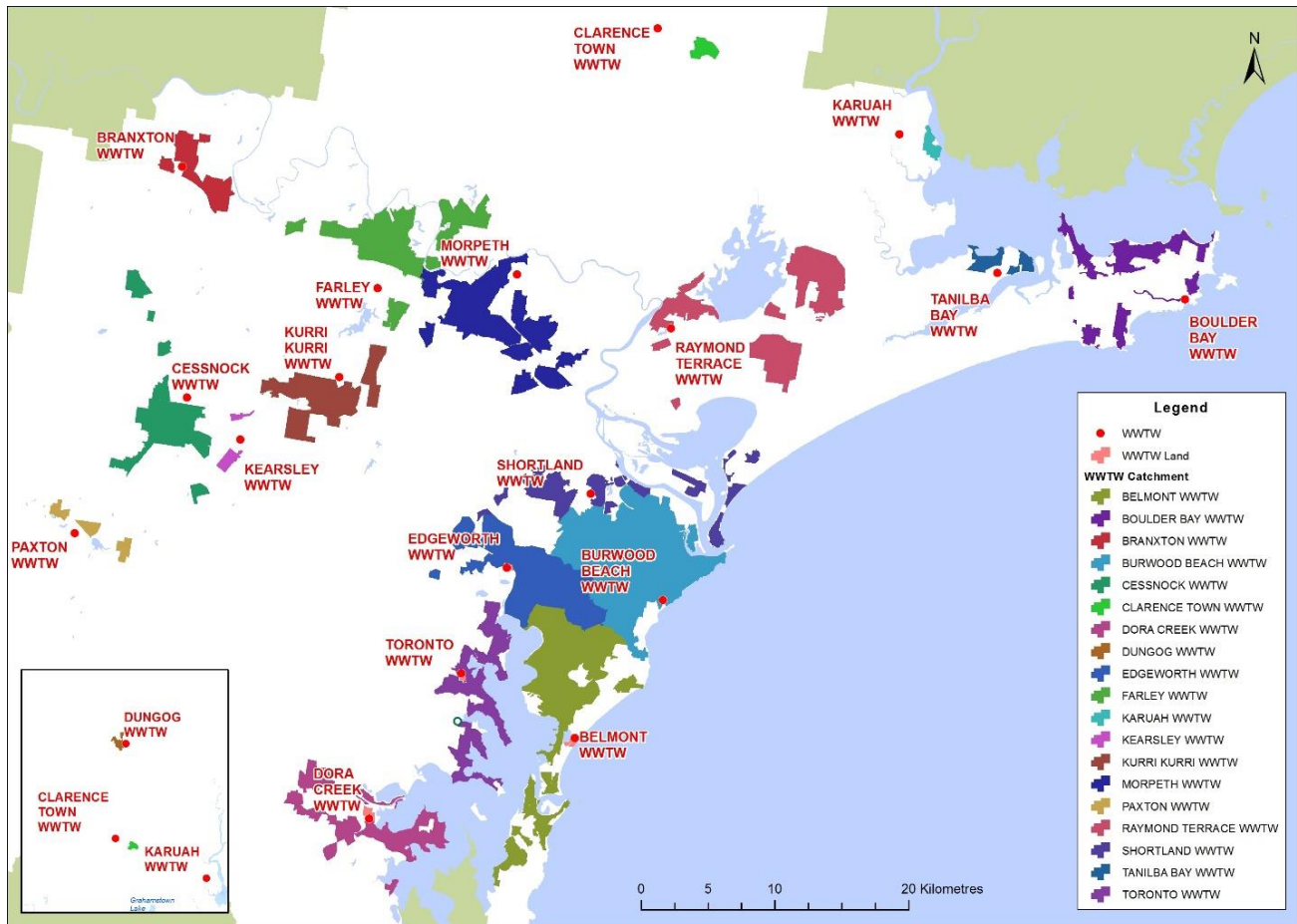
We also supply and receive some drinking water from outside of our area of operations. We supply a small volume of treated water to MidCoast Water in Karuah (5.2 ML in 2017-18) and can also supply and receive bulk treated water from the Central Coast. During 2017-18, we supplied 148 ML of water to the Central Coast and received 675 ML from Central Coast Council's water supply system. Central Coast Council maintain a quality assurance program for their water supply systems under the *NSW Public Health Regulation 2012*. We also provided small volumes of water to private network operators within the Hunter Water area of operations, including Cooranbong Water and Huntlee Water.

1.2.2 Wastewater services

The wastewater transportation network incorporates all assets which collect and transport wastewater flows from customer properties to treatment facilities. The network incorporates gravity sewer mains, pressure sewer mains, pumping stations and rising mains, ventilation systems, odour control facilities and control/monitoring systems.

Hunter Water owns 19 wastewater treatment plants (WWTPs) and associated treatment infrastructure including pumping stations, treatment plant odour control facilities, ocean outfalls, diffusers and effluent discharges (see Figure 1.3 and Table 1.4).

Figure 1.3 Hunter Water's wastewater systems



Source: Hunter Water.

Table 1.4 Wastewater treatment assets at a glance

WWTP	Description	Current (Equivalent Population)	Capacity (Equivalent Population)
Belmont	Activated sludge, modified Ludzack-Ettinger (MLE) process	85,792	93,000
Boulder Bay	Activated sludge, MLE process	43,750	58,000
Branxton	Membrane bio-reactor (MBR) process	6,126	8,500
Burwood Beach	High rate activated sludge plant	206,408	220,000
Cessnock	Trickling filtration process followed by dissolved air flotation (DAF)	31,631	32,000
Clarence Town	Oxidation pond based treatment process	886	1,200
Dora Creek	Activated sludge, MLE process	22,682	28,800
Dungog	Trickling filtration process followed by DAF	3,061 ¹	1,900
Edgeworth	Activated sludge, MLE process	63,053	70,000
Farley	Oxidation ditch with chemical removal	37,606	40,000
Karuah	Intermittently decanted extended aeration (IDEA) process	1,694	2,250
Kearsley	Oxidation pond based treatment process	895	2,050
Kurri Kurri	Enhanced biological phosphorus removal (EBPR) process	19,373	21,500
Morpeth	Activated sludge, MLE process	56,443 ²	55,000
Paxton	MLE with MBR process	1,693	3,200
Raymond Terrace	EBPR process	26,322	35,000
Shortland	Intermittently IDEA process	31,352 ³	30,000
Tanilba Bay	Intermittently IDEA process	7,827	10,000
Toronto	Intermittently IDEA process	35,534	42,000

Notes:

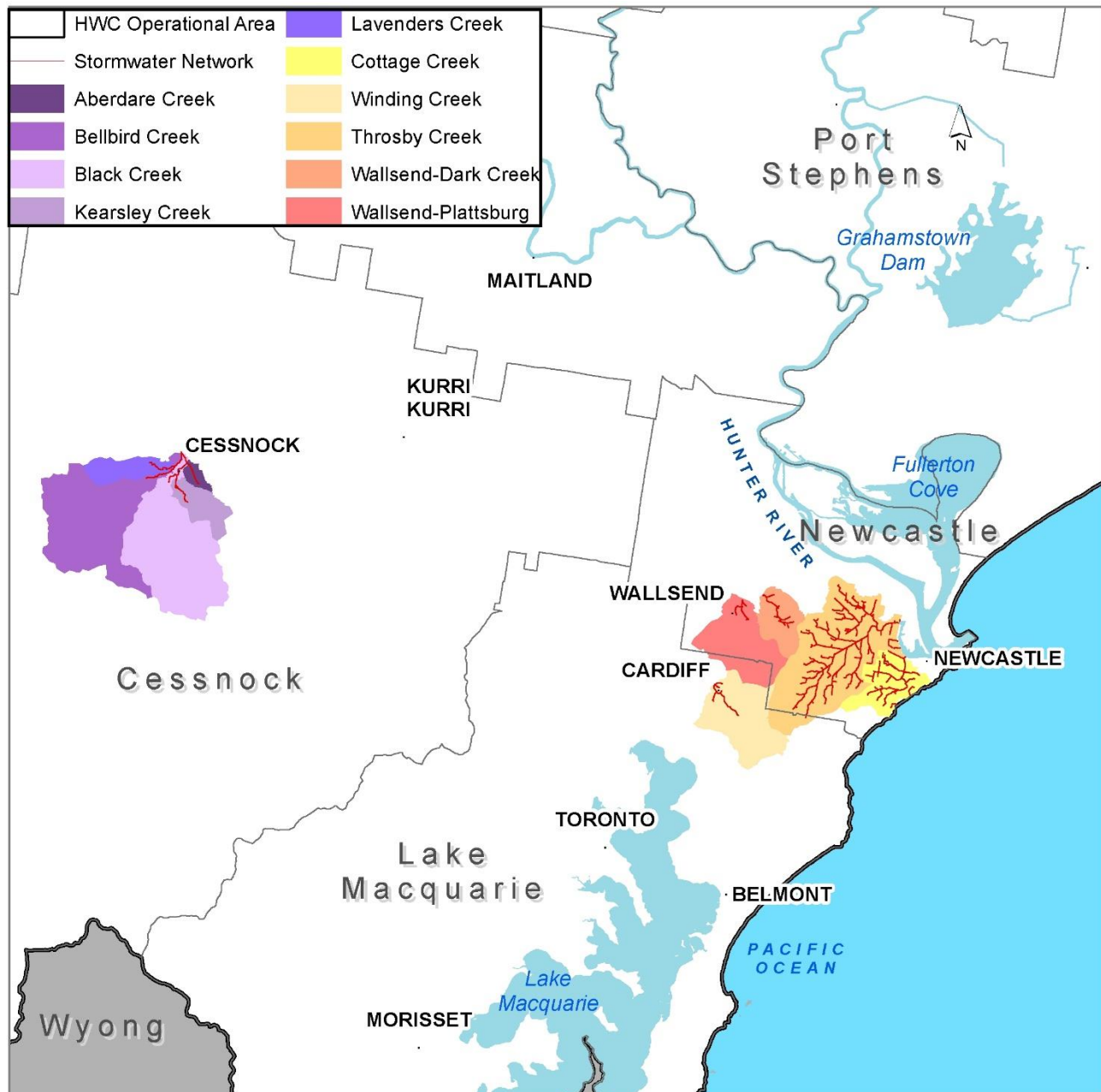
1. An upgrade of Dungog wastewater treatment plant is included in our capital expenditure proposal, to address the current overloading of the plant.
2. An upgrade of Morpeth wastewater treatment plant is included in our capital expenditure proposal. Without the upgrade, it is likely that discharges of treated effluent exceed EPL load limits within the next price period and the clarifier capacity may be exceeded by 2023, resulting in regulatory action by the EPA.
3. An upgrade of Shortland wastewater treatment plant is included in our capital expenditure proposal, to address the current overloading of the plant.

Source: Hunter Water.

1.2.3 Stormwater drainage services

Stormwater management in Hunter Water's area of operations is primarily the responsibility of local councils. Hunter Water, however, owns and operates major trunk channels in the Newcastle, Lake Macquarie and Cessnock local government areas (see Figure 1.4 and Table 1.5). The majority of the drainage network was constructed during the 1920s and 1930s. Hunter Water's role is to maintain the current capacity of the major pipelines, concrete channels and culverts in these areas. Our operating licence permits, but does not require, us to increase the capacity of our stormwater assets, manage stormwater quality and manage the impacts of stormwater on waterway health.

Figure 1.4 Stormwater service areas



Source: Hunter Water.

Table 1.5 Stormwater assets at a glance

System	Asset	Description	LGA(s)	Length (km)
Throsby Creek stormwater system	Throsby Creek	Open channels/underground pipes through West Newcastle	Newcastle Lake Macquarie	54.4
Cottage Creek stormwater system	Cottage Creek	Open channels/ underground pipes through East Newcastle	Newcastle	19.8
Cessnock stormwater channel system	Black Creek	Open channels through Cessnock township	Cessnock	10.3
Dark Creek system	Dark Creek	Open channels through Jesmond township	Newcastle	5.0
Winding Creek system	Winding Creek	Open channels through Cardiff township Winding Creek Detention Basins 3 and 5.	Lake Macquarie	4.0
Wallsend-Plattsburg stormwater channel	Ironbark Creek	Open channels through Wallsend township	Newcastle	2.7

Source: Hunter Water.

1.3 Management systems

Hunter Water maintains a quality management system (QMS) consisting of systematic processes to manage the core functions of the organisation. The QMS is implemented to ensure the organisation consistently meets all of its product and service requirements, addresses its risks and opportunities and provides high levels of customer satisfaction while meeting regulatory requirements.

We achieved initial certification to ISO 9001:2008 Quality Management Systems - Requirements in August 2015 and later transitioned to ISO 9001:2015 Quality Management Systems - Requirements in June 2017. We have continuously maintained our certification and completed our triennial re-certification in June 2018.

We have adopted an integrated approach to managing our management systems in the form of an integrated management system (IMS), as shown in Figure 1.5.

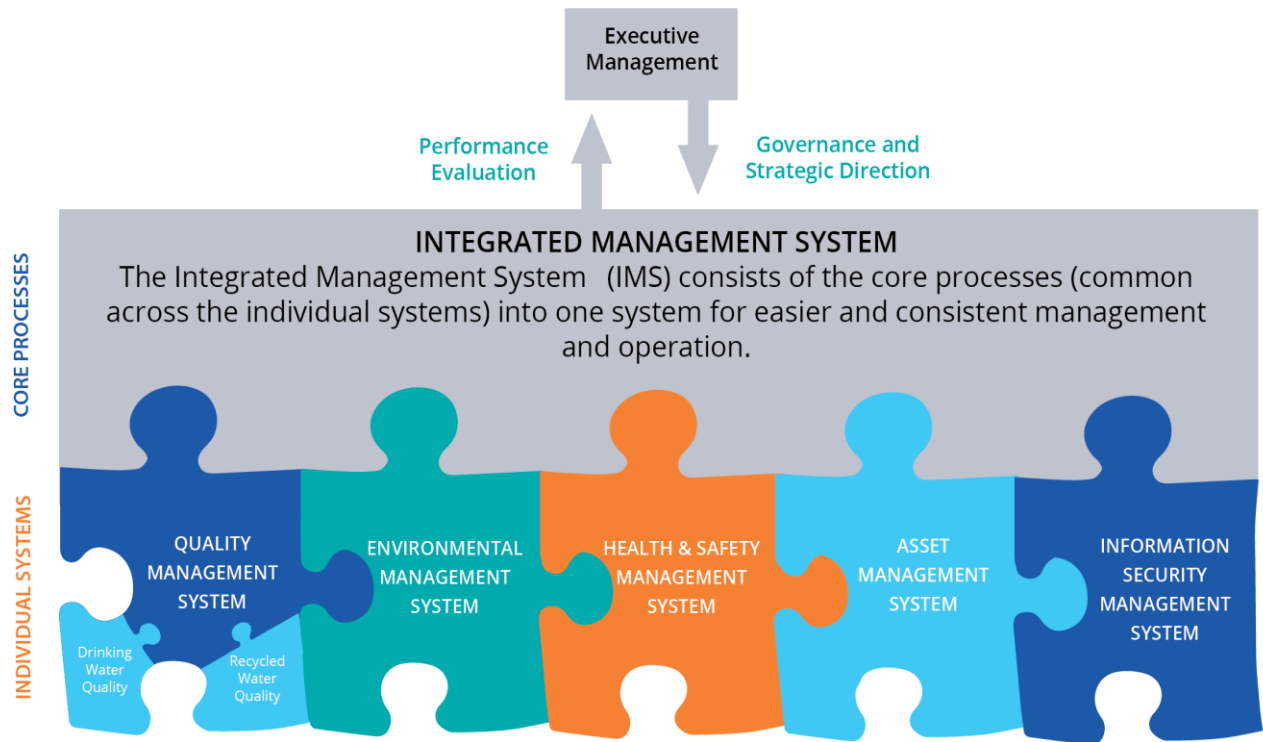
The IMS provides processes, principles and guidelines across common functions of the different management systems. Individual management systems provide the subject matter expertise and inputs to the integrated processes. Elements of the ISO 9001 quality requirements are managed via the integrated processes, systems and data in Hunter Water's IMS and others are managed directly via the QMS.

The objectives of our IMS and QMS are:

- Reliable, high quality water and wastewater service delivery
- Customer satisfaction
- Compliance
- Continuous improvement, and
- Meet stakeholder needs.

In the next price period, we are proposing to enhance our management systems by implementing an Integrated Incident Risk Management Application (IIRMA). The IIRMA will address the need to ensure ongoing compliance with regulatory reporting obligations, and improve the integration, integrity and accessibility of risk and compliance information. It is expected to improve auditability of managing compliance obligations and reduce the risk of inaccuracies due to the current manual nature of recording, assessing and tracking risks.

Figure 1.5 Integrated management system



Source: Hunter Water.

2. Legislative and regulatory framework in which we operate

Hunter Water is governed by the *State Owned Corporations Act 1989* (SOC Act) and *Hunter Water Act 1991* (Hunter Water Act).

As a state-owned corporation, we are wholly owned by the NSW Government. Our overarching objectives, as established in the SOC Act are:

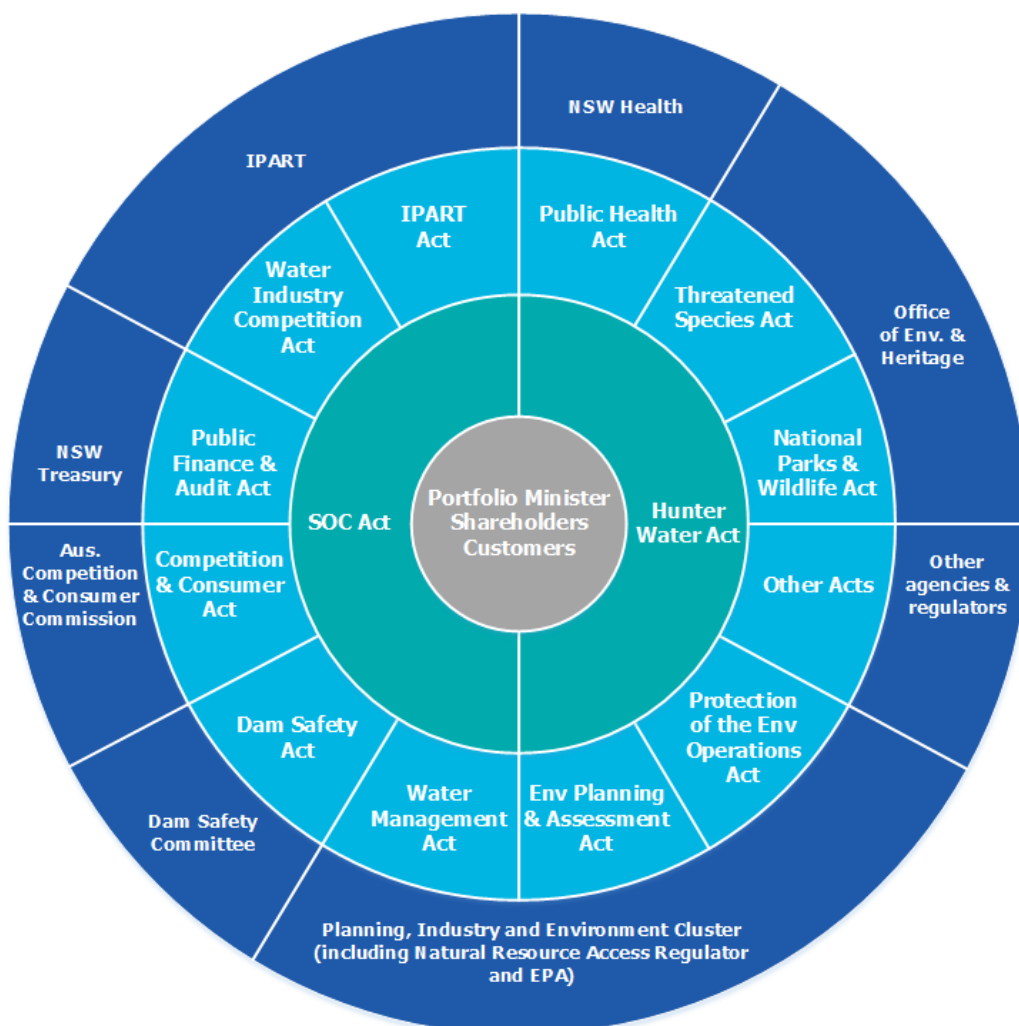
- To be a successful business, which includes doing our work efficiently
- Comply with the principles of ecologically sustainable development
- Exhibit a sense of social responsibility, and
- Exhibit a sense of responsibility towards regional development and decentralisation.

All of these objectives are of equal importance, as they are for all state-owned corporations.

The Hunter Water Act details the specific roles and responsibilities of Hunter Water, to meet the policy objective of ensuring the provision of essential water, wastewater and stormwater drainage services.

The NSW Government regulates Hunter Water's operations through a number of regulatory bodies and instruments. These are shown in Figure 2.1 and discussed in the following sections, which are organised by objective.

Figure 2.1 Our legislative and regulatory framework



Source: Hunter Water.

2.1 Operating licence

The operating licence, issued by the NSW government and administered by the Independent Pricing and Regulatory Tribunal (IPART), is Hunter Water's overarching regulatory instrument – an important single source of reference for most regulatory requirements. The purpose of the licence is to enable and require Hunter Water to provide water, wastewater and stormwater drainage services within its area of operations. The operating licence makes Hunter Water accountable to the NSW government for its performance, and supports the three primary policy objectives relating to the protection of public health, consumers, and the environment.³

The Hunter Water Act describes terms and conditions that must be included in the licence:⁴

- Provision of services in an efficient, co-ordinated and commercially viable manner
- Compliance with quality and performance standards, and
- Interactions with customers and consumers, such as customer service and consultation.

IPART conducts an annual independent audit to assess Hunter Water's compliance with the operating licence. Results of audits are published on IPART's website.

The operating licence covering the current price period came into effect on 1 July 2017. Hunter Water has planned its capital and operating expenditure programs to meet known operating licence requirements and mandated standards for the 2020 determination period.

The NSW Government will reset the operating licence in July 2022, following an end of term review by IPART. A new operating licence will apply to part of the next price period – from 1 July 2022 onwards.

2.2 Pricing

2.2.1 Setting prices for our services

The IPART is responsible for setting the maximum prices for government monopoly services supplied by Hunter Water. This role is enabled through:

- Sections 11 and 12 of the *Independent Pricing and Regulatory Tribunal Act 1992* (IPART Act) and the listing of Hunter Water in Schedule 1 of the IPART Act as a government agency for which the Tribunal has a standing reference.
- Division 6 of Part 5 of the Hunter Water Act, which governs the nature of fees and charges that may be imposed by Hunter Water, and clause 1.8 of Hunter Water's 2017-22 Operating Licence:

Subject to the terms of the Licence, the Act and the IPART Act, Hunter Water must set the level of fees, charges and other amounts payable for its Services in accordance with any applicable determination or determinations under the IPART Act.

The services for which IPART sets prices are set out in the *Independent Pricing and Regulatory Tribunal (Water Services and Drainage Services) Order 1997*.

³ IPART, 2017, Review of Hunter Water Operating Licence, Final Report, p.1.

⁴ Hunter Water Act 1991, Section 13.

Table 2.1 Description of IPART price regulation approach for each Hunter Water service

Detail	How IPART regulates prices	In this submission?
Water supply services		
Drinking water supply	2016 Retail price determination applying from 1 July 2016 to 30 June 2020	✓
Unfiltered water supply	2016 Retail price determination	✓
Wholesale water supply (on-selling) without a recycled water plant	2017 Wholesale price determination applying from 1 Jan 2018 to 30 June 2021	✗
Wholesale water supply (on-selling) with a recycled water plant	Scheme-specific price review	✗
Mandatory recycled water schemes	IPART, <i>Review of recycled water prices for public water utilities - Final Report, June 2019</i> sets out the form of regulation. Prices are set as part of a public water utility's broader retail price review or under recycled water scheme-specific price determinations. Plus 2006 Recycled Water Developer Charges Determination.	✓
Voluntary recycled water schemes	As per mandatory recycled water schemes	✗
Stormwater harvesting (Hunter Water currently has no schemes)	As per mandatory recycled water schemes	✗
Sewerage services		
Sewerage services	2016 Retail price determination applying from 1 July 2016 to 30 June 2020	✓
Backlog sewerage schemes	Methodology set in " <i>Maximum prices to connect, extend or upgrade a service for metropolitan water agencies</i> " (2018)	✗
	Grandfathering of arrangements for pre-2018 schemes (e.g. Wyee)	✓
Wholesale sewerage services (on-selling) without a recycled water plant	2017 Wholesale price determination applying from 1 Jan 2018 to 30 June 2021	✗
Wholesale sewerage services (on-selling) with a recycled water plant	Scheme-specific price review	✗
Sewer mining	Not applicable	✗

Detail	How IPART regulates prices	In this submission?
Stormwater drainage services		
	2016 Retail price determination applying from 1 July 2016 to 30 June 2020	✓
Trade waste services		
	2016 Retail price determination applying from 1 July 2016 to 30 June 2020	✓
Services supplied in connection with the provision or upgrading of water supply and sewerage facilities for new developments		
	Methodology set in "Maximum prices to connect, extend or upgrade a service for metropolitan water agencies"	✗
Ancillary and miscellaneous customer services		
IPART sets a range of charges for miscellaneous services that are not used by all customers. These services are generally paid up front and cover a wide range of services such as initial connection to the water or sewer system, disconnection from the system, standpipe hire, meter testing and special meter reads. These charges are only incurred by customers who require these miscellaneous services from time to time. The charges do not affect the majority of customers.	2016 Retail price determination applying from 1 July 2016 to 30 June 2020	✓

Source: Hunter Water.

2.2.2 Implementation of the current determination

We have implemented IPART's 2016 Price Determination for retail water, wastewater, stormwater and associated services since it came into effect on 1 July 2016. Each year we update prices for inflation, following release of the March quarter Consumer Price Index by the Australian Bureau of Statistics. We then provide the annual price update to IPART in a price schedule for price monitoring purposes before applying them from 1 July.

It is unlawful to charge *more* than the price determined by IPART for a service, or a price calculated in accordance with a methodology determined by IPART (if applicable). We may only charge *less* than the IPART-determined price with the approval of the NSW Treasurer, in accordance with section 18(2) of the IPART Act. The only exception is prices for water or wastewater services for large non-residential customers with an annual water usage greater than 7.3 ML, which may differ from prices determined by IPART if agreed in writing by Hunter Water and the customer.

The Treasurer's approval has been granted to charge less than the IPART-determined price in two instances:

1. In 2014-15 Hunter Water received the Treasurer's approval to set recycled water developer charges for dual reticulation in Gillieston Heights and Chisholm growth areas in real terms at 2012-13 levels, to be adjusted for inflation annually. This approval allows us to charge newly connecting properties less than the charge that would apply using the methodology set in IPART's 2006 Recycled Water Developer Charges Determination.
2. In 2014-15, prior to the sale of the Kooragang Industrial Water Scheme (KIWS), Hunter Water obtained the Treasurer's approval to waive the sewer service and usage charges applicable to the land on which the KIWS advanced water treatment plant is constructed. This approval was sought for competitive neutrality reasons. These charges have been waived for the term of the existing contract for the supply of recycled water (2029).

There have been three instances where we have self-reported non-compliance with IPART's 2016 Price Determination. Two of the three non-compliances were subsequently confirmed through IPART's 2017-18 Operational Audit:

- The Environmental Improvement Charge, used to fund backlog sewerage schemes, was incorrectly applied to vacant land from 1 July 2013. This error affected 17,760 properties and resulted in overcharging by \$1.4 million. We have taken corrective action by issuing refunds to affected property owners who still own the properties, and are making concerted efforts to contact property owners who have sold the affected properties.
- We incorrectly applied charges for the receipt of tankered high strength liquid waste. This error only affected one customer and resulted in a small undercharge of less than \$30. We are taking action to prevent reoccurrences of this error by replacing paper tanker delivery dockets with a digital capture arrangement, implementing automated billing for tankered waste and extending bill validation processes to include tankered trade waste.

The third non-compliance was reported to IPART in April 2019, and IPART has confirmed that it will be included in the scope of its 2018-19 Operational Audit:

- Stormwater charges have been applied to properties that are not located in areas of our network where the charge should have been applied, and we have been applying the charge incorrectly to properties that were liable. This error affected 2,767 properties over a 12 year period – approximately \$595,000 has been overcharged on 524 customer properties and approximately \$2,093,000 has been overcharged on 2,243 customer properties.
- We have taken corrective action by issuing refunds or account credits to overcharged customers. The billing system has been corrected so that the appropriate charges will be applied to all properties as of our next bill cycle beginning on 1 July 2019.

2.3 Public health and safety

2.3.1 Water quality

NSW Department of Health (NSW Health) has a role in providing advice to the NSW Government on standards in relation to drinking water and recycled water quality and to ensure Hunter Water supplies water that is safe to use for appropriate purposes having regard to public health. We are bound by legislation, such as the *Public Health Act 2010* and the *Public Health Regulation 2012*. In addition, our 2017-2022 Operating Licence require us to maintain and implement water quality management systems in accordance with the Australian Drinking Water Guidelines 2011 and Australian Guidelines for Water Recycling 2006.

Hunter Water is exempt from the drinking water quality assurance program requirements of the *Public Health Act 2010* and the *Public Health Regulation 2012* on the basis that the operating licence requirements appropriately manage the delivery of safe drinking water, subject to various conditions including satisfactory annual operational audit findings.

We work closely with NSW Health through a Memorandum of Understanding (MoU) to ensure that all current and emerging issues associated with drinking water quality are identified, assessed and appropriately managed. The MoU also includes arrangements for Hunter Water to report to NSW Health information on any events in relation to Hunter Water's systems or services which may pose a risk to public health.

2.3.2 Dam safety

Hunter Water operates and manages dams in accordance with the *Dams Safety Act 1978*. This Act exists to protect the safety, welfare and interests of the community from dam failure by ensuring the risks from prescribed dams are tolerable and the security of dams and their stored waters are protected.

We own four prescribed dams:

- Chichester Dam and Grahamstown Dam in the drinking water supply system, and
- Winding Creek Detention Basin 3 and Winding Creek Detention Basin 5 in the stormwater drainage system.

Guidelines relevant to the design, operation and management of dams are produced by the NSW Dams Safety Committee and the Australian National Committee on Large Dams. The NSW Dams Safety Committee requires that Safety Reviews of dams are undertaken periodically, at 10 to 20 year intervals, or whenever the safety of a dam is in question.

2.4 Environmental protection

2.4.1 Licensed activities

The main legislation that aims to minimise harm to the environment from Hunter Water's operations is the *Protection of the Environment Operations Act 1997* (POEO Act). The POEO Act is enabled via the *POEO (General) Regulation 2009* and administered by the NSW Environment Protection Authority (EPA).

Certain Hunter Water activities are listed in the POEO Act as being of a kind that may only be conducted with an environment protection licence (EPL). Each EPL contains conditions related to pollution prevention and monitoring.

We hold 16 EPLs covering all of our wastewater treatment works, their respective wastewater transportation networks, Dungog Water Treatment Plant, and Balickera Canal.

EPLs for Hunter Water's wastewater system typically include performance requirements for effluent discharge including effluent concentration limits, annual pollutant loads, and volume limits. Some of our licences include conditions that require us to develop and implement pollution reduction programs, to reduce the environmental impact of our licensed activities over time. Hunter Water must also lodge an Annual Return for each EPL that summarises performance and compliance with conditions.

2.4.2 Access to water sources

Hunter Water extracts water from the Williams, Paterson and Allyn Rivers as well as groundwater sources under a water licence and approval package. The package contains the water access licence condition statements and combined water supply work and water use approvals issued under the *Water Management Act 2000*.

Water access licences (WALs) specify the volumetric entitlement of the holder of the WAL (the Licence Holder) in a particular water source in accordance with the provisions of the relevant water sharing plan (WSP).⁵ The access licence condition statements give effect to the relevant provisions of the WSP (e.g. rules of accounting).

Each of the dams, weirs, canals, pumping stations and bores that are associated with the collection of raw water from surface and groundwater water sources are referred to as water supply works. The conditions of the combined approvals give effect to the provisions in the WSP that relate to the operation of the water supply works and the use of the water by the holder of the approval (the Approval Holder). They also specify monitoring and reporting requirements and contingency actions to assess and mitigate potential impacts of the holder's water extraction and associated activities on the health of the water source.

In our case, the water licence and approval package contains rules for: the operation of Seaham Weir and the pumps that extract water from the weir pool; release requirements for Chichester Dam; and access conditions to ensure the sustainable use of groundwater from the Tomago and Tomaree aquifers. There are also detailed monitoring and reporting requirements for each of the groundwater sources and surface water storages. The combined approvals specify requirements for scientific investigations into the sustainable use of Hunter Water's groundwater and surface water entitlements.

In accordance with the combined approvals, Hunter Water must provide an annual compliance report detailing compliance within the previous financial year to the newly established regulator, the Natural Resources Access Regulator, an independent body set up under the *Natural Resources Access Regulator Act 2017*.

2.4.3 New infrastructure

In NSW all planning and development must be carried out in accordance with the *Environmental Planning & Assessment Act 1979* (EP&A Act) and associated *Environmental Planning & Assessment Regulation 2000*. These instruments require environmental impact assessments when we construct new utility services or upgrades to existing assets. As Hunter Water is a public authority, self-determination (approval) rights, in accordance with the Infrastructure State Environmental Planning Policy, apply in most cases. Some of our projects are considered State Significant Infrastructure. These are determined (approved) by the Minister for Planning and Public Spaces, on the advice of the Department of Planning, Industry and Environment, due to the potential for significant environmental impacts. Regardless of the approval pathway, the planning approval may contain consent conditions that apply on a once-off, periodic or ongoing basis.

When operating our infrastructure we are also required to comply with any consent conditions or planning approval commitments under the EP&A Act.

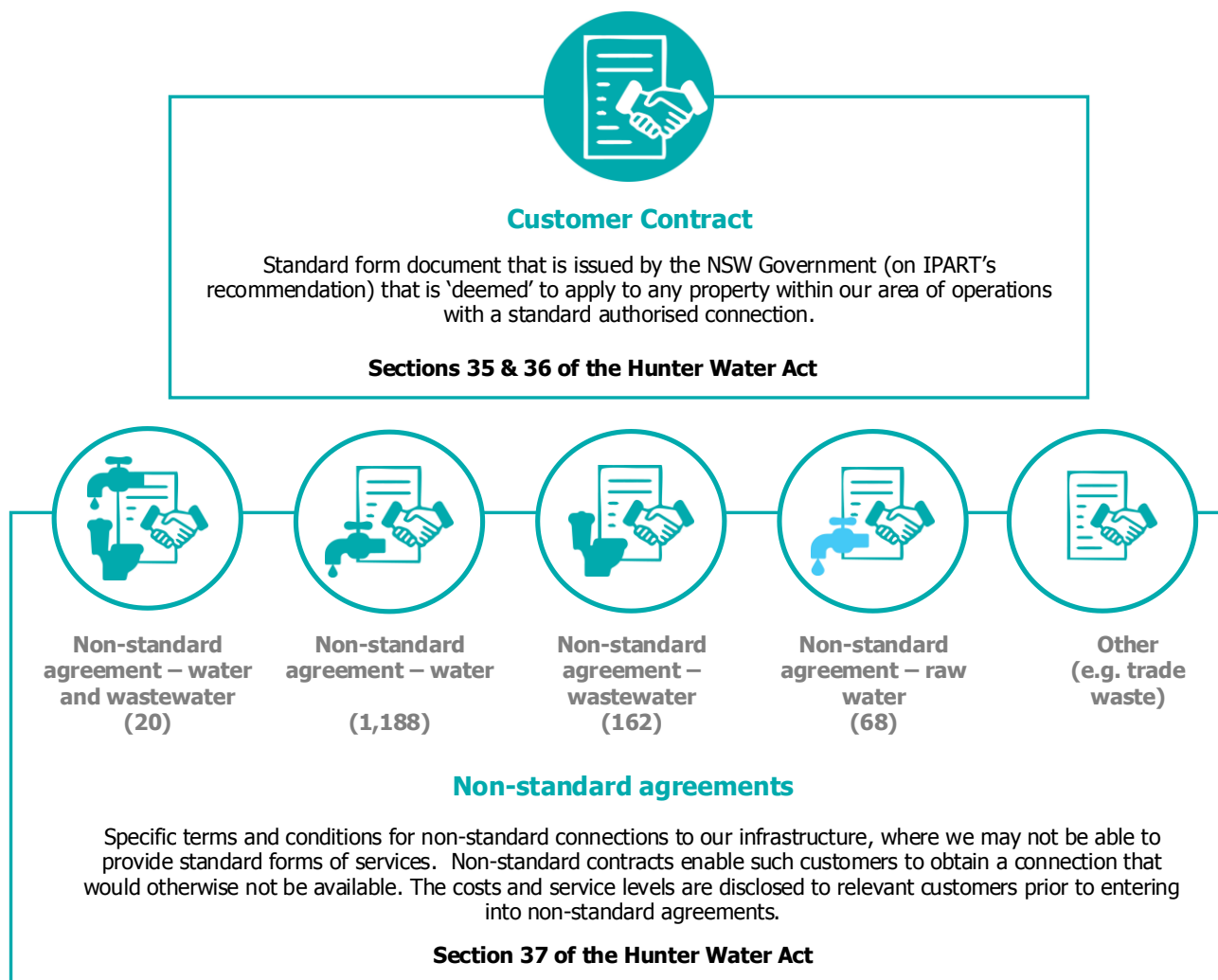
⁵ The relevant water sharing plans for Hunter Water are the: Water Sharing Plan for the Tomago Tomaree Stockton Groundwater Sources 2004, Water Sharing Plan for the Paterson Regulated River Water Source 2007, Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009. These are enshrined in NSW government legislation.

2.5 Customer and consumer protection

Australian Consumer Law is the term used to describe consumer protections contained in Schedule 2 of the *Competition and Consumer Act 2010 (Commonwealth)*, which apply across most sectors of the economy. In addition to these national requirements, additional protections are afforded by customer contracts that describe our customers' rights and obligations as a user of Hunter Water's services and sets out the minimum standards of customer service that we are required to deliver. Hunter Water has two main types of customer contract, as shown in Figure 2.2.

Some of the protections afforded to customers are also extended to consumers, including residential tenants. These protections include complaints handling processes and assistance for residential customers and consumers experiencing financial hardship to better manage their current bills.

Figure 2.2 Types of customer contracts



3. Abbreviations

Acronym	Term
DAF	Dissolved air flotation
EBPR	Enhanced biological phosphorus removal process
EPA	NSW Environment Protection Authority
EP&A Act	<i>Environmental Planning & Assessment Act 1979</i>
EPL	Environment Protection Licence
IDEA	Intermittently decanted extended aeration process
IIRMA	Integrated incident risk management application
IMS	Integrated management system
IPART	Independent Pricing and Regulatory Tribunal NSW
KIWS	Kooragang Industrial Water Scheme
LGA	Local government area
MBR	Membrane bio-reactor process
ML	Megalitre (i.e. 1,000,000 litres)
MLE	Modified ludzack ettinger process
QMS	Quality management system
WAL	Water access licence
WSP	Water sharing plan
WTP	Water treatment plant
WWTP	Wastewater treatment plant

4. References

IPART (Independent Pricing and Regulatory Tribunal (NSW), 2019, **Review of recycled water prices for public water utilities**, Final Report – Water (June 2019), Sydney.

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