

Connection Code for Water Supply and Sewerage Services Version 1.2

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Foreword

Power and Water Corporation (Power and Water) has been issued licences to provide water supply and sewerage services in Major and Minor urban centres throughout the Northern Territory. Power and Water's licences are available on the [Utilities Commission](#) website or on the link below:

<https://utilicom.nt.gov.au/water-and-sewerage/licensing/register-of-water-and-sewerage-licences-and-exemptions>

Power and Water has published a [Customer Contract](#) and [Customer Charter](#) that defines the rights and obligations of both Power and Water and its customers and the levels of service provided, including those for water supply and sewerage services.

Section 52 of the [Water Supply and Sewerage Services Act, 2000](#) (the Act) that governs essential services for water utilities in Australia requires license holders to publish a code for connections, upgrade of connections and acceptance of increased loads named the Connection Code. The Connection Code applies to any activity that may impact on Power and Water's water and sewerage infrastructure or services and includes:

- A proponent's rights and obligations relating to *Development Activity*;
- Power and Water's rights and obligations relating to *Development Activity*; and
- Power and Water's approved technical, procedural and charging requirements.

The Act does not apply to remote indigenous communities and outstations.

Power and Water has also published a [Trade Waste](#) and [Metering Code](#). In conjunction with the Connection Code, Customer Contract and Customer Charter, these publications provide customers, developers, designers, engineers, contractors and suppliers with the necessary guidance to enable Power and Water to deliver safe, sustainable and quality water supply and sewerage services.

All proponents undertaking any *Development Activity* that may impact on Power and Water's infrastructure or service must comply with the Connection Code. Significant penalties apply for non-compliance under the Act.

Rev	Date	General Description	Prepared	Reviewed	Endorsed
1	13/01/22	Draft Connection Code for Water Supply and Sewerage Services	J Ciarla	D Chin	N Islam
1.1	24/08/22	Public consultation comments reviewed	J Ciarla	D Chin	N Islam
1.2	29/08/22	Final Connection Code for Water Supply and Sewerage Services	J Ciarla	D Chin	N Islam
Final			Steven Porter EGM – Water Services Power and Water Corporation		

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1 Definitions

Term	Definition
Connection Code	A published code for new connections, upgrade of connections and increased loads on Power and Water’s water and sewerage infrastructure as described in Section 52 of the Act.
Connection	Physical connection from a lot, property, building or area to Power and Water’s water supply and sewerage infrastructure.
Development Activity	<p>Works either proposed or actualised that impact on the existing or future infrastructure or services of Power and Water. These include but not limited to:</p> <ul style="list-style-type: none"> - Subdivision works (consolidation or creation of new lots); - Building development works (new buildings or extensions to existing); - Changes in land use; - Rezoning of land; - New connections or upgrade of connections; - New or amended plumbing fixtures; - Increased or decreased hydraulic loads for premises; - Works and structures located in public road reserves including elevated encroachments (awnings), subsurface encroachments (underground carparks); - Surface or pavements works, landscaping and planting; - Works and structures located in or adjacent to Power and Water easements including elevated encroachments (awnings), subsurface encroachments (underground carparks) surface or pavements works including landscaping and planting; - Works and structures located within 1.5m of a property sewerage connection; - Any ground drilling works; - Road construction, ground compaction or filling, land clearing; - Erection of signage; and - Works to other utility services such as Internet, Gas and Electricity.
Gifted	Assets to be provided free of cost to Power and Water for ongoing ownership, operation, maintenance and renewal.
Infrastructure	Assets under ownership of Power and Water.
Load	Water – The water demand profile drawn from Power and Water’s infrastructure.

	Sewer – The sewage flow profile discharging to Power and Water’s infrastructure.
Non-potable Water	Water that is not intended for drinking water, but may be used for other purposes dependent on water quality.
Potable Water	Water that is intended for use as drinking water that meets Australian Drinking Water Guidelines.
Proponent	Person or an entity who owns land, or is authorized by the landowner, and is proposing a Development Activity that may impact on Power and Water’s infrastructure.
The Act	The Water Supply and Sewerage Services Act, 2000.
Wastewater	Water that has been used. Includes greywater (from bath, showers and washing machines) and blackwater (from toilets).

2 Introduction

2.1 Background

Power and Water provides water and sewerage services to 19 urban and 72 remote centres across the Northern Territory. This code only applies to the 19 urban centres covered under the Act. As water supply and sewerage services loads and demands increase, and the geographical extent of these services increase, augmentation of the water and sewerage infrastructure is required. The processes, standards, costs, funding and responsibility associated with the construction of this infrastructure needs to be clearly defined. To support Power and Water's ability to provide reliable and sustainable services, and to comply with legislative requirements, Power and Water has developed this Connection Code.

2.2 Purpose

The Connection Code sets out the technical, procedural and charging requirements of Power and Water in relation to *Development Activity*. It is intended that this Connection Code will encourage well planned, well designed and cost effective connections, augmentations and extension of Power and Water's infrastructure.

2.3 Legal basis

Section 52(1) of the Act that governs water supply and sewerage services in the Northern Territory requires Power and Water to publish this Connection Code for connections, upgrade of connections and acceptance of increased loads.

A person undertaking any *Development Activity* (regardless of whether the activity requires a development application or not) that may impact on Power and Water's infrastructure or services must comply with the Connection Code irrespective of the administration process. Section 52(5) of the Act states:

“A person undertaking any activity that may impact on the infrastructure or services of a licensee must comply with the licensee's code for connections, upgrade of connections and acceptance of increased loads”

The Act declares various maximum penalties for breaches of the Act.

2.4 Scope

The Connection Code includes:

- The rights of any person or entity seeking new connections, upgrade of connections and increased loads to Power and Water's infrastructure;

- Description of the types of *Development Activity* requiring an initial assessment;
- Technical requirements, such as specifications for the design and construction of assets;
- Procedural requirements, such as process for the approval of works, transfer of gifted assets, and ensuring future access to those assets using easements; and
- Charging requirements, to ensure that the impact of *Development Activity* does not impose additional costs on existing customers and/or Power and Water.

The Act does not apply to remote indigenous communities and outstations that are outside of the declared license areas.

2.5 Objectives

The objective of the Connection Code is to facilitate assessment and approval of new connections, upgrades of connections, increased loads and other *Development Activity* that has an impact on Power and Water's infrastructure or services.

Power and Water's technical, procedural and charging documents have been developed taking into account the following objectives:

- Optimise the strategic use of Power and Water's infrastructure;
- Not hinder or compromise Power and Water's customer service levels;
- Not hinder or compromise Power and Water's operational and maintenance requirements;
- Gifted assets designed and constructed to Power and Water's standards;
- Minimise environmental impacts from *Development Activity*;
- Minimise risks to the proponent's *Development Activity*; and
- *Development Activity* not to compromise Power and Water's existing or future infrastructure plans.

3 Intent and general principles

3.1 Intent

Power and Water is committed to making a difference to the lives of Territorians, by being a proud, trusted, modern multi-utility delivering value now and into the future.

Application of the Connection Code aids in achieving Power and Water's intent. However, the Connection Code only applies to declared water supply and sewerage service licence areas. These areas are defined as major and minor urban centres and are restricted to a single licence holder only for each type of service. Power and Water's licences are available from the [Utilities Commission](#). Any development activities in these areas must comply with the Connection Code.

It is the proponent's responsibility to apply adequate quality assurance processes to produce required outcomes in accordance with the Connection Code.

In some cases, a proponent may request a variation from Power and Water's standard requirements. Such variations will only be considered where the proponent can demonstrate that it achieves equivalent or improved outcomes for Power and Water.

Power and Water may amend any existing technical, procedural and charging documents at any time. Where appropriate, stakeholders will be consulted during any such review or development.

3.2 General principles

In order to deliver compliant *Development Activity*, the following principles apply:

- Power and Water shall apply its technical, procedural and charging requirements in a fair, equitable and consistent manner;
- Power and Water may request that water and sewer property connections are upgraded to meet current standards whenever land titles are changed under the [Unit Titles Act](#), or when a change in hydraulic load is proposed;
- Power and Water may apply conditions that are specific to a particular project that may not be included in technical, procedural or charging documents. Power and Water shall endeavour to advise the proponent of such as early as possible; and
- Power and Water's technical, procedural and charging requirements shall be developed to ensure that *Development Activity* does not impact on existing customers, either financially or in respect to level of service.

4 Rights and obligations

4.1 Proponent's rights and obligations

A proponent has the right to apply for a new water or sewer connection, upgrade an existing connection, or an acceptance of increased load on its infrastructure.

A proponent shall obtain an assessment and necessary approvals prior to commencing any *Development Activity*.

A proponent shall comply with all technical, procedural and charging documents and any conditions issued.

A proponent shall engage a Power and Water accredited contactors and consultants to undertake design, construction, supervision and certification functions as part of the *Development Activity*.

Any person or entity acting on behalf of a proponent shall, when requested, provide written authorisation prior to any assessment or approval relating to the *Development Activity*.

4.2 Power and Water's rights and obligations

Upon receipt of a development application, Power and Water shall provide:

- Preliminary advice;
- Approval letter (with or without conditions); or
- Letter of rejection.

Power and Water is not obligated to provide a new water or sewer connection, upgrade an existing connection, or accept an increased load on its infrastructure if it is not commercially feasible to do so.

Power and Water may, if it becomes aware of *Development Activity* of which no assessment has been obtained, serve a written notice requesting that the Connection Code (or any other Code, standard or legislation) is complied with in a specified period of time.

4.3 Disputes

Any disputes between a proponent and Power and Water regarding the application of the Connection Code can be lodged online using Power and Water's [complaints and resolutions](#) webpage.

Where issues cannot be resolved internally, the matter may be referred by either party to the [NT Ombudsman](#) for arbitration.

5 Technical requirements

Power and Water has developed and approved the following technical documents that apply to *Development Activity* with which a proponent must comply. Documents can also accessed via the link below:

[Standards and guidelines | Power and Water Corporation \(powerwater.com.au\)](#)

5.1 Technical documents

1. [Water Services Association of Australia \(WSAA\) Codes and NT Supplements to WSAA](#)

Power and Water requires developers, contractors and other providers to use the WSAA codes and NT supplements to the WSAA codes for planning, design and construction. These codes set the requirements for water supply and sewerage works.

2. [Queensland Planning Guidelines for Water Supply and Sewerage and NT Supplements to QPG](#)

Power and Water requires developers, contractors and other providers to use the Queensland Planning Guidelines and NT supplements to the Queensland Planning Guidelines for planning and headworks design.

These guidelines set the requirements for planning and headwork's design.

3. [Power and Water Backflow Prevention Manual](#)

Power and Water requires customers, for the purpose of protecting the potable water supply from contamination, to install and maintain a backflow prevention device on all properties except those with a connection of DN25 or less and assessed by a backflow accredited plumber as having a cross connection hazard rating of Low.

This manual sets out a proponent's rights and obligations regards backflow prevention according to Power and Water, The National Plumbing Code and [AS/NZS 3500.1](#) Plumbing and Drainage Part 1- Water Services.

4. [Power and Water - Water and Sewage Infrastructure Products Manual](#)

A list of strategic products approved for use in infrastructure to be gifted to Power and Water.

5. [Power and Water Standard Drawings](#)

A series of design drawings approved for use in infrastructure to be gifted to Power and Water.

6. Power and Water Trade Waste Code

Power and Water, at its sole discretion, may approve the discharge of trade waste into its infrastructure providing certain conditions can be satisfied.

Section 83(1) of the Act requires licence holders to publish a Trade Waste Code setting out the conditions on which they will approve trade waste being discharged into their sewerage services infrastructure.

The Trade Waste Code sets out a proponent's rights and obligations regarding trade waste.

7. Power and Water - Water Metering Code

Power and Water is required, for the purpose of measuring the amount of water supplied to a customer, to install a meter on the land to which the water supply is made available or in any other location.

Section 72(1) of the Act requires license holders to publish a Water Metering Code setting out the arrangements and conditions for installing, testing, verifying and replacing meters owned by the licence holder. This code shall also contain conditions on which a portable meter will be issued and the conditions relating to its use.

The Water Metering Code sets out the rights and responsibilities of a proponent and Power and Water in relation to metering of potable water, recycled wastewater and non-potable water.

8. Easements and Allowable Planting

Webpages defining a Power and Water easement, customer responsibilities for providing access and maintenance of the easement, and allowable planting on the easement.

5.2 Related documents

A number of related documents that provide further guidance on *Development Activity* but may not necessarily require compliance can also be found under related documents.

1. Power and Water Connection of Pumped Water Systems

A guide that defines the method and arrangement of customer connections to Power and Water mains where the connected water service includes a pumping system.

2. Power and Water Wellhead Protection Zone Management Standard

Power and Water's management standard defining the approach to the determination and implementation of Wellhead Protection Zones (WPZ's).

A Wellhead Protection Zone (WPZ) is an area around a groundwater production bore or recharge area where *Development Activity*, with the potential to negatively impact water quality or yield, is required to be actively managed, or in some cases excluded, to prevent undesirable impacts to groundwater. This document sets out a number of design considerations for proponents.

3. CCTV Inspection of Sewers and Maintenance Structures

A guide that outlines the requirements for CCTV inspections of sewers and maintenance structures.

6 Procedural requirements

Power and Water has developed and approved the following procedural documents that apply to *Development Activity* and with which a proponent must comply.

6.1 Procedural documents

1. [Power and Water General Development Process](#)

The development process a proponent can follow. The steps include:

- Engagement;
- Assessment;
- Planning and Design;
- Approval;
- Construction – including [Water/Sewer](#) cover sheet templates;
- Certification;
- Handover and clearance; and
- Defects and liability period.

The process is outlined in Attachment A - Building development process for water and sewer and Attachment B - Land development process for water and sewer and includes the applicants and Power and Water's requirements for each of the steps.

2. [Power and Water Drawing Format](#)

Power and Water's drawing formats for "approved to construct drawings" or "as-constructed drawings".

3. [Power and Water Disinfection Procedure for Water Mains and Services](#)

Recommended disinfection (chlorination and bacteriological tests) for new reticulated pipework.

4. [Power and Water Application Forms](#)

Power and Water has a series of forms that facilitate application for connecting to Power and Water's infrastructure or for accreditation.

7 Charging requirements

7.1 General

Charges related to *Development Activity* are outlined in a pricing order (a determination of financial charges made under Section 60 of the Act) approved by the Minister responsible for economic regulation.

Power and Water has a range of charges related to *Development Activity* including but not necessarily limited to:

- Connections;
- Capital contributions;
- Recoverable works; and
- Administrative services.

Development Activity related capital contributions are aimed at the following two main groups of proponents:

- Proponents who are about to develop a property which will result in an increased load on Power and Water's Infrastructure; and
- Proponents who already own property that is not directly connected to Power and Water's Infrastructure and who are thinking of making such a connection.

Capital contribution principles are set out in Power and Water's [Water and Sewerage System Extension Policy \(WASSEP\)](#).

7.2 Security

Power and Water may require a proponent to lodge security, in the form of a financial bond, at any stage during proposed *Development Activity*. Application of security will be assessed by Power and Water taking into account the risk to Power and Water's infrastructure, services and other liabilities.

8 References

Abbreviation	Resource
<u>Application Forms</u>	Power and Water – Application Forms, Water Development, Power and Water Corporation
<u>AS/NZS 3500.1</u>	Australian/New Zealand Standard – Plumbing and Drainage, Part 1: Water Services (May 2021)
<u>Backflow Prevention Manual</u>	Power and Water – Backflow Prevention Manual, Power and Water Corporation (July 2009)
<u>Complaints and resolutions</u>	Power and Water – Complaints and Resolutions, Contact us, Power and Water Corporation
<u>Customer Charter</u>	Power and Water – Customer Charter, Power and Water Corporation (November, 2022)
<u>Customer Contract</u>	Power and Water – Customer Contract, Power and Water Corporation (February, 2020)
<u>Documentation format</u>	Power and Water – As-constructed Documentation Format for Water and Sewer Gifted Assets, Power and Water Corporation
<u>Metering Code</u>	Power and Water – Water Metering Code, Power and Water Corporation (2022)
<u>NT Ombudsman</u>	Ombudsman NT – Government Agencies and Councils, Northern Territory Government
<u>NT Supplements to QPG</u>	Queensland Planning Guidelines for Water Supply and Sewerage, Northern Territory Supplements, Power and Water Corporation
<u>NT Supplements to WSAA</u>	NT Supplements to the WSSA Codes (2002), Power and Water Corporation
<u>Products Manual</u>	Power and Water – Water and Sewage Infrastructure Products Manual, Power and Water Corporation
<u>Pumped Water Systems</u>	Power and Water – Connection of Pumped Water Systems, Standards and Guidelines, Power and Water Corporation
<u>Queensland Planning Guidelines</u>	Planning Guidelines for Water Supply and Sewerage, Department of Energy and Water Supply, Queensland Government (March, 2014)
<u>Standard Drawings</u>	Power and Water – Standard Drawings, Develop and Build, Power and Water Corporation

<u>The Act</u>	Water Supply and Sewerage Services Act, Northern Territory of Australia (2000)
<u>Trade Waste Code</u>	Power and Water – Trade Waste Management System, Trade Waste Code, Power and Water Corporation (2022)
<u>Unit Titles Act</u>	Unit Titles Act, Northern Territory of Australia (January, 1975)
<u>WASSEP</u>	Power and Water – Water and Sewerage Systems Extensions Policy, Development Fees and Charges, Power and Water Corporation
<u>Water Act</u>	Water Act, Northern Territory of Australia (1992)
<u>Water development process</u>	Power and Water – Water Development Process, Water Development, Power and Water Corporation
<u>Wellhead Protection Zone</u>	Power and Water – Wellhead Protection Zones Management Standard (October 2018) <i>Internal document ref: CONTROL0445, D2018/436152</i>
<u>WSAA Codes</u>	WSAA Shop: WSAA Codes, Water Services Association of Australia

Attachment A - Building development process for water and sewer

Process steps	What you need to give us	The services Power and Water will provide
Step 1. Thinking of a Development	<ul style="list-style-type: none"> • Location • Zoning • Architectural plans • Site layout • Expression of interest – water and sewerage 	<ul style="list-style-type: none"> • Preliminary impact assessment • Procedural advice • Technical advice • Approximate costs/fees • Special conditions (i.e. buffer zone, restricted use etc.)
Step 2. Development Application	<ul style="list-style-type: none"> • Service location • Easement location • Architectural plans • Specific water and sewer requests (i.e. trade waste, loadings etc.) 	<ul style="list-style-type: none"> • Impact assessment • Easement requirements • Scope of works • In principle approval of infrastructure • upgrades/extensions • Contribution and charging advice
Step 3. Design	<ul style="list-style-type: none"> • Engage an accredited designer • Proposed ultimate and staged equivalent population (EP) • Timeframes • Permit to Work (PTW) • Services locations • Easement checks • Safety in design 	<ul style="list-style-type: none"> • Review documents and drawings • Provide comment on documents and drawings • Provide advice on compliance with PWC Connection • Code – drawing checklist, design checklist, standard drawings and standard notes • Provide in principle approval, following review • Approve PTW
Step 4. Construction	<ul style="list-style-type: none"> • Engage an accredited contractor and certifier • PTW • Service locations • Testing and certification • Easement locations 	<ul style="list-style-type: none"> • Random works inspections • Construction advice • Approvals to connect • Review and approve design change requests • Advise fees

Process steps	What you need to give us	The services Power and Water will provide
	<ul style="list-style-type: none"> • Architectural plans • Seven day notice before start of works • Applications to connect • Design change requests 	<ul style="list-style-type: none"> • Approve PTW • Sewer and water supply connections
Step 5. Completing permit conditions	<ul style="list-style-type: none"> • Final testing and certification • As constructed drawings and survey • Plumbing certification (Section 40) • All fees paid • Defects rectified • Seven day notice for handover • Land issues resolved • Field returns • Development permit 	<ul style="list-style-type: none"> • Handover inspection • Finalise easement conditions • Review title plan and easement conditions • Check compliance with Power and Water requirements • Provide development clearance
Step 6. Gifted assets to Power and Water		<ul style="list-style-type: none"> • Gifted assets to Power and Water • Defect liability period ends • Practical completion issued

Attachment B - Land development process for water and sewer

Process steps	What you need to give us	The services Power and Water will provide
Step 1. Thinking of a Development	<ul style="list-style-type: none"> • Location • Zoning • Lot density • Site layout • Designer contact • Draft design drawings and engineering report • Expression of interest – water and sewerage 	<ul style="list-style-type: none"> • Preliminary impact assessment • Procedural advice • Technical advice • Approximate costs/fees • Special conditions (i.e. buffer zone, restricted use etc.) • Review of draft design drawings and engineering report
Step 2. Development Application	<ul style="list-style-type: none"> • Final lot density layout • Master services layout • Design drawings and engineering report • Supporting design documents (i.e. geotechnical reports) 	<ul style="list-style-type: none"> • Impact assessment • Review of draft design drawing and engineering report • Easement requirements • Scope of works • In principle approval of infrastructure upgrades/extensions • Contribution and charging advice
Step 3. Design	<ul style="list-style-type: none"> • Engage an accredited designer • Proposed ultimate and staged EP • Design report • Master plan • Permit to Work (PTW) • Geotechnical investigation • Services corridors and alignments • Safe in design • Construction specification 	<ul style="list-style-type: none"> • Review documents and drawings • Provide comment on documents and drawings • Provide advice on compliance with Power and Water Connection Code – drawing checklist, design checklist, standard drawings and standard notes • Provide in principle approval, following review • Engineering design approval • Approve PTW
Step 4. Construction	<ul style="list-style-type: none"> • Engage an accredited contractor and certifier • PTW • Testing and certification 	<ul style="list-style-type: none"> • Pre-construction meeting • Random works inspections • Construction advice • Approvals to connect

Process steps	What you need to give us	The services Power and Water will provide
	<ul style="list-style-type: none"> • Seven day notice before start of works • Applications to connect • Project manager details • Design change requests • Request water and sewer connections 	<ul style="list-style-type: none"> • Review and approve design change requests • Advise fees • Approve PTW • Sewer and water supply connection
Step 5. Completing permit conditions	<ul style="list-style-type: none"> • Final testing and certification • As constructed drawings and survey • All fees paid • Defects rectified • Seven day notice for handover • Land title plans submitted • Headworks completed (if required) • Field returns • Development permit 	<ul style="list-style-type: none"> • Handover inspections • Review title plan and easement conditions • Check compliance with Power and Water requirements • Provide development clearance
Step 6. Gifted assets to Power and Water		<ul style="list-style-type: none"> • Defects liability period ends • Practical completion issued

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