

**altogether.**

# Developer Guide

Infrastructure (Water)

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## 1 Introduction

### 1.1 Purpose

The purpose of this document is to describe the quality assurance process involving the design, construction, inspection, testing and certification of Developer Infrastructure Works by or on behalf of Altogether (or its licensed network operator) ('Utility') and dedication of the same.

### 1.2 Scope

This procedure shall be used for all projects where the commercial agreement, usually known as the project delivery agreement (**PDA**), between the Utility and a Developer identifies that the Developer is responsible for the construction of drinking water, recycled water and/or sewerage network infrastructure (**Developer Infrastructure Works**) prior to its dedication to the Utility or its nominee.

### 1.3 Responsibilities

The parties responsible for the implementation of the requirements of this procedure are:

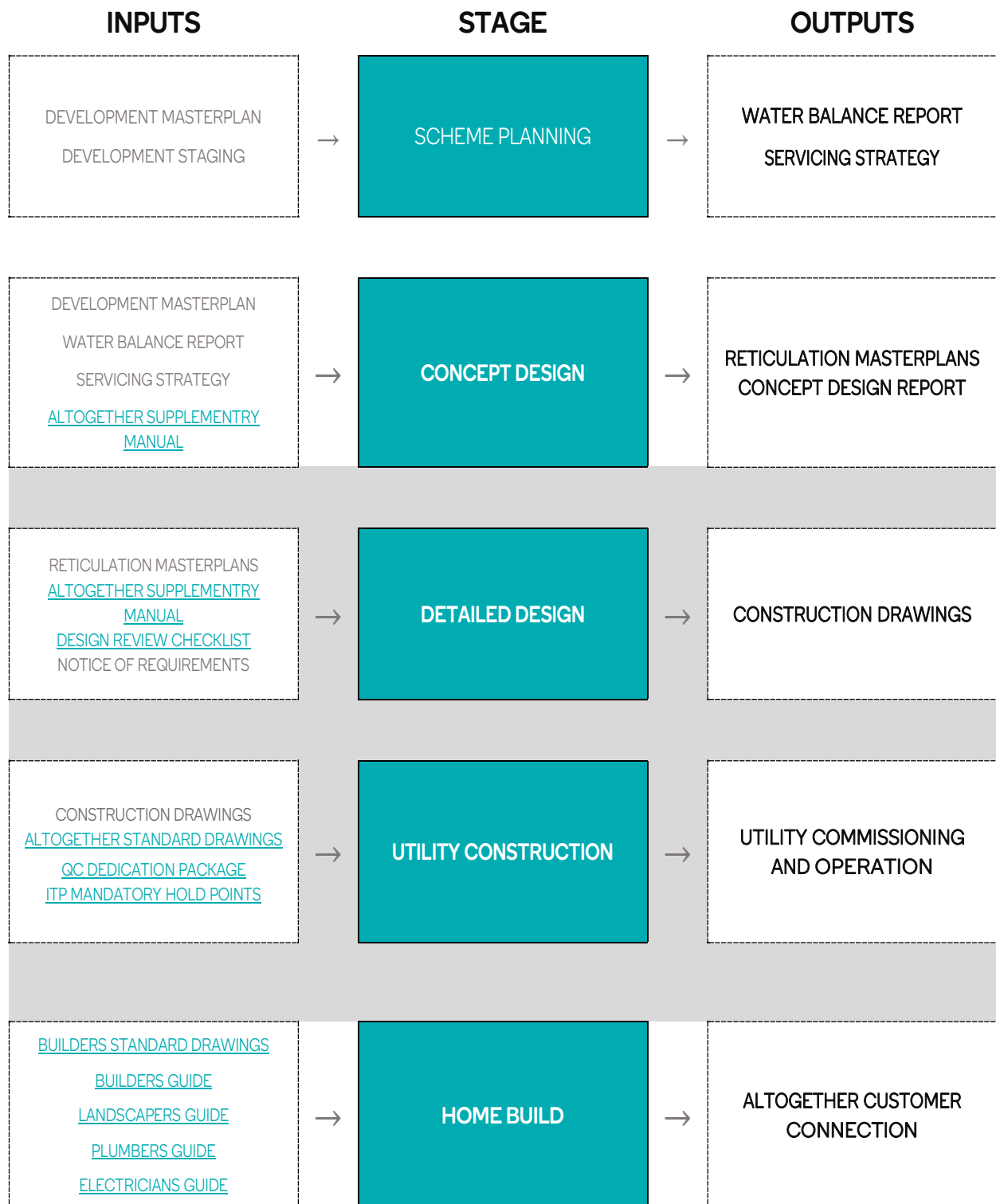
The **Developer** (which for the purpose of this procedure) includes all parties engaged by or affiliated with the Developer that have a responsibility to design, supply, construct/install, test or commission the Developer Infrastructure Works.

**Altogether** (which for the purpose of this procedure) includes Altogether Group Pty Ltd, its licensed network operator (a wholly-owned subsidiary), quality control inspector (**QC Inspector**), nominee, contractor or consultant as the party responsible for all or part of the Utility's responsibilities outlined in the PDA or Altogether's responsibilities in this document).

## 1.4 Scheme Creation Process

The diagram below provides an overview of the scheme creation process. Each stage requires key inputs to achieve the desired outputs and to progress to the next stage.

The Detailed Design and Utility Construction stages (shaded grey below) are applicable to the Developer and this document.



## 2 Standards

Before the Developer undertakes any design of Developer Infrastructure Works, including pressure sewer, recycled water and/or drinking water (where applicable) infrastructure, the [Design Review Checklist](#) must be completed and provided to Altogether for review. This document provides a list of standards and drawings which are to be used by the Developer's design and construction contractors for the delivery of Developer Infrastructure Works. These include (in this order of precedence):

1. Altogether Supplementary Manual to WSAA Codes (FS-MN-PRD-270);
2. Altogether Standard Drawings
3. Water Services Association of Australia Water Supply Code of Australia – Sydney Water edition (WSA-03);
4. Water Services Association of Australia Pressure Sewer Code of Australia (WSA-07);
5. National Construction Code of Australia which has replaced the Building Code of Australia, and all Australian Standards that are referenced in that Code;
6. Plumbing Code of Australia (PCA) and all Australian Standards that are referenced in that Code;
7. Relevant Australian Standards.

All documents referenced in this Section 2 are referred to generically in this document as the **“Standards”**.

### 3 Notice of Requirements

Before commencing construction on a stage of the Developer Infrastructure Works, the Developer must apply to the Utility for a Notice of Requirements (**NOR**). This NOR will outline the Utility's requirements of the Developer to achieve **Developer Infrastructure Works Practical Completion** and will generally include:

- Technical Requirements, including but not limited to the provision of:
  - Issued for Construction (IFC) status detailed design drawings approved by Altogether;
  - Records (as defined in section 4.4); and
  - Stage-specific installations;
- Administrative Requirements, including but not limited to:
  - Lot registration details;
  - Costs payable by the Developer to the Utility; and
  - Site Inspection by the Developer and the Utility;
- Plans of the relevant stage; and
- any Miscellaneous Requirements specific to the project and the PDA (Project Delivery Agreement) relating to such project.

The form of this NOR is as contained within the PDA for the relevant scheme or as otherwise agreed in writing. Click [here](#) request an NOR from Altogether for your development.

## 4 Network Design

### 4.1 Property Type & Sewerage Options

#### 4.1.1 Point of Connection

Altogether requires a single point of connection for each dwelling wherever practical, irrespective of the type of property title.

#### 4.1.2 Standard Residential Lots

Property Types	Options
1. Single residential lots	standard 900 litre wastewater collection tank system

#### 4.1.3 Non-Standard 'Super Lots' & Commercial Lots

Standard 900 litre capacity on lot wastewater systems are designed to service loads from single residential lots, regardless of the size and number of dwellings located on that lot. Altogether only require additional connections (including tanks) when a lot is subdivided or developed for multi-residential, non-residential and/or commercial use. Click [here](#) for guidelines on commercial and multi-residential lot developments.

Altogether requires a pressure sewer network main to be in the footpath reserve, either adjacent to the front lot boundary or on the opposite side of the street. This main shall also be provided with a teed offtake connection and isolation valve of equal diameter to service the superlot. The branched off-take shall face the front property boundary, at the corner and must be able to service the entire lot – refer drawing SK05. This shall enable a safe and reliable means of future connection to an existing main. Lot servicing will be completed upon confirmation of lot configuration and design via application to Altogether by the future builder/developer of the non-standard lot.

Developers are encouraged to work with the non-residential / commercial purchases of these lots to submit their design as early as possible, so that newly constructed roads and/or footpaths may not need to be disturbed to install the relevant connections.

### 4.2 Property Sewerage Servicing Design Guidelines

#### 4.2.1 Wastewater Collection Tank Locations

Altogether prefer that wastewater collection tanks are location on the boundary of the lot closest to the main (usually the front) to enable easy access for service/maintenance and to minimise the infrastructure on lot. Wastewater collection tank depths can be increased by a maximum of 600mm by the use of two 300mm drywell extender sections – refer Altogether standard drawings.

- Preferable location: front, lower section of lot.
- Alternative location: rear, lower section of lot – with clear service / maintenance access provided.



## 4.2.2 Reduced Area Lots (Refer Altogether standard drawings)

These lot types generally range from 200m<sup>2</sup> to 400m<sup>2</sup> and include:

- Terrace / Abutting Lots
- Courtyard Dwelling Lots
- Small / Compact Lots
- Transition Dwelling

## 4.2.3 Lots with Mass Stone / Mass Masonry Boundary Retaining Walls

These lots are generally formed to create a relatively level finished ground formation. The use of mass stone or mass masonry blocks for boundary retaining walls creates an encroachment on the lot area due to the width of blocks used, which in turn pushes any on-lot infrastructure further into the lot and potentially into any allowable building envelope, measured from the property boundary. Altogether prefer to create the property boundary along the centreline of the block wall or along the face of the wall closest to the on-lot infrastructure to minimise this encroachment. Refer to Altogether standard drawings for details.

## 4.3 Recycled Water and Potable Water Servicing to Public/Common area

### 4.3.1 Irrigation Hydrants

Recycled water main extensions and additional hydrants are to be provided for irrigation purposes as identified in the recycled water reticulation masterplan and where specified in the detailed design (to be developed by the Developer's design consultant).

### 4.3.2 Recycled Water Services to Public/Common areas

Metered recycled water property service connections must be provided to all open space areas identified during the detailed design review. In the case of large recreational areas, multiple connections are to be allowed by the Developer's design consultant.

## 4.4 Detailed Design

The detailed design of the pressure sewer, recycled water and drinking water reticulation (when applicable) infrastructure will be developed by a qualified design consultant engaged by the Developer. The design shall be compliant with the Standards as outlined in this document at Section 2 and will be verified by Altogether in conjunction with the Infrastructure [Design Checklist](#) prior to construction. The Developer must only construct in accordance with the plans reviewed by Altogether and the Standards. The Developer must allow 7 days for Altogether to review the Developer's design. The detailed design must include a check for each lot to ensure that the proposed tank location is adequate to service the entire lot, taking into consideration Altogether tank installation standards for lots with retaining walls and slopes / batters, namely SK03A and SK03B.

Non-serviceable areas on lots must be clearly identified on the detailed design drawings.

## 5 Reticulation Infrastructure Construction and Quality Control

### 5.1 Installer Qualification

The Developer shall ensure that Altogether is notified of the proposed reticulation infrastructure installer prior to the commencement of works. The Developer must demonstrate the proposed installer has demonstrated relevant industry experience as necessary for proceeding with the installation works. This may be demonstrated through capability statements, reference checks, documentary evidence and/or equivalent qualification with other water authorities. Installation works must not commence until the Developer demonstrates, to the utilities satisfaction, that the installer is qualified for the works. The utilities satisfaction of an installer's experience and qualifications is not a guarantee of future performance and the Developer remains responsible for satisfactory installation of infrastructure at all times.

### 5.2 Inspection and Test Plans

The Developer is responsible for preparation of its own inspection and test plans (ITPs) and check sheets in accordance with its own Quality Management System. However, as a minimum the contractor's ITPs must include the mandatory hold points outlined in Altogether's [Mandatory Hold Points](#).

### 5.3 Inspections

The Developer is responsible for ensuring that all works are constructed and tested in accordance with the relevant NOR and Standards.

Altogether will frequently (weekly as a minimum) inspect the construction of the Developer Infrastructure Works to monitor compliance with the relevant NOR and the Standards, and may notify the Developer of an area of those works that do not comply with the same. This inspection regime shall not be construed as a proxy for the Developer's own quality inspection checks and any non-compliance in the Developer's works may be identified and communicated to the Developer at any time.

The Developer will ensure that the QC Inspector is given adequate notification (minimum 48 hours) and access to carry out inspections and be available for witness points identified by the ITPs.

Failure by the Developer to ensure access for the QC Inspector may result in Altogether issuing a requirement for the Developer to re-excavate and expose Developer Infrastructure Works to allow inspection. This will be at the cost of the Developer.

## 5.4 Quality Control & Records

Prior to Developer Infrastructure Works Practical Completion or the Developer's request for a Certificate of Compliance associated with the completion of a stage of the Developer's works, the Developer must provide the following "Records" to Altogether:

- Completed and signed off ITPs;
- As-built survey for each of the services including, but not limited to: Pressure Sewer:
  - Sewer Collection Tank – including RL
  - Flushing Points
  - Stop Valves
  - Tees
  - Bends
  - Boundary Kits
  - Conduits (if placed at rear of lots)
  - Pipeline (if different from the design)
- Recycled Water and Drinking Water:
  - Hydrants
  - Stop Valves
  - Tees
  - Bends
  - Pipeline (if different from the design)
- Clear, legible red-line mark-up of the IFC drawings (suitable to be used as the basis for preparation of works-as-executed drawings by Altogether);
- Test results of trench backfill compaction at frequency in accordance with WSA-07 and WSA-03;
- Compressive strength test results of any stabilised sand and/or concrete used as backfill to confirm compliance with WSA-03 and WSA-07;
- Hydraulic pressure testing certificate by NATA-qualified pipe testing contractor in accordance with WSA-03 and WSA-07 of the entire network including reticulation mains and lateral connections into all lots up to each lot's isolation valve within the pressure sewer boundary kit and the taps at the ends of the drinking water and recycled water lateral pipes, plus the section of discharge pipe between the wastewater collection tank and the boundary kit (1000kPa);
  - All PVC Pipes and fittings are to be tested to 1500KPa (STP) or to the lowest rated fitting for a minimum of 2 hours and concluded within 5 hours to 8 hours

- All PE Pipes and fittings are to be pressure tested to 1600KPa (STP) or to the lowest rated fitting for 5 hours
- Sections of pipe and fittings that are required to be repaired or rectified will have to undergo a post-repair pressure test (i.e undertake a re-test if the repair takes place after the initial pressure test).
- Connections should be tested where practical, that is, when shut down of live mains are not required.
- Concrete Structures (Anchor, Thrust Blocks, Cast Insitu Manholes, Concrete Encasements)
  - Concrete structures are to be constructed as per detailed design drawings or in accordance to WSAA Code and Australian Standards
  - All concrete mandatory hold points are to be implemented on site specific ITP and ITC check sheets for submission to Altogether Group
  - Constructor is to ensure that all concrete restraints joints are formed, reinforced and poured as per WSAA Code, detailed design and Australian Standards
  - Quality Assurance Inspector is to conduct a visual inspection (photographic records required) of the service prior to concrete pour where required
  - Delivery dockets are to be supplied to Quality Assurance Inspector
  - Any concrete test results are to be supplied to the Quality Assurance Inspector once results have been received (slump test, shrinkage, & concrete strength testing).
- Geotechnical testing of anchor blocks and thrust blocks where applicable;
- Evidence of conformance of pipe to relevant Australian standards;
- Evidence of pipe flushing;
- Evidence of pipe cleaning, disinfection and water quality (e.g. turbidity) test results in accordance with WSA 03 and the Australian Drinking Water Guidelines. In order to obtain a pass result for water quality the following parameters are to be met:
  - E COLI: < 1 MPN/ 100mL
  - YEA Agar: <5700 CFU/ 1mL
  - Total Coliforms: <1 MPN/ 100mL
- Evidence that the drinking water and recycled water network have been tested for cross-connections in accordance with Altogether requirements.
- Bill of materials for all infrastructure installed, complete with quantities, units and supply rates in Australian dollars;
- Evidence that all on-lot wastewater collection tanks have been handed over by the Developer's contractor clean and free of debris and fluid;
- Photographic record of all lateral connections for all services (complete with a sign in each photo identifying the lot to which it belongs); and

- Photographic record of all major appurtenances on the reticulation networks and their connections to the reticulation system including, but not limited to:
  - Flushing points;
  - Pressure monitoring points;
  - Air valves; and
  - Scour valves.

The Reticulation Infrastructure – QC Dedication Package Checklist must accompany the complete records submission prior to the Developer’s request for a certificate of compliance for the development stage works.

## 5.5 Payment for QC Inspections

For works completed by or on behalf of the Utility for QC inspections and preparation of work-as-executed drawings, the Developer must pay the Utility its agreed QC Fee.

## 5.6 Other water authorities

Connection work to another water authority’s infrastructure must comply with that water authority’s relevant requirements and do not form part of the Developer Infrastructure Works as defined in this document.

## 6 Certificate of Compliance

### 6.1 Relevant water supply authority

Altogether may issue a Certificate of Compliance for the Developer Infrastructure Works for which it is licensed under the *Water Industry Competition Act 2006* (NSW), in accordance with the requirements of the:

- Water Industry Competition (General) Regulation 2008 (NSW); and
- PDA; and
- The Developer's compliance with the Utility's requirements; and
- NOR for the relevant development stage.

And, in New South Wales, in order to satisfy section 109J(1)(e1) of the Environmental Planning and Assessment Act 1979 (NSW) for the purposes of enabling certification of subdivision.

### 6.2 Issue of Certificate of Compliance

The Utility may issue a Certificate of Compliance when Developer Infrastructure Works Practical Completion is achieved and all items listed in the NOR have been satisfied.

## 7 Asset Handover

### 7.1 Asset Dedication

Altogether or its nominee will confirm acceptance of the transfer of ownership of infrastructure (or taking responsibility for full operational and maintenance rights and obligations in respect of such infrastructure in the event legal ownership is not being transferred) resulting from Developer Infrastructure Works once the processes described in the previous sections and any outstanding defects have been rectified (unless otherwise agreed by Altogether).

### 7.2 Asset Responsibilities

#### 7.2.1 Standard Residential Lots

Altogether's policy regarding who is responsible (as between the Developer and Altogether) for the initial provision, ongoing ownership, operation and maintenance of 'on- property' sewerage assets on standard residential lots is based upon land ownership title. The table over page provides a summary:

## WASTEWATER ASSET DESIGN / CONSTRUCTION / INSTALLATION FOR ON-LOT ASSETS ON STANDARD RESIDENTIAL LOTS

Property Title	Asset Description	Responsibility
Torrens Title - Freehold	Wastewater collection tank, property discharge line, boundary kit	Developer
	Grinder pumps, control panel, level sensor, Data Management Unit, RW meter & DW meter (where DW provided by Altogether)	Altogether
Strata Title	All wastewater assets	Developer
Community Title	All wastewater assets	Developer
	All wastewater assets	Developer

## ONGOING WASTEWATER ASSET OWNERSHIP

Torrens Title - Freehold	Wastewater collection tank, property discharge line, boundary kit	Altogether
	Grinder pumps, control panel, level sensor, Data Management Unit, RW meter & DW meter (where DW provided by Altogether)	Altogether
Strata Title	All wastewater assets	Altogether
Community Title	All wastewater assets	Altogether
Leasehold Title	All wastewater assets	The Lessor

## WASTEWATER ASSET OPERATION and MAINTENANCE

Torrens Title - Freehold	Wastewater collection tank, property discharge line, boundary kit	Altogether
	Grinder pumps, control panel, level sensor, Data Management Unit, RW meter & DW meter (where DW provided by Altogether)	Altogether
Strata Title	All wastewater assets	Altogether
Community Title	All wastewater assets	Altogether
Leasehold Title	All wastewater assets	The Lessor



## 7.2.2 Non-Standard and Non-Residential Lots

Altogether will consider applications for sewerage servicing options for non-standard properties, based on the following key criteria:

- Wastewater loadings
- Pump discharge rates (generally limited to a maximum of 2.0 l/s)

Emergency storage volumes (generally require 24-hour average daily flow as minimum)

- Depth to invert (inlet gravity sewer)
- Stormwater drainage locations (to ensure no ponding and/or flooding of wastewater assets)
- Venting requirements
- Zone of influence (ZOI) to other assets, structures, retaining walls etc.
- Access to assets for repair and maintenance
- System monitoring and controls
- Ownership, operation & maintenance
- Trade waste requirements
- Property topography
- Vegetation / landscaping requirements
- Usage charges

The above criteria will be considered to determine the impacts on Altogether's downstream infrastructure.

Contact Altogether on 1300 803 803 for further information.