Pr9087 - Pressure Testing of Water Mains Work Instruction

Document Owner	Manager Infrastructure Services
References	WSAA Water Supply Code of Australia, SEQ-WSA03 V1.4-2024 WSAA Guideline: Discharge of Chlorinated Water to waterways, National Guidance for the Water Industry

1. Purpose

This work instruction details the process of pressure testing water mains. Pressure testing of mains must be carried out to:

- reveal the occurrence of faults in the laying and assembly procedures and test the installed structural integrity of the pipeline
- determine that the pipeline will sustain a pressure greater than its design pressure without leakage.

2. Scope

This instruction applies to newly constructed water mains forming part of the Unitywater water supply network. It applies to all pipe materials, diameters, pipe classes and lengths. The process detailed in this instruction must be followed by all persons undertaking pressure testing of Unitywater water mains.

3. Responsibilities and Authorities

Position title	Roles and responsibilities
Manager Infrastructure Services	As Document Owner responsible for: • Conducting and/or delegating regular reviews to ensure this instruction and related resources (e.g. forms, website content) remain fit for purpose, consistent and current. • Approving this work instruction for publication. • Ensuring all relevant stakeholders and team members have been consulted and feedback is captured and actioned (where applicable). • Ensuring appropriate communication and/or training is provided to relevant team members when implementing a new, amended or obsolete document (where applicable). • Monitoring compliance with internal/external requirements (e.g. monitor legislation changes and assess/update this instruction when required).
Team members	• Working in accordance with this work instruction. • Advising the Document Owner if this work instruction is not consistent with current practices. • Where possible, minimise printing and/or avoid creating duplicate copies of this work instruction. Ensure current versions are sourced from the Document Centre.

4. Definitions

The definitions used in this work instruction are:

Term	Meaning
Hydrostatic testing	Pressure testing with water as the test medium
NATA	National Association of Testing Authorities, Australia
WSAA	Water Services Association of Australia

5. Instruction

Once the Constructor has completed construction of the main or the section of main to be pressure tested, the following steps must be undertaken:

1. Ensure all permanent and temporary thrust blocks are adequately cured.
2. Assemble pressure testing plant on site (ensure appropriate pump sizing).
3. Confirm test gauge certification is current and gauge is undamaged.
4. Connect test equipment to pipeline via air valve tee, hydrant or purpose - designed tapping (preferably at lowest point).
5. Slowly fill the pipeline with potable water ensuring all air is bled from the pipeline at high points (fill from lowest point where possible).
6. Test the pipeline or pipeline segment in accordance with WSA03, Section 19.4 and record:
    - test section pipe information (length, diameter, material, class)
    - test pressure
    - maximum allowable leakage rate
    - test log information (time, pressure, required make up water).

    The test pressure shall be 1200KPa unless specified otherwise.
7. Slowly depressurise pipeline upon successful completion of pressure test.
8. Drain pipeline to remove testing equipment and to prepare for final connections if necessary (discharge shall be in accordance with Unitywater Dewatering – Construction/Commissioning/Reservoir Work Instruction).
9. Disconnect testing equipment and reinstate any equipment removed for testing purposes.

Pressure testing against valves should be avoided where possible. Where pressure testing against a valve cannot be avoided, suitability of the valve for pressure testing purposes is to be investigated and must be approved by the Unitywater Project Manager prior to testing.

A Hydrostatic Test Certificate must be produced on completion of the pressure test and submitted to the Unitywater Project Manager for approval. Unless otherwise permitted by the superintendent, testing must be arranged to be undertaken by a NATA accredited organisation that holds current listing for the relevant test.

6. Recordkeeping

The table below identifies the types of records relating to this documented process and their storage location:

Type of Record	Storage Location
Hydrostatic Test Certificate	Relevant Project folder in Objective