GIPPSLAND WATER

Supplement to
Water Supply Code of Australia
WSA 03–2011-3.1
Melbourne Retail Water Agencies Edition
Version 3

Issued: 5 October 2015

Reviewed: June 2025

COR/14/107091

Under Revision – Changes are highlighted for immediate adoption. Please direct any queries to the Land Development team

Document Details

Business Owner	Gippsland Water
Process Owner	Asset Management
Document Title	Supplement to Water Supply Code of Australia WSA 03–2011-3.1 Melbourne Retail Water Agencies Edition Version 2.0
TRIM Record No.	
Document Version	1
New Review Date	As required
Print date	19 June 2025

Document Authorisation

	Name	Date
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Authorised by	Svetla Petkova	5 October 2015

Document History

Version	Date	Author	Description of Update / Change
1	5 October 2015	Graeme Bartle-Smith	Initiation of document
2	9 December 2015	Graeme Bartle-Smith	Delete requirement for 80 mm fireplugs Update links to new website
3	30 November 2017	Graeme Bartle-Smith	General review and update
4	8 March 2019	Joseph Daniel	Add Asbestos Cement pipes removal policy procedure and repair instructions update (11.5.2)
4.1	June 2025	Brenton Houchen/SPEC	Under Revision – Changes are highlighted for immediate adoption. Please direct any queries to the Land Development team

1. Purpose

This Gippsland Water Supplement (this Supplement) is to the Water Supply Code of Australia WSA 03–2011-3.1 Melbourne Retail Water Agencies (MRWA) Edition Version 2.0 (the Code), including the MRWA Standard Drawings. It specifies requirements for the planning, design and construction of reticulation, distribution and transfer water mains and service pipes installed by Gippsland Water or installed by landowners and developers to be gifted to Gippsland Water upon completion.

2. Requirements

This Supplement adopts the requirements of the following references together with Gippsland Water's amendments to the Code and to the MRWA standard drawings. The amendments are specified in Sections 4 and 5 of this Supplement.

All amendments listed are to be considered additional requirements to those referenced in the code unless specified otherwise.

3. References

Where internal documents are referenced, information is available from Gippsland Water. Gippsland Water maintains a reference document for internal use (COR/15/33418) to provide the source of information where the Code refers to Water Agency requirements.

1. Water Supply Code of Australia, WSA 03–2011-3.1, Melbourne Retail Water Agencies Edition, Version 2.0.
2. MRWA Standard Drawings Series 100, 200, 300, 400 and 500
3. Compliance Testing of In-Service Water Meters Code of Practice, WSA 11-2012, Version 1.1
4. Meter Selection and Installation Code of Practice, WSA 12-2012
5. Water Meter Pattern Compliance and Data Sharing Code of Practice, WSA 16-2013, Version 1.1
6. Standpipe and Hydrant Metering Code of Practice, WSA 17-2014, Version 1.1
7. Gippsland Water Preferred Electrical Equipment List (COR/14/81638)
8. Approvals processes for installation of vendor furnished or developer installed systems (https://www.gippswater.com.au/developers/information)
9. Gippsland Water Potable Water Systems Design Criteria (COR/10/31244)
10. Gippsland Water Electrical Design Process (COR/14/61117)
11. Gippsland Water Drafting Specifications
12. Gippsland Water Pipeline Pressure Testing Procedure (COR/04/12584)
13. MRWA Backfill Specification 04-03.1-2006 (COR/15/15017)
14. Water and Wastewater Property Servicing Policy (COR/09/4492)
15. Policy for Water and Wastewater Easements (COR/02/22771)
16. Linear Assets Decommissioning Procedure (COR/13/63980)
17. Colour Standard for Pipe, Pipe Wrappings, Detectable Pipe Marker Tape and Valve Surrounds (COR/15/34922)
18. Standard PRV Cubicle Instrumentation & Control Drawings (A2-48380 Index Sheet)
19. Standard PRV Drawings (A1-48783 Key Sheet)
20. Gippsland Water Standard Drawing Water and Sewer Reticulation Networks Typical Air and Scour Valve Arrangements (A3-53024 Key Sheet)
21. Gippsland Water Standard Drawing Water and Sewer Reticulation Networks Typical Non-trafficable Pit Cover Details (A1-53035)
22. Gippsland Water Standard Drawing Water Networks Typical Property Service Detail (A1-59295)
23. Gippsland Water Standard Drawing Water Networks Swab Launching Pit (A1-59296)
24. Gippsland Water Standard Drawing Water Networks Swab Receiver Pit (A1-59297)
25. Gippsland Water typical drawings water and sewer reticulation extensions (refer Drafting Specification)
26. Gippsland Water Water Supply and Sewerage Easements Policy
27. Asbestos Cement Pipe Repair and Removal Instruction (COR/03/11055)

4. Amendments to WSA 03-2011-3.1, MRWA Edition Version 2.0

References in brackets in the tables apply to the reference list above.

Table 1. Amendments to Part 0 Glossary of Terms Abbreviations and References

Main Type	Definition
Transfer main	A water main that conveys non-drinking water from a harvesting source to a treatment plant. Generally, direct connection to transfer mains by customers is not permitted. Where the code refers to “Transfer Main” in a drinking water application, refer distribution main.
Distribution main	A drinking water main that interconnects treatment works, reservoir(s) and/or serves as the principal distributor within a supply area, normally. without direct consumer connections.

Table 2. Amendments to Part 1 Planning and Design

Section	Amendment
1.2.3	The concept plan shall include a Basis of Design Report that provides: 1. options considered for meeting requirements of the WSAA Code and Gippsland Water. 2. justifications for necessary exceptions to requirements of the WSAA Code and this Supplement. 3. where a development is part of a longer-term multi-stage development, how the proposed infrastructure will meet the requirements of the full development and Gippsland Water’s Infrastructure Servicing Plan.
4.1	Gippsland Water defers to the approval requirements of MRWA. Where City West Water, Yarra Valley and South East Water differ, contact Gippsland Water for approval requirements, unless otherwise specified in this document. The following specific limitations shall apply to water supply system products: 1. Series 2 MRS 450 PN16, PVC-O pipe or Series 2 PN16 PVC-M pipe with elastomeric sealing joints shall be used for reticulation mains, with exceptions as defined in Point 2 and with restrictions specified by MRWA. 2. GRP pipe shall not be used for reticulation mains. 3. Elastomeric seals for PVC pipe shall be EPDM, except SBR may alternatively be used with PVC-O. 4. Reticulation main fittings shall be Ductile Iron PN35 with fusion bonded polymeric lining and coating unless otherwise specified in the design. 5. The minimum size for valves is DN100 6. The material and series codes of water pipes shall be shown on design and as-constructed drawings.

<table>
<tr><th>Section</th><th>Amendment</th></tr>
<tr><td>5.1.1</td><td>The coordinate system shall be GDA 94 MGA Zone 55.</td></tr>
<tr><td>5.4.4</td><td>Refer also to Gippsland Water’s Water Supply and Sewerage Easements Policy, available on Gippsland Water’s web site.</td></tr>
<tr><td>5.10</td><td>Temporary and permanent ends of water mains ≥DN100 shall be terminated with 90-degree ‘Duck foot’ bends with hydrants. Hydrant Tees shall not be used for terminating mains.
Washout assemblies shall be installed to terminate reduced-sized mains in court bowls, cul-de-sacs and on dead ends (drawing MRWA-W-109, Detail D).</td></tr>
<tr><td>5.13 (e)</td><td>Refer to Gippsland Water’s Linear Assets Decommissioning Procedure (16).</td></tr>
<tr><td>6.2.2.3 (c)</td><td>In-line booster pumps shall not be used for individual properties.</td></tr>
<tr><td>7.8</td><td>Water mains permanently located above ground shall be of either ductile iron or mild steel pipe and appropriately protected against corrosion (FBE coated or sintakoted).</td></tr>
<tr><td>8.2.2.2</td><td>Sp-Sp, So-So and Fl-Fl gate valves are acceptable. Axial restraint is required on all valves.</td></tr>
<tr><td>8.2.2.3</td><td>Amend paragraph two to read: Butterfly valves shall be clockwise closing.</td></tr>
<tr><td>8.2.3</td><td>Add the following row to Table MRWA 8.5
<table>
<tr><th></th><th>Resilient Seated Gate Valves</th><th>Resilient Seated Gate Valves with Integrated Bypass</th><th>Metal Wedge Gate Valves</th><th>Butterfly Valves</th></tr>
<tr><td>Gippsland Water</td><td>Buried valves ≤DN375</td><td>Where space is insufficient for flanged bypass valve plus hydrants</td><td>Not normally used</td><td>Above-ground valves and valves >DN375</td></tr>
</table></td></tr>
<tr><td>8.2.4</td><td>Table 8.2: Gippsland Water adopts City West Water’s criteria.</td></tr>
<tr><td>8.2.7.4</td><td>~~Arrangement (A) is preferred.~~ Where arrangement (b) is necessary Figure 8.10 (A) is preferred.</td></tr>
<tr><td>8.3.3</td><td>The design of PRV’s shall comply with Gippsland Water standard PRV drawings (18, 19) in place of Figures 8.20, 8.21 and 8.22 of the Code.</td></tr>
<tr><td>8.6.1</td><td>Delete reference to drawing MRWA-W-307. Refer to Gippsland Water Standard Drawing Typical Air and Scour Valve Arrangements (20).</td></tr>
<tr><td>8.7</td><td>Permanent swabbing points, where required by Gippsland Water, shall be designed with reference to Gippsland Water Standard Drawings Swab Launching and Receiver Pits (23 and 24).</td></tr>
<tr><td>8.8.4</td><td>Only spring hydrants shall be used.</td></tr>
<tr><td>8.8.8</td><td>Table MRWA 8.6: CWW and CFA requirements shall be adopted.</td></tr>
<tr><td>9.2.1</td><td>The layout and formatting of design drawings and specifications shall comply with Gippsland Water’s Drafting Specifications (11).</td></tr>
<tr><td>9.2.4</td><td>Add to the list of information to be shown on design drawings:
(ab) Assets to be disused.</td></tr>
<tr><td>9.4</td><td>For subdivisions with less than 30 m of new pipeline installation, as-constructed drawings can be presented as “Field Notes”.
As constructed drawings and Field Notes shall contain information specified in Gippsland Water’s Drafting Specifications (11).</td></tr>
</table>

Table 3. Amendments to Part 2 Construction

Section	Amendment
11.2	South East Water's preferred process shall be used.
11.4.1	Delete clause content and replace with: Gippsland Water will provide notification to each property owner and resident who will be affected by the works. The pipe layer or design consultant shall make application to Gippsland Water to shutdown water mains at least 10 working days prior to proposed works using Form 3W, available from Gippsland Water's website.
11.5.2	Gippsland Water will not currently consider the use of pipe cracking in its renewal work in light of current Worksafe directives. Should circumstances require Gippsland Water to consider pipe cracking as a preferred option in the future, it will only do so when risk assessments have demonstrated that it is the most appropriate technique and when exemptions can be obtained from Worksafe. Approval of a General Manger will be required to sign off on the risk management assessment. Disused and redundant water mains shall be "decommissioned in place" as per Gippsland Water's Linear Assets Decommissioning Procedure (Reference 16). Parts of asbestos pipes which needs to be removed or repaired shall be carried out as per Gippsland Water's "Asbestos Cement Pipe Repair and Removal Instruction" Procedure Reference 27.(COR/03/11055)
11.9	Under-pressure cut-ins shall be carried out by Gippsland Water accredited pipe layers or pipe layers who have been awarded a contract by Gippsland Water for the works. The list of accredited pipe layers is on Gippsland Water's website.
12.1	Refer to the amendment to Section 4.1 of this Supplement.
12.8.2	Gate valves shall be anticlockwise closing. Butterfly valves shall be clockwise closing unless otherwise specified by Gippsland Water.
19.3.1	Refer to MRWA Backfill Specification No. 04-03.1, 2006 (13)
19.4	Hydrostatic pressure testing results shall be recorded in compliance with Gippsland Water's Pressure Testing Procedure (12).

5. Amendments to MRWA Standard Drawings

Table 4. Amendments to Standard Drawings

Drawing	Amendment
MRWA-W-102A	Refer also to Gippsland Water Drafting Specification (11) for additional detail required for layout drawings and field notes.
MRWA-W-105	Table 105-A: SEW/GWW requirements shall be adopted. Table 105-B: Add row: <table><tr><th></th><th>≤DN375 Divide Valves</th><th>>DN375 Divide Valves</th></tr><tr><td>Gippsland Water</td><td>Resilient Seated Gate Valve</td><td>Butterfly Valve</td></tr></table>
MRWA-W-108	GWW requirements shall be adopted. Refer Arrangement A: Note 3 applies to valve referred to at Detail C. Valve shown at intersection shall be provided in all residential cul-de-sacs. Detail D shall be used for end of mains.
MRWA-W-109	Delete Detail A. The valve to be installed in this location shall be DN100 gate valve to be connected through a DN100 branch tee. Delete Detail C. Amend Detail B to include DN100 gate valve, if required (refer amendment to Arrangement A of drawing MRWA-W-108). The gate valve is to be between item 2 (blank flange tapped off-centre) and item 3 (hydrant tee). Delete Detail E, which shall not be used.
MRWA-W-110	Detail A, Detail D and Detail E: the end of service location zone shall be between 1.5 m and 2.0 m from the road-reserve property boundary. Detail C: The property end of service detail shall comply with Gippsland Water Standard Drawing Typical Property Service Detail (22). Detail C: Cover for property end of service shall be as defined in General Note 8.3.
MRWA-W-111	All service connections are to be in accordance with Gippsland Water Standard Drawing Typical Property Service Detail (22). Ball valves are not to be used as service isolations.
MRWA-W-201	Backfill and compaction shall be in accordance with MRWA Backfill Specification 04-03.1-2006 (13). Scoria shall not be used as embedment material.
MRWA-W-202	The minimum cover for pipes ≤DN600 in residential non-trafficable areas shall be 600 mm.
MRWA-W-203	Where a water main crosses beneath a sewer, the water main shall have an approved sleeve extending at least 3 m either side of the sewer, measured perpendicular to the sewer.
MRWA-W-204	Initial thrust block design shall be based on 50 kPa AHBP and amended when soil testing is complete.

Drawing	Amendment
MRWA-W-301	Detail A: Marker posts used to locate all appurtenances in rural areas shall be concrete, metal or other material that will not be affected by the passage of fire. Delete Figure 301-B and Figure 301-C and Figure 301-E. Valve surrounds and markings shall comply with Gippsland Water's Colour Standard for Pipe, Pipe Wrappings, Detectable Pipe Marker Tape and Valve Surrounds (17).
MRWA-W-302	All valve surrounds shall be round and comply with Gippsland Water Colour Standard for Pipe, Pipe Wrappings, Detectable Pipe Marker Tape and Valve Surrounds (17).
MRWA-W-303	Delete Detail A.
MRWA-W-304	Delete Drawing MRWA-W-304. Air valve arrangements shall comply with Gippsland Water Typical Air Valve Arrangements (20).
MRWA-W-305	Delete Detail C. Delete all Main Connection Details and all Air Valve Details. Air valve arrangements shall comply with Gippsland Water Typical Air Valve Arrangements (20).
MRWA-W-307	Delete Drawing MRWA-W-307. Scour valves shall comply with Gippsland Water Typical Scour Valve Arrangements (20).
MRWA-W-308	Permanent swabbing points shall be installed on mains ≥DN225 at locations required by Gippsland Water. Permanent swabbing points shall comply with Gippsland Water Standard Drawings Swab Launching and Receiver Pits (23, 24). Permanent valves are required at all temporary dead ends unless written approval is provided by Gippsland Water for a specific location. Option iii) must be used for mains DN150 and smaller.
MRWA 500 Series Drawing Nos. 1 & 1A	Comply also with Gippsland Water Standard Drawing Water Networks Typical Property Service Detail
MRWA 500 Series Drawing Nos. 4 to 8	Supply and maintenance of the dirt box is the property owner's responsibility. Gippsland Water accepts the use of wire strainers in place of the dirt box.
MRWA 500 Series Drawing No. 5	Item 3 and Item 7: Replace gate/ball valve with quarter-turn ball valve The spacers placed upstream and downstream of the meter shall comply with meter manufactures' specifications for straight calming sections of pipe.

6. Service connections

6.1 Reticulation

Service connections to existing in-service water mains are to be performed by Gippsland Water. Applications for connection are at www.gippswater.com.au/GWServices/PropertyConnections/Connections.aspx.

Mains to be transferred to Gippsland Water as gifted assets shall have service connections installed during construction of the mains.

6.2 Transfer and distribution mains

The following policy for service connections to water mains is required to;

1. protect transfer and distribution mains within Gippsland Water's district;
2. ensure mains specifically designed for transfer and distribution of water are not compromised;
3. minimise likelihood of Gippsland Water not meeting the Customer Charter requirements for flow and pressure;
4. provide a reference for Gippsland Water employees and customers to determine which transfer and distribution mains must not be tapped, and which distribution mains may be tapped, subject to review

Gippsland Water reserves the right to make case by case assessments on requests to connect to water distribution mains, aiming for resolutions that reflect best outcomes for Gippsland Water and its customers.

The determination of whether a main is a transfer or distribution main is by reference to the AMS Type in Geocortex.

Service connections to transfer mains are not permitted.

Service connections to distribution mains will normally be not permitted. Approval may be granted after review by Asset Strategy and Planning and Field Services groups. Connection to a distribution main may be denied for the reasons including, but not limited to:

1. The main's sole purpose is to distribute treated water from one town to another.
2. The main is on a pumped system and experiences rapid pressure fluctuations.
3. The main is designed to operate outside Gippsland Water's customer charter.
4. There is a nearby reticulation main which could service the new connection.
5. The main is at capacity and new connections will cause the main to become non-compliant with Gippsland Water's customer charter.
6. The tapping is within a current or future disinfection contact zone.
7. The main caries water with variable levels of chlorine residual.
8. The main is not designed to the standards of the Code.
9. The main has a condition rating of poor or very poor.

Service connections to distribution mains, where approved, shall comply with the following requirements:

10. A tapping arm shall be provided on the distribution main for connection of the service.
11. Connection to critical distribution mains, as defined by Gippsland Water, shall be live.
12. Tapping arms shall be designed by an approved Gippsland Water design consultant and approved by Gippsland Water before connection.

13. Connections to distribution mains servicing rural or industrial properties shall have approved back-flow prevention device(s) downstream of the meter.
14. Distribution mains with cathodic protection shall have the tapping arm insulated from the main.

7. Rural water supply

Rural water supply schemes are designed to provide stock and domestic water for farming enterprises. The water is not available for broad-acre irrigation, but is allowed for domestic garden watering subject to permanent water savings measures and any applicable water restrictions. The designer shall determine consumption rates for system design by adding the domestic demands to the stock watering demands.

Domestic demand shall be determined from the parameters set out in in Gippsland Water's Potable Water Systems Design Criteria (Reference 9). For Farm Zone properties, replace the term 'Lot' with 'residence'.

Stock watering demands shall be calculated at 100 L/ha/day, irrespective of agricultural enterprise. The water is supplied at ground level to an on-farm reserve storage provided by the customer.

8. Approved consultants and contractors

Planning, design and construction of water mains are to be carried out by consultants and contractors approved by Gippsland Water within the limitations of their approval.

For water mains installed by developers, refer to the Gippsland Water Accredited Design Consultants list and the Gippsland Water Accredited Pipe-layers list. (www.gippswater.com.au/GWServices/LandDevelopment.aspx).

For water mains installations managed by Gippsland Water, refer to GWS356 Panel of Technical Service Providers.

9. Approval Processes

For water mains installed by developers, refer to www.gippswater.com.au/GWServices/LandDevelopment.aspx for approval documents and forms.

For water mains installations managed by Gippsland Water, refer to the Project Management Procedures Manual.

10. Superseded Documents

The following documents are superseded by this code and are archived:

1. Tapping into Water Mains Policy (COR/13/35275)
2. Location of Water Reticulation Isolation Valves (COR/03/10816)
3. Water Reticulation Code of Australia WSA–03-1999
4. Water Reticulation Code of Australia WSA–03-1999 Addenda
5. Water Supply Code of Australia WSA–03-2002