

Clause	Description	Requirement	Supporting Document
Glossary	Referenced Documents	Additional Acts and Regulations applying in SA	Glossary (Pg 1)
2.4 and Section 3	Maximum Allowable Operating Pressures	Due to the difficulty in serving isolated areas, SA Water may allow up to 1000 kPa (100 m) provided a note is placed on the Design Drawings stating that a Pressure Reducing Valve (PRV) is required for each individual premise affected by the higher pressure.	
3.7.2	Pipe Class	SA Water has standardised on Class 16 for all pipework used in its infrastructure system. Lesser classes shall only be used with project specific approval from SA Water.	See also TP1 - SA Water Policy on pipe size, class & material
4.3	Location of Water mains	Mains laid in SA are primarily laid in the road reserve. All mains laid in road reserves are to meet the requirements as detailed in SA Water's WSCM Drawings D1 & D2	
4.3.3	Water Mains in Easements	To be in accordance with details as shown :-	Pt1 – 4.3.3 (Pg 2)
4.4	Shared Trenching	This system is not used in SA. See 4.3	
Fig 4.3	Looped and Link Mains	Looped and link mains may be used where the main will be a "dead end" for an extended period of time eg expected area of slow land development.	
4.10 and Table 4.1	Clearances	In General the minimum horizontal clearance between adjacent parallel pipelines is to be 600 mm unless special permission is given by SA Water and the other utility owner. ETSA require 1 m to Pillar	
4.10.4	Minimum Clearance from Structures	Finished clearance to values to be confirmed with SA Water	
4.12.3	Corrosion Protection	CP shall be considered for all steel mains >DN200	
5.9.2	Thrust Blocks	See also SA Water WSCM Drawing B10. Timber and Plastic Thrust blocks (WAT-1206) may only be used for temporary Thrust Block applications	
5.9.3	Anchor Blocks	All valves ≥DN100 are to be anchored in position. See SA Water WSCM Drawing B8	
5.10	Bulkheads and Trenchstops	Use only on steep slopes where main passes through water body ie underground stream. SA Water concurrence required or may direct installation.	
6.2	Stop Valves	<b>All Stop Valves shall be clockwise closing.</b> Unless authorised otherwise all valves shall be flanged	
6.2.4	Bypass of Stop Valves	Minimum bypass size for water mains ≤ DN600 is DN80	
Table 6.1	Stop Valve Spacing Criteria	To be in accordance with details as shown:	Pt1–Tbl 6.1 (Pg4)
6.2.5	Stop Valve location and arrangements	See SA Water WSCM Drawings C5 – C8	
6.2.5.2	Branch Valve Adjacent to Main	See SA Water WSCM Drawings C5 – C8	
Fig 6.1	Branch Valve Adjacent to Main	See SA Water WSCM Drawings C5 – C8	
6.2.5.3	Branch Valve Adjacent to Inner Splay Corner	See SA Water WSCM Drawings C5 – C8	
Fig 6.2	Branch Valve Adjacent to Inner Splay Corner	See SA Water WSCM Drawings C5 – C8	
6.2.5.4	Valve/hydrant combinations	SA Water use the system shown in Figure 6.3(b)	
Fig 6.3	Valve/hydrant combinations	SA Water use the system shown in Figure 6.3(b)	
6.8.3	Hydrants Types	SA Water use the screw down hydrant (b). Pillar hydrants (c) may be specified for specific areas and need SA Water approval before installation	
6.8.8	Hydrant Location	SA Water's preferred location for hydrants directly above the main but when specified by SA Water it may be laid behind the curb	Pt1 – 6.8.8 (Pg 4)
Section 7	Design Drawings	Attached SA Water specific requirements apply	Pt1–Sect 7(Pg 4)
<b>Annexures</b>			
Annex A		Typical SA Water Drawings	
Annex B		Symbols and Abbreviations	

To be used with **WSA 03-2002 V2.3**

---

# SA Water Supplementary Documentation

## Water Supply Code - Part 1 - Design

# Related Requirements

---

### Pt 1 – 4.3.3 Water Mains in Easements

All Water Supply easements shall be vested in the name of the South Australian Water Corporation.

Power, gas and telecommunications utilities are **not permitted** to share or co-locate within SA Water easements to facilitate their respective services. This is due to the OHS&W implications for SA Water's maintenance and operational personnel, or personnel contracted by SA Water.

#### Location of Mains/Easements

All water mains and valves shall normally be located in roadways in accordance with the requirements of SA Water's Water Supply Construction Manual (WSCM) Drawings D1 and D2.

Where it is not practical to run the water mains in the roadway, (eg due to topographical or linking requirements), water mains may be located in easements taken specifically for that purpose.

Water mains **shall not be** located in easements to achieve capital cost minimisation where satisfactory routes in roads are available, as easements adversely affect SA Water's access and ongoing maintenance capabilities.

Water main easements are not as common as sewer easements, but where required, the preferred alignments are as follow:-

- easements should run parallel to cadastral boundaries
- across the rear of allotments,
- down the side of the allotments,
- along an agreed alignment eg across a park or reserve (a site inspection is imperative) taking into account:-
  - terrain and improvements - ie buildings, storm water drains, trees, creeks etc.
  - Contours of land - for ease of construction, avoid traversing across steep gradients.

Where water main easements are located in parks / reserves, the following conditions shall be considered during the route selection process:-

- if the main bursts, the flow shall cause minimal damage to adjacent buildings and properties and the water flow will be safely channelled away,
- suitable vehicle access to the main is available, and
- the water main is clear of any existing or proposed trees and shrubs.

Where a water main easement is shared with a stormwater pipeline, the Council/Developer shall obtain their own stormwater easement from the landowner. The stormwater easement may overlap either a portion or the whole width of the

SA Water easement. Because of the potential for damage to buildings and property the water main should be located on the side of the easement away from any buildings.

SA Water has no obligation to share water main easements with Councils or any other authorities. SA Water takes no responsibility for the stormwater pipeline, other than any damage caused to the stormwater pipeline by SA Water personnel or personnel contracted by SA Water.

**Notes:**

*Where it is impossible to attain lateral clearances from trees, it may be practical to tunnel beneath (or alongside) the tree(s), provided the tree type and root growth will permit such action and provided the tunnelling will not affect or endanger the health OR stability of the tree(s).*

**Easement Widths and Clearances**

Because of the potential for damage if a water main bursts, the easement width and clearance requirements are considerably greater than those required for sewers. SA Water’s minimum requirements are as follows:-

Water Main Diameter	Easement Widths (mm)	Minimum Clearance (mm)	
		Structures	Other Pipes
DN63 to DN 150	7 000	4 000	1 200
DN200 to DN 375	10 000	5 000	1 500

Table 1 - Easement Widths and Clearances

**Location of Main within Easement**

The main is normally located one third (1/3) across the easement and if there is a crossfall, the main is to be on the low side.

Where easements run through narrow walkways, the main is to be placed in the centre of the walkway and two similar sized easement strips shall be obtained so that the minimum easement width is achieved.

**Easements Obtained under Developer Contracts**

The Developer shall be responsible for all costs associated with the acquisition of water main easements that are required within the development.

Easements within the development shall be established on the basis of the Final Plan of the Development. The final plan shall be prepared and lodged with the Development Assessment Commission by the Licensed Surveyor engaged by the Developer.

Where easements external to the development are required, the Developer may acquire the easements independently or may request that SA Water compulsorily acquire the easements at the Developers cost.

## **Pt 1 – Table 6.1 Stop Valve Spacing Criteria**

SA Water's policy is for all valves used in the reticulation system to be placed in locations so that in the event of a shut-down, no more than 50 premises will be affected. Whilst this is not always possible, all greater values shown in WSA-03 Part 1 Table 6.1 should be considered the absolute maximum.

---

### **Pt 1 – 6.8.8 Hydrant /Air Valve Location**

Hydrants (fireplugs) shall be located in the roadway directly above the main as shown in WSCM Drawings Section C.

SA Water uses hydrants (fireplugs) as scours and air release appurtenances. Adjustment can be made within the normal minimum spacing requirements for hydrants to be placed at high and low points within the system. When hydrants are unsuitable for a particular application, air relief valves and/or scours are to be used at high and low points (respectively) on the main.

When hydrants are to be used for scouring and air relief purposes they are to be identified on the design Drawings as to their purpose by use of the symbol as detailed in Annex B (eg FPAV and FPSc)

---

## **Section 7 – Design Drawings**

### **General**

Design Drawings shall be drawn in black ink on copies of A3 size SA Water Pre-Titled Sheets and be of such clarity as to permit microfilming, scanning, and reduction to A4 size. Typical Drawings are shown as Annex A and symbols to be used on the drawings shall be in accordance with Annex B.

### **Scale**

Drawings shall be at 1:1000 scale, except where enlargements are required for complex fixtures.

### **Drawing**

Items that shall be shown are:

- Suburb or Township Names
- Street Names
- Allotment Numbers to the Real Property Act.
- Boundaries
- New Water Mains
- Existing Mains
- Easements (including enlargement to show details if required)–see Annex A
- Restrained Joint sections of pipe (eg Tyton-Lok)
- Size and Type of Pipes
- Hydrants (Fire Plugs) including alternate usage eg scour
- Fire Plug Connectors (with Thrust Block)
- Stop Valves and Reflux Valves
- Tapers (change in main size)

- Existing Meters, Pressure Reducing Valves or any other special fitting
- New Fire Services (if required)
- New Large Domestic Services (if required)
- Obsolete/Lifted Mains
- Cathodic Protection Test Points and Insulated Joints
- Dogleg Details around Obstructions
- North Point
- Bar Scale
- Title Block entries - Main Details, , Certification, Suburb/Township, Council, Water District, Design Plan Number, Contract Number, Map Reference and Docket Number.

### **As-Constructed Information**

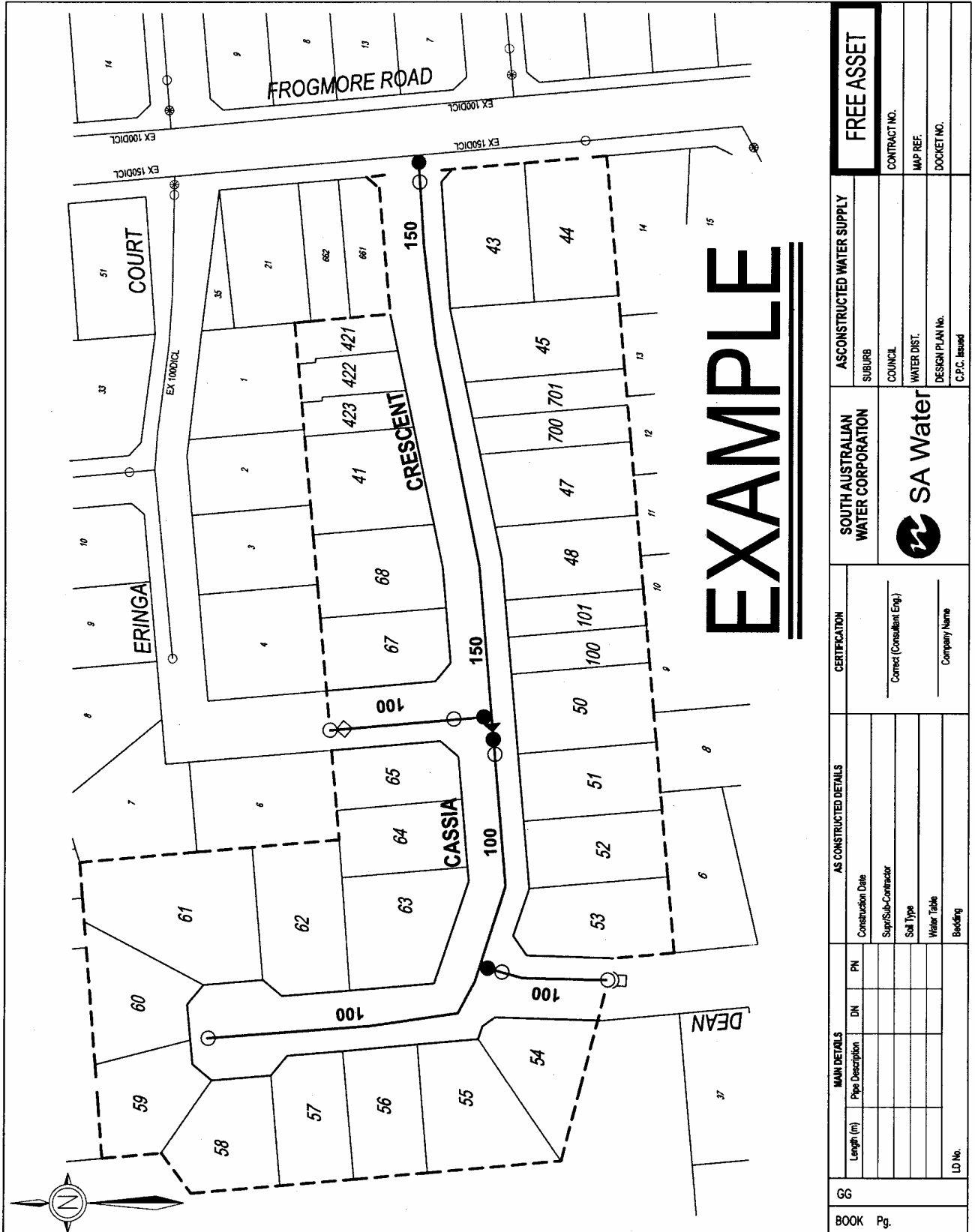
The drawings shall make space allowance for the addition of As-constructed information once the reticulation system has been installed. See Supporting Documentation to WSA-03 Part 3 – Construction.

---

### **Annexures**

- Annex A Typical SA Water Drawings  
Annex B Symbols and Abbreviations

**TYPICAL SA WATER DESIGN DRAWING**

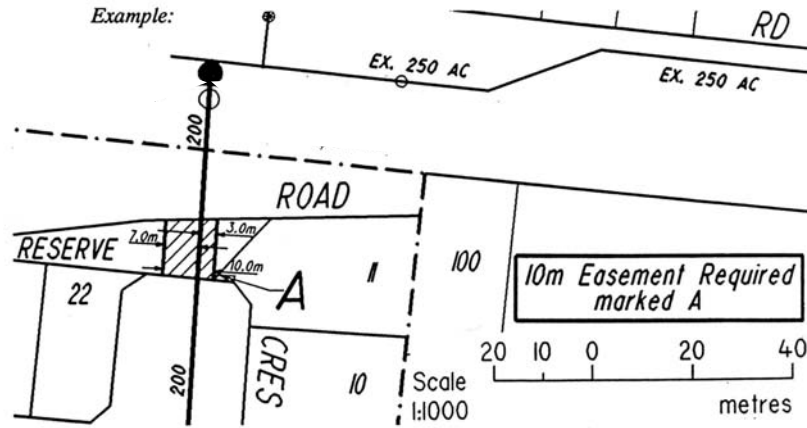


<b>FREE ASSET</b> CONTRACT NO. MAP REF. DOCKET NO.	
<b>AS CONSTRUCTED WATER SUPPLY</b> SUBURB COUNCIL WATER DIST. DESIGN PLAN No. C.P.C. Issued	<b>SOUTH AUSTRALIAN WATER CORPORATION</b> 
<b>CERTIFICATION</b> Correct (Consultant Eng.) Company Name	<b>AS CONSTRUCTED DETAILS</b> Construction Date Supr/Sub-Contractor Soil Type Water Table Bedding
<b>MAIN DETAILS</b> Length (m) Pipe Description DN PN LD No.	GG BOOK Pg.

NOTE:  
 Cadastral data is based on information provided to SA Water. It may need to be updated.  
 Pipe layout and sizes are based upon design drawings, and are provided as a guide only.  
 For "AS CONSTRUCTED" purposes, neither SA Water nor the State of South Australia nor  
 their officers, agents or servants accept responsibility for any inaccuracies in the  
 cadastral data, pipe layouts and sizes.

To be used with WSA 03-2002 V2.3

**TYPICAL EASEMENT ENLARGEMENT DETAILS (for Drawings)**

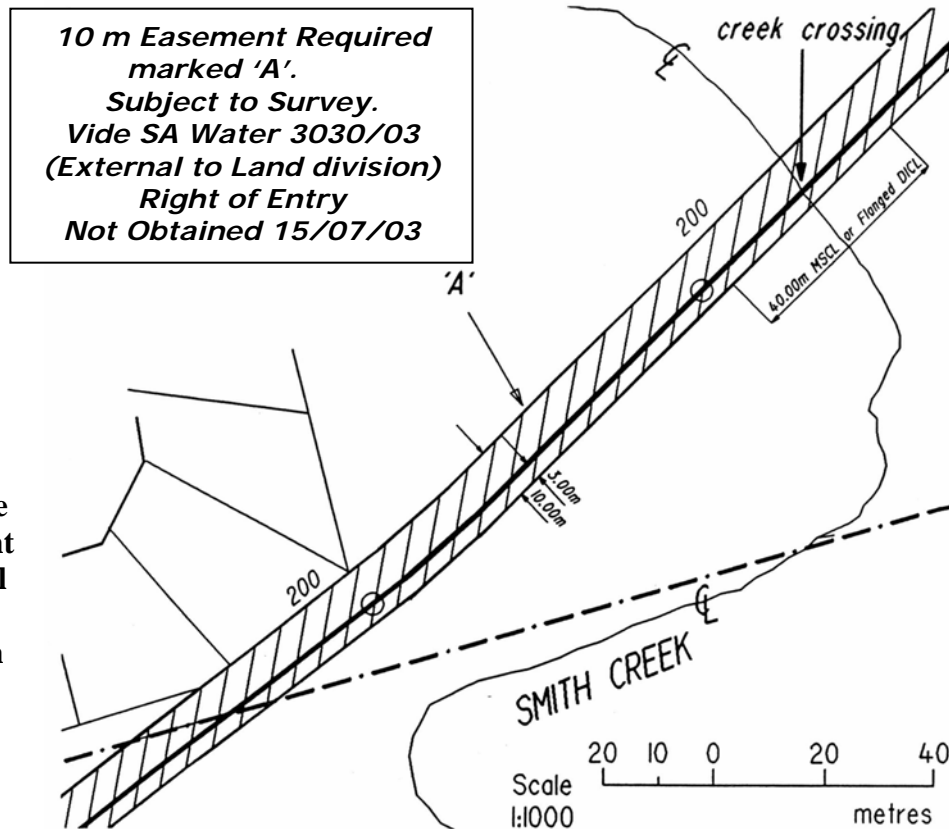


**Example of Easement Internal to New Land Division**

**Notes**

- Easement boundaries to be in bold lines, hatch easement in thin lines and mark it with the letter 'A'.
- Fix location of easement by showing offsets to the property boundaries and locate main in easement in a similar manner.
- If the exact location of easement is undecided insert "subject to survey".

**EXAMPLE**



Example  
Easement  
External  
Land  
Division

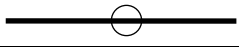




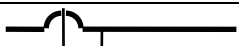

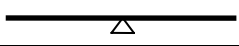


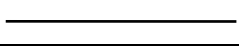

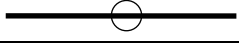




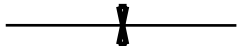




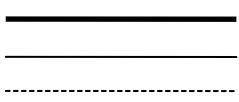
of  
to

**Note:**

- Easement to be shown as for Internal Easement (see above) with the addition of the docket number dealing with the easement acquisition (obtain from SA Water) and whether rights have been obtained and the date.

To be used with WSA 03-2002 V2.3

**SYMBOLS AND ABBREVIATIONS FOR DRAWINGS  
AND AS-CONSTRUCTED AMENDMENTS**

ITEM	SYMBOL	TEXT	SIZE
Air Valve		AV	4mm
Bend and angle of deflection		x°y' Bend	
Boundary Cock		BC	
Branch or Tee		Br or Tee	
Branch with Scour Valve		Sc	4mm
Branch with Stop Valve		SV	4mm
Bypass		BP	
Cathodic Protection Rectifier		CPR	
Cathodic Protection Test Point		CPTP	4mm
Change of Type			
Change of Size - in line - at junction		x dia/y dia Taper x dia/y dia Taper	4mm 4mm
Connection			0.50mm
Connection Nipple		CN	
Cross Over			
Fire Plug		FP	4mm
Fire Plug Air Valve		FPAV	4mm
Fire Plug Scour		FP Sc	4mm
Fire Plug Connector (with thrust block)		FP Con	4mm
Locked Stop Valve		LSV	4mm
Main Cock		MC	
Meter		Meter	
Pillar Hydrant		PH	4mm
Pressure Reducing Valve		PRV	4mm
Reflux Valve		RV	4mm
Stop Valve		SV	4mm
Water Main - new - existing - lifted/abandoned			1.00mm 0.35mm 0.35mm
Water Main - material type :- Ductile Iron Concrete Lined Ductile Iron Concrete Lined with 'Tyton-Lok' Jointing Rings Medium Density PolyEthylene Mild Steel Concrete Lined PolyVinyl Chloride		DICL  DCTJ MDPE MSCL PVC	

To be used with WSA 03-2002 V2.3