

DESIGN HEAD: 93 m
 ZONE: RESIDENTIAL
 TEST PRESSURE: 1200 kPa

General Notes:

- Only contractors accredited by City West Water (enter the Water Agency) to WC1 (enter the categories of work required for this project) shall be eligible to construct these works.
- Only products approved and catalogued by the Water Agency shall be used.
- Works must be constructed according to WSA 03- 2011 MRWA edition.
The Contractor shall ensure that they are conversant with all current revisions, amendments and updates that the relevant Water Agency has made to their standards.
- DW and NDW assets shall only be constructed after deeper assets affecting the water mains have been constructed (eg: sewerage & drainage assets).
- This design is to be read in conjunction with road and drainage plans.
- The Contractor shall obtain a road opening permit for any works within the road reserve and comply with all requirements of the road owner.

Thrust Restraint (Refer Table 6)

- Thrust restraints have been designed on the basis of the AHBP (ground strength) nominated in TABLE 6. The Contractor shall confirm the actual ground conditions and discuss with the Superintendent any ground conditions which are found to be different to that nominated. (Designer to undertake a Geotechnical investigation and quote (in Table 6) the AHBP of the ground used in calculating each thrust restraints, especially for thrust restraints > 2m²)

Property Services

- NDW property services shall always be located on the left of the DW property service as you look from the road to the front of the property. (Remove if not a Dual Water design)

Connections (All types)

- All property service connections to new residential RRJ reticulation mains are to be completed using pretapped connectors.

Other Services (Ref- Table 5 & 7)

- To receive the most up to date information prior to construction, "Dial before you Dig" shall be undertaken to aid in the location of other services. Other services shall be carefully located prior to full excavation at the contractor's cost. Any clashes of proposed new works with other assets shall be reported to the Superintendent immediately for clarification.
- Clearances to other services shall be as per Table 7 and Table 5.5 of WSA03- 2011 MRWA edition. These clearances shall apply to surface covers as well as underground assets.

Earthworks and Retaining Walls:

- In areas subject to earthworks, construction of water assets shall not commence until earthworks and retaining walls has been completed unless written approval has been given by the Water Authority.

Testing, Asset Acceptance and Live Connections

- Post construction activities (of both DW & NDW) such as swabbing, water quality testing, pressure testing and chlorination shall be carried out in accordance with WSA03-2011 MRWA edition and the MRWA Water Quality Compliance Specification. All test results shall be documented and reported to the Superintendent.

- The Water Agency shall be notified in writing 2 full working days in advance of testing being undertaken.

- Both ends of DW and NDW main to meter property services shall be inspected by the Water Agency. The Water Agency shall be notified in writing 2 full working days in advance of this inspection being carried out. Both ends of DW-NDW main to meter property services are to remain exposed until inspected by the Water Agency compliance officer. (Remove this note if not a Dual Water design).

- (insert if YVW)- Each property service shall be "squit tested". This test involves placing each network under pressure separately and ensuring that only the end of the correct property service discharges water.

- The Contractor's ITP shall include provision for each NDW connection to be signed off as correctly installed. (Remove if not a Dual Water design).

- The Water Agency shall be notified in writing 5 (if CWW or SEW) / 9 (if YVW) full working days in advance of connection to the live network being undertaken.

- Shut down work shall be as short as practical and scheduled to commence at 9am on working days with completion to occur no later than 4pm.

- In industrial and commercial areas, the impact on business shall be considered and it may be necessary to carry out the work outside normal working hours.

- (insert if YVW)- Shut downs shall be limited to 4 hours in duration. Arrange for alternate supplies should the shut down duration exceed 4 hours.
- Valves connecting new assets to the Water Agency's live system shall not be operated by the Contractor.

TABLE 1. New Pipe Schedule

New Work (Write in appropriate and acceptable pipe materials)	Size (DN)	Type	Class	Drinking Main	Non-Drinking Main
				Length	Length
	150	PVC-O or PVC-M	16	269m	268m
	100	PVC-O or PVC-M	16	63m	75m
	125	PE100	16	9m	10m
	63	PE100	16		56m
	50	PE100	16	32m	
	40	PE100	16	32m	
	25	PE100	16	Property Services	Property Services

TABLE 2. Pipe Material Schedule

MATERIAL	Reference	MATERIAL	Reference
PVC-M	WSA-PS-209	PE (retic & submain)	WSA-PS-207
PVC-O	WSA-PS-210	PE (property services)	WSA-PS-215

TABLE 3. Hydrant & Washout Schedule

Main Size	Fitting Type	Ownership	Location	Street	Location
150	WASHOUT	NDW - CWW	End of Line	GOODENIA AVE	2m E of WBL Lot 2448
150	WASHOUT	DW	In Line	GOODENIA AVE	4.5m E of WBL Lot 2448
150	HYDRANT	NDW - Council	In Line	GOODENIA AVE	5m E of WBL Lot 2445
150	HYDRANT	DW	In Line	GOODENIA AVE	7.5m E of WBL Lot 2445
100	HYDRANT	NDW - Council	In Line	SPRINGWOOD CRT	3m S of NBL Lot 2450
100	HYDRANT	DW	In Line	SPRINGWOOD CRT	5m N of SBL Lot 2450
63 PE	FLUSHING BOX	NDW - CWW	End of Line	SPRINGWOOD CRT	7m N of SBL of Lot 2459
100	WASHOUT	NDW - CWW	End of Line	FIRECREST ROAD	3.5m S of NBL Lot 2438
100	WASHOUT	DW	End of Line	FIRECREST ROAD	1m S of NBL Lot 2438
100	HYDRANT	NDW - Council	In Line	FIRECREST ROAD	6m N of SBL Lot 2438
100	HYDRANT	DW	In Line	FIRECREST ROAD	3.5m N of SBL Lot 2438
150	HYDRANT	NDW - Council	In Line	ISON ROAD	3.5m N of SBL Cnr Lot
150	HYDRANT	DW	In Line	ISON ROAD	1m N of SBL Cnr Lot
150	WASHOUT	NDW - CWW	End of Line	ISON ROAD	3.5m S of NBL of Cnr Lot
150	WASHOUT	DW	End of Line	ISON ROAD	1m N of NBL of Cnr Lot

TABLE 4. Curved Pipe & Deflection Schedule (Produce in accordance with MRWA-W-212)

Location	Method	Offset / Radius (m)	Total Pipe Length (m)	Pipe Lengths (m)
Eg only	5 x 6" SOC Bends	100m radius	60	12 x 5m

TABLE 5. Service Alignment Schedule (offsets in m)

Location	Water	ND-Water	Gas	NBN	Elec	Poles	BOK
ISON ROAD (SERVICE ROAD)	3.65 W	3.2 W	2.75 W	4.25 E	4.75 E	5.05 E	5.70 W
GOODENIA AVENUE	2.65 N	2.2 N	1.75 N	1.75 S	2.05 S	3.05 S	3.60 N
SPRINGWOOD CRT	2.55 W	2.15 W	1.75 W	1.75 E	2.05 E	3.05 E	3.60 W
FIRECREST ROAD	2.55 E	2.15 E	1.75 E	1.75 W	2.05 W	3.05 W	3.6 E

TABLE 6. Thrust Restraint Schedule

Location	Type	Thrust	AHBP (kPa) USED	Area (m ²), or W(m) x Y(m)	No. Locations
A	IN LINE	2 x DN150 VALVES	50	1.16 (tot)	2
B	PLAIN	2 x DN150 x DN100 TEES	50	0.56 (tot)	1
C	PLAIN	2 x DN100 WASHOUTS	50	0.56 (tot)	1
D	IN LINE	2 x (DN100 VALVES + PE THERMAL SHRINKAGE)	50	0.80 (tot)	1
E	CANTILEVERED	2 x DN150 VALVES	100	1.6 x 1.5	1
F	PLAIN	2 x DN150 WASHOUTS	100	0.56 (tot)	3
G	IN LINE	1 x DN100 TAPER + VALVE	50	0.30 (tot)	2

TABLE 7. Vertical Clearances

Existing or proposed Service	Minimum vertical clearance (mm)	Existing or proposed Service	Minimum vertical clearance (mm)
Water mains ≤ DN375	150	Electricity conduits and cables	225
Water mains > DN375	300	Stormwater drains & pits	150
Gas mains	150	Sewers - gravity	500
Teleco conduits and cables	150	Sewers - pressure & vacuum	300

- Vertical clearance between water mains shall depend on the larger main diameter.
- Water mains shall cross over sewers and drains unless shown otherwise.
- Maintain additional clearance from High Voltage electrical cables to allow for a protective barrier and marking. (The designer shall contact the power utility and specify HV cable clearances and protective barrier requirements in the design)

LOCALITY PLAN

SCALE: 1:20,000
 MELWAYS: 12 A3

INSTRUCTIONS ON USING THIS DESIGN TEMPLATE SHEET & EXAMPLE DESIGNS:

- Text in blue italics is instructional information for the designer to act on. Once the action has been completed, the blue italics text should be removed.
- Non italics text colored black is part of the design template and shall remain in place if relevant.
- Non italics text colored magenta is provided as an example only and shall be removed or modified to be specific to the design being produced.
- The template & example design is split into 3 parts (MRWA-W-101, 102 & 102B)
 - Part 1 (MRWA-W-101, this sheet) shall include all notes and a locality plan. This part is a TEMPLATE which shall be filled in as part of all water pipeline designs. Much of the notes text is provided and will likely remain consistent across all jobs. All notes must be confirmed by the designer and only included if relevant. Job specific requirements outside of those already quoted must be added by the designer. The intent is that all of Part A fit on one sheet and be readable when printed on A3 paper.
 - Part 2 (refer to MRWA-W-101A which is an EXAMPLE that demonstrates the layout, line and text requirements) which is to contain the design drawing(s) which shall take up the whole page and have a maximum scale of 1:500 on A1 paper (equivalent to 1:1000 on A3 paper, which is readable). There may be a number of sheets to Part 2 depending on the size of the design.
 - Part 3 (refer to MRWA-W-101B which is an EXAMPLE that demonstrates the layout, line and text requirements) shall contain all schematic enlargements (details) which show construction components and how they are to be configured. Schematic enlargements will be required when there are more than six (6) fittings in close proximity (ie: 5 meter diameter circle) or a non standard arrangement is proposed (this often occurs at valve and hydrant clusters).
- All symbology used in Parts 2 & 3 must be as shown in standard drawing MRWA-W-100.
- MRWA-W-100 & 101 are available in CAD and MS Word format from the water agency for adjustment & issuing to contractors.
- All works are to be designed in accordance with WSA 03- 2011 MWRA edition.
- Sewer designs shall not be included in DW & NDW designs.



FOR THE DURATION OF PROCLAIMED WATER RESTRICTIONS, THE CONTRACTOR SHALL CONFORM WITH THE RESTRICTIONS AND ANY OTHER WATER CONSERVATION REQUIREMENTS IMPOSED BY THE WATER AGENCY.

WARNING
 BEWARE OF UNDERGROUND SERVICES
 THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

WARNING
 BEWARE OF ASBESTOS
 SOME UNDERGROUND SERVICES MAYBE CONSTRUCTED FROM ASBESTOS CONTAINING MATERIAL. CONTACT THE SUPERINTENDENT FOR INSTRUCTIONS ON HOW TO MANAGE ANY POTENTIAL ASBESTOS HAZARD

ISSUED FOR CONSTRUCTION

Remove the irrelevant Water Agency Logos or turn off relevant layer
 MRWA-LOGO-CWW
 MRWA-LOGO-SEW
 MRWA-LOGO-YVW
 MRWA-TEXT-OFF



YARRA VALLEY WATER
 MUNICIPALITY
 PROJECT TITLE
 NOTES, SCHEDULES & LOCALITY PLAN

SCALE: AS SHOWN @A3
 SHEET: 1 OF 5
 DRAWING No.: REV
 MRWA-W-101 0

DESIGNED	A.BCDEFGH	PROJECT NUMBER	000000
DATE:	11/22/3333	MELWAY REFERENCE	123 A1
DRAWN	A.BCDEFGH	CHECKED	A.BCDEFGH
DATE:	11/22/3333	DATE:	11/22/3333
DATE:	11/22/3333	AUTHORISED	A.BCDEFGH
DATE:	11/22/3333	DATE:	11/22/3333