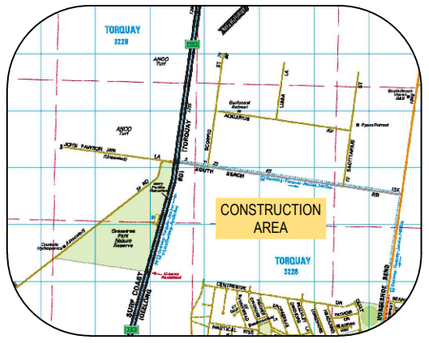
DESIGN HEAD:	93 m
ZONE:	RESIDENTIAL
TEST PRESSURE:	1200 kPa



LOCALITY PLAN

SCALE: 1:20,000
MELWAYS: 12 A3

INSTRUCTIONS ON USING THIS DESIGN TEMPLATE SHEET & EXAMPLE DESIGNS:

A. 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.
B. Non italics text colored black is part of the design template and shall remain in place if relevant.
C. 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.
D. The template & example design is split into 3 parts (BW-W-101,102 & 102B)
1. Part 1 (BW-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.
2. Part 2 (refer to MRWA-W-102A 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).
3. Part 3 (refer to MRWA-W-102B 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).
E. All symbology used in Parts 2 & 3 must be as shown in standard drawing MRWA-W-100.
F. MRWA-W-100 & BW-W-101 are available in CAD format from the water agency for adjustment & issuing to contractors.
G. All works are to be designed in accordance with WSA 03- 2011 MWRA edition and BW's Supplement to Water Supply Code.
H. Sewer designs shall not be included in DW & NDW designs.
I. Registered Engineer to include PE Number next to their name in the signature box. Can be either Checker or Authorised person.

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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.

General Notes:

1. Only contractors accredited by Barwon Water to 1W to 4W *(Enter the categories of work required for this project)* shall be eligible to construct these works.
2. Only products approved and catalogued by the Water Agency shall be used.
3. Works must be constructed according to WSA 03- 2011 MRWA edition and the Barwon Water's Supplement to this code.
4. 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.
5. DW and NDW assets shall only be constructed after deeper assets affecting the water mains have been constructed (eg: sewerage & drainage assets).
6. This design is to be read in conjunction with road and drainage plans.
7. The Contractor shall obtain a road opening permit for any works within the road reserve and comply with all requirements of the road owner.

Survey, Set Out and Asset Recording

8. Temporary Bench Marks (TBM) for the set out of works to the Australian Height Datum (AHD) are provided in the design drawings.
(The designer shall capture all TBMs and PSM's on survey information table)
9. All levels are in metres to AHD.
10. All co-ordinates are in metres to the Map Grid of Australia (MGA XXX). *(Nominate whether MGA94 or MGA2020 has been used)*
11. The contractor is directly responsible for ensuring the project set out is consistent with the design. Should actual site conditions conflict in any way with that documented the contractor shall contact the Superintendent for clarification before proceeding.
12. Asset recording is to be completed by a suitably qualified and experienced Surveyor. All Surveyor works and data recording shall be undertaken in accordance with BW survey manual for land development, November 2022. All asset recordings must be completed to MGA 94.
13. All specific pipe materials (eg: PVC-M) shall be indicated in the As Constructed information.

Products and Materials (Refer Table 1 & 2)

(Consult with Barwon Water where test pressures exceed 1600 kPa. Where a higher test P is accepted, provide instruction to the Constructor on the products and materials to be used)

14. DW and NDW system components shall be differentiated as per section 4.2 of WSA03-2011, MRWA edition.
(Remove if not a Dual Water design)

Appurtenances (Fittings- Refer Table 3)

15. *(Insert any relevant notes here)*

Water Main Alignment, Trenching & Cover (Refer Table 5)

16. The minimum offset from a property shall be 1.5 metres from any pipe up to and including DN150mm where the pipe is located in a residential zoned court bowl head or rural zoned area. Offsets of mains from property boundaries shall be minimum 2.1m.
17. All water mains shall pass over drains and sewers unless shown otherwise in the design drawings.

(Designer is to ensure that wherever practical, water asset offsets comply with those stated within the "Road Management Act 2004 Code of Practice for Infrastructure in Road Reserves").

Embedment

18. *(Nominate acceptable embedment system(s) and nominate where each is required.)*

Backfill

19. *(Nominate the road owner's backfill material and compaction requirements (ie: Vicroads or Council) for road reserve backfill.)*
20. Non trafficable backfill shall be completed as per MRWA-W-201 and version 1 of the MRWA Backfill Specification.

Thrust Restraint (Refer Table 6)

21. 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

22. 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)

23. Pre-tapped connectors are not permitted.
24. All property service connections to new residential reticulation mains are to be completed using Barwon Water's Standard Drawing 70112.

Other Services (Ref- Table 5 & 7)

25. To receive the most up to date information prior to construction, "Before you Dig Australia" 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.
26. Clearances to other services shall be as per section 5.12.5.2 of the Barwon Water supplement as seen below in Table 7. These clearances shall apply to surface covers as well as underground assets.

Earthworks and Retaining Walls:

27. 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

28. 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 Barwon Waters "Water Quality Requirements for Commissioning of assets in contact potable water or Class A Recycled Water" dated April 2019. All test results shall be documented and reported to the Superintendent.
29. The Water Agency shall be notified in writing **3 full working days** in advance of testing being undertaken.
30. The Superintendent or their nominated representative shall inspect both ends of the DW and NDW main to meter property services and witness a "Squirt Test" for each property service. This test involves placing each network under pressure separately and ensuring that only the end of the correct property service discharges water.
DW and NDW property services within the lot are to remain exposed until inspected by the Water Agency compliance officer. The Water Agency shall be notified in writing **3 full working days** in advance of this inspection being carried out.
(Remove if not a Dual Water design).
31. Each property service shall be "squirt tested". This test involves placing each network under pressure separately and ensuring that only the end of the correct property service discharges water.
32. 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).
33. Barwon Water shall be notified in writing **15 full working days** in advance of connection to the live network being undertaken.The request for water main shutdown is to include compliant water quality results.
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.
34. The Shutdown period shall be limited to **4 hours** in duration and and happen between 9am and 3pm. If the shutdown duration exceeds 4 hours, an alternative supply should be arranged.
35. Valves connecting new assets to the Water Agency's live system shall not be operated by the Contractor.
(Insert any AMS requirements particular to the project)

No works shall commence prior to plans being accepted and stamped by Barwon Water

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

Table 8: Water Agency Granted Dispensations

ID	Location	Asset / Feature	Description of Dispensation Accepted
1	DN150	Offset in Rd	2.0m offset

Table 9: Survey information

Number	Mark name/Parish	Easting	Northing	Height	H order	V order
XX	XX	XX	XX	XX	XX	XX
XX	XX	XX	XX	XX	XX	XX
XX	XX	XX	XX	XX	XX	XX
Note to designer: Min 2x PSM with both H order & V order accuracy of 3 or higher, and 3xTBM						

TABLE 1. New Pipe Schedule

New Work *(Write in appropriate and acceptable pipe materials)*			Drinking Main	Non-Drinking Main
Size (DN)	Type	Class	Length	Length
150	PVC-M	16	269m	268m
100	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
PVC-M	WSA-PS-209

MATERIAL	Reference
PE (retic & submain)	WSA-PS-207
PE (property services)	WSA-PS-215

TABLE 3. Hydrant & Washout Schedule

Main Size	Fitting Type	Ownership	Location	Street	Location
150	WASHOUT	NDW - BW	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 - BW	End of Line	SPRINGWOOD CRT	7m N of SBL of Lot 2459
100	WASHOUT	NDW - BW	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 - BW	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)
Water mains ≤ DN375	150
Water mains >DN375	300
Gas mains	150
Teleco conduits and cables	150

Existing or proposed Service	Minimum vertical clearance (mm)
Electricity conduits and cables	225
Stormwater drains & pits	150 (any pipeline <DN300) 300 (any pipeline DN300-375)
Sewers - gravity	500
Sewers - pressure & vacuum	500

- 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)

REV	DESCRIPTION	DATE	APPROVED
1	NOTE 12 AMENDED- WORDING CHANGE	25/08/23	CC

DESIGNED	A.BCDEFGH DATE: 11/22/3333	PROJECT NUMBER	L0 ??????
DRAWN	A.BCDEFGH DATE: 11/22/3333	MELWAY REFERENCE	123 A1
CHECKED	A.BCDEFGH PE No DATE: 11/22/3333	AUTHORISED	A.BCDEFGH PE No DATE: 11/22/3333

ISSUED FOR CONSTRUCTION

Barwon Water
65-67 RYRIE STREET, GEELONG, VICTORIA 3220
T 1300 656 007 W www.barwonwater.vic.gov.au

BARWON WATER
MUNICIPALITY
PROJECT TITLE
NOTES, SCHEDULES & LOCALITY PLAN

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