

WIOA National Water Main Tapping Competition

INTRODUCTION

The Water Main Tapping Competition was introduced into the Australian water industry in the late 1980's, then modernising again in 2016, and now into a competition where our State winners progress to the National competition, and the National winner progressing to our International competition - Australia vs New Zealand.

Our current 2026 National Winners are:

State	Team Name	Team Member	Team Member	Interim Time	Penalty Time	Final Time
Tasmania	Wild West Tappers	Cameron Lusk	Lynden Thurston	1:17.35	1x small leak +10 sec	1:27.35

This was fought out at our national competition that was held in Melbourne at Reece Civil + Viadux in November 2025.

Our National Record History Board demonstrates the fastest time by:

Year	Team	Company	Final Time
2024*	Dan Nuku, Tom Brown	Gold Coast City Council	1:20.50

Now I will explain what a water main tapping is, for those who may not be familiar;

A water main is generally tapped live, to limit the need for a full network shutdown when supplying our customers with water.

Our Operations and Maintenance crews install tapping bands onto our pipes, whether they be PVC, Asbestos, Ductile, or Cast Iron, and install an isolation tap onto the main to be able to shut off the service when needed.

A section of poly or copper pipe is then installed with the associated fittings, to a water meter, which then feeds supply to the customers.

The water mains are tapped with the tapping kits you see before you, which consists of tapping tools with an appropriately sized drill bit to go through the material.

Now finally, before we begin proceedings, I will go through the rules of the mains tapping competition.

COMPETITION RULES

1. The water main tapping will be on a pressurised section of 100mm DICL pipe, set up on a stand, and pressurised from a water tank or town supply.
2. Tapping's must be completed without the use of electrical or pneumatic tools or devices.
3. Teams of two compete in time trials consisting of two teams competing at a time.

4. A safe work method statement or JSA is to be completed by the teams and reviewed by the judge/s prior to commencing the event. Each team member must agree to and sign onto the SWMS/JSA before competition commences.
(Appendix 2 Watermain Tapping Competition – Job Safety Environmental Assessment JSEA)
5. Each team member must wear the appropriate PPE required to tap a live water main. The PPE required includes gloves, steel capped boots and safety glasses.
6. Each team is supplied with the necessary tools and fittings to complete a 20mm water tapping on a 100mm DICL pipe.
7. Each team will be provided two opportunities to tap the water main to give each team a chance if a fitting or tool breaks, with their fastest time being used to determine a winner.
8. The teams will carry out an under pressure tapping through a TPFNR ferrule and connect a length of poly pipe to a ball valve.
9. It is up to the team members to check all tools and fittings are working prior to competition. Equipment failure is deemed the fault of competitors. Tool kit to be placed on ground underneath working area.
10. At the beginning of the heats, a countdown and starting whistle will sound and the competitors may start the process of tapping the water main.
11. Two independent timekeepers will time the competitors using stop watches (one for each team).
12. Competitors are not to be near the judges when judging and need to provide them with space, while they check for penalties to avoid any influencing.
13. The two-person team install the tapping band and ferrule on the 100mm pipe, tap the water main, install 1 metre of poly pipe, and install a ball valve on the end of the poly. All parts provided must be used to be deemed a full install.
14. When a team has finished, they must:
 - Turn the water off at the ball valve.
 - Return all tools to the toolbox (exception is thread seal) & shut the lid; and
 - hold up their hand which indicates to timekeepers of a completed tap.
15. Once completed, the time will be stopped by the timekeepers and an interim time recorded pending the judge's inspection. All competitors, prior to judge's inspection, must vacate the exclusion zone to ensure fair judging is performed *(Appendix 1 – Judges Log Sheet)*

JUDGING

The watermain tapping and pipe fittings will be inspected for leaks or faults by the judge/s post completion.

The following penalty times will be added to the interim times:

- Small Leak on service (per leak location) – 10 seconds added
- Major Leak of service (per leak location) – 20 seconds added
- No water to the ball valve – 10 seconds added
- Not completing a clean and completed tapping through the pipe wall - 20 seconds added



When inspecting, the tap MUST be clean. No leftover edges, steel or concrete shall be left inside the drilled-out hole.

- All tools not in toolbox (excluding thread seal) – 30 seconds

When the water tapping is complete and inspected, the judges will record the time for the heat. The two fastest teams recorded on the day will be announced the competition winner and runners-up.

COMPETITION LOGISTICS

To ensure the smooth running of the event, it is recommended that a minimum of 3 Competition Supervisors are involved from the setup to the completion of the competition.

Competition Supervisors will be required to:

Prior to competition

- Assist in the construction prior to the competition commencing. This includes setting up the water supply to the tapping rig as well as tightening joints that are leaking when the rig is pressurised.
- Ensure that tapping kits have all the required parts and drill bits.
- Ensure there are enough parts provided for each heat to limit the need for removal of thread seal tape and reuse of fitting during competition.

During competition

- Clean up of fittings such as removal of thread seal tape from used fittings as required.
- Once tap has been inspected by the judge/s, depressurise the rig by isolating and bleeding pressure through the bleed off point.
- Removal of the ferrule to check if the tapping has gone through the pipe wall in its entirety.
- Installation of the 20mm plug to used tapping band.
- Repressurise the tapping rig before the commencement of the next heat.
- General housekeeping.

Post competition

- Assist in dismantling the tapping rig and associated fittings.
- Pack up used fittings.
- Disassemble the water supply.



MEDIA / COMMUNICATIONS

Reece Civil Viadux are the proud sponsors of this competition. We aim to prominently feature their branding throughout the event, including photos and videos related to the competition, banners, and their logo at key locations. Additionally, we will quote them in all verbal and printed communications whenever possible.

External communications will also include the following themes:

- We have an expectation that we can turn on a tap for a drink of water, to cook or take a shower and give no thought to what it takes to operate and maintain the municipal water infrastructure.
- Australians are fortunate to have safe, clean, and drinkable tap water compared to other countries.
- The general public may not be aware of the infrastructure and effort that goes into delivering water supplies.
- Ultimately, we want to celebrate our unsung heroes – the water operators, their crews, and the water company, who deliver this service 24 hours a day, seven days a week, year-round to ensure we have a continuous safe supply of drinking water.

PROCEDURE CONSULTATION TEAM

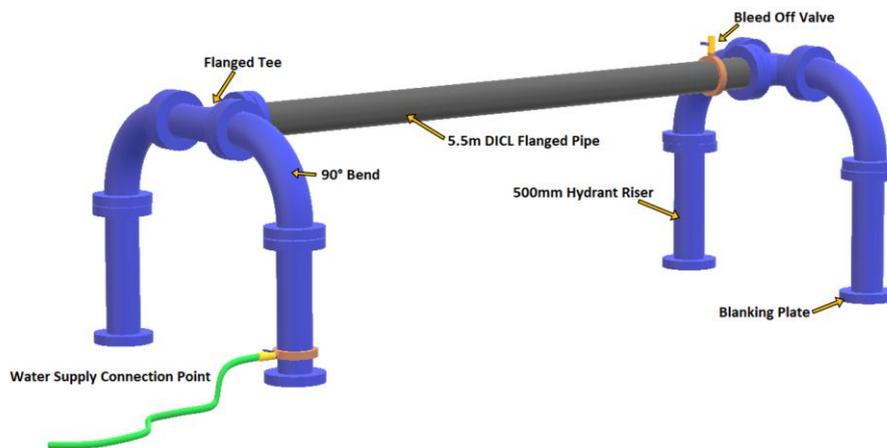
- WIOA Watermain tapping competition Chair.
- Reece Civil & Viadux
- WIOA Staff

EQUIPMENT LISTS

The water main competition pipework will comprise of a length of Ductile Iron Cement Lined (DICL) PN35 Flange/Flange Pipe, with hydrant risers, bends and tees for legs, connected to the water supply provided at the event. Water supply pressures should not exceed 600kPa if supplying via a Pump or portable reservoir system to ensure safety of competitors and spectators whilst conducting the live tap.

COMPETITION PIPEWORK

QUANTITY	FITTINGS	COMMENTS
5.5metre	100mm (DICL) PN35 FL/FL Pipe	Viadux Code 3700986
4	100mm DI X 500mm PN16 FL/FL Hydrant Risers	Viadux Code 1013345
4	100mm DI X 90deg PN16 FL/FL Bend	Viadux Code 1012125
2	100mm DI PN16 FL/FL/FL Tee	Viadux Code 1012118
4	100mm DI PN16 Blanking Plate	Viadux Code 1013146
14	100mm Flange Kits	Viadux Code 3004051
2	100mm x 20mm DICL (gun metal) tapping band (Hydroflow)	Viadux Code 1002945
2	Brass Ball Valve F&F 20mm (DURA)	Viadux Code 1004191
3	20mm BSP Brass Nipple	Viadux Code 9800339
	Suitable Hose or Poly for connection to water supply (including hose/pipe fittings)	Supplied by Event
1	Service water line cover mat	Supplied by Event



WATERMAIN TAPPING EQUIPMENT (per competitor, per heat)

QUANTITY	FITTINGS	COMMENTS
1	100mm x 20mm DICL (gun metal) tapping band (Hydroflow)	Viadux Code 1002945
1	TPFNR Ferrule & Bonnet 20mm BSP (Strongcast)	Viadux Code 3708264
1 metre	20mm ID poly pipe	Viadux Code 1431230
1	Brass Ball Valve F&F 20mm (DURA)	Viadux Code 1004191
1	Brass ferrule bend 20mm (DURA)	Viadux Code 106900
1	Female Connector 25 x 20fi (joiner) (Philmac)	Viadux Code 1508963
1	Male Connector 25 x 20fi (joiner) (Philmac)	Viadux Code 1508947
1	20mm brass male threaded plug	Viadux Code 9800369
1	Roll of thread seal tape	Viadux Code 1903680

TAPPING TOOLS (PER TEAM)

QUANTITY	FITTINGS	COMMENTS
1	RMC Rapid Tap Kit and new drill bit	Viadux Code 8008019 (drill bit)
1	Set of footprints	N/A
1	19mm ring/open end spanner	N/A

JUDGING TOOLS

QUANTITY	FITTINGS	COMMENTS
2	Timers / Stop watches	Supplied by Event
2	Folder / time log sheet	Supplied by Event
1	Referee's Whistle	Supplied by Event



National Water Main Tapping Competition - Procedure

APPENDIX 1 - JUDGES LOG SHEET

Heat	Organisation	Team Name	Team Member	Team Member	Interim Time	Penalty Time	Final Time	Comments
1								
2								
3								
4								
5								
6								

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APPENDIX 1 - JUDGES LOG SHEET

Heat	Organisation	Team Name	Team Member	Team Member	Interim Time	Penalty Time	Final Time	Comments
7								
8								
9								
10								
11								
12								

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APPENDIX 2 WATERMAIN TAPPING COMPETITION – JOB SAFETY ENVIRONMENTAL ASSESMENT (JSEA)

TASK NAME / ACTIVITY	Watermain Tapping Competition				
REQUIRED LICENCES, CERTIFICATES OR COMPETENCIES					
Previous watermain tapping experience is desirable					
MONITORING FOR COMPLIANCE					
Ongoing monitoring and review of control measures to be done by (name):					
Ongoing supervision to ensure compliance with JSEA to be done by (name):					
PERSON AUTHORISING USE OF JSA					
Name:		Signature:		Date:	
JOB / TASK STEP	HAZARDS / RISKS	RISK (I)	CONTROL MEASURES	RISK (R)	RESPONSIBILITY
Pressurised water main tapping pipework	Body strike caused by water pressure raising the tapping tool/drill after penetrating through the pipe	Medium	Keep head and any body parts away from the tapping tool	Low	Watermain tapping competitors
	Water pressure blowing pipe fittings off	Medium	Ensure all fittings are firmly tightened, and that the water pressure is equivalent to the town pressure by connecting the unit to a tap.	Low	Watermain tapping competitors
	Water pressure	Medium	If tap water cannot be provided, either use a water tank that is gravity fed, or if pumped can have not greater pressure than 600kpa.	Low	Competition watermain installer
	Cap blowing out of the tapping hole	Medium	All caps/plugs must be inserted into the tapping band and not directly into the watermain pipe	Low	Competition supervisors
	Electrical shock - electrical equipment near water causing an electrical shock	Medium	No electrical equipment, leads, and power equipment near water	Low	Competition supervisors
	Tripping hazard - pipes running over the top of the ground	Medium	Cover all pipes running on the ground with a cover mat	Low	Competition watermain installer
	Competition PPE required	Medium	gloves, steel capped boots and safety glasses, consider hat, long longs.	Low	Watermain tapping competitors
	Spectator segregation	Medium	Have a defined area that segregates the spectator's vs the competitors.	Low	Competition watermain installer
	UV / Heat protection	Medium	Marque over the competition area	Low	

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APPENDIX 2 (Cont.) WATERMAIN TAPPING COMPETITION – JOB SAFETY ENVIRONMENTAL ASSESMENT (JSEA)

(Each Competition Team Member to sign:)

NAME	SIGNATURE	NAME	SIGNATURE