8800W Water Supply Temporary Bypass

REVISED 05/06/2025

8800W.1 Introduction

This supplementary specification applies only to the planned works required to carry out installation of a temporary bypass of a water main and associated infrastructure such as property services or water pump station and maintain the provided service to the water supply system users. It does not apply to unplanned or emergent works as a result of disaster or infrastructure failure.

The purpose of this specification is to outline MRC's minimum requirements for the design, installation, maintenance, and removal of any approved temporary water supply bypass works.

8800W.1.1 Definition of Terms

This section describes any term which are specific to this specification or requires clarification due to an ambiguous understanding.

The terms used in this Technical Specification shall be as defined in Clause 2 of MRTS01 *Introduction to Technical Specifications* and the *CTM Water Alliance Design and Construction Code*. Additional terms used in this Technical Specification are defined in the Table below.

Term	Definition
Water Supply Temporary Bypass System	An approved water supply system providing temporary water supply to customers and other parts of the reticulation during existing mains shutdown for replacement, relining etc. It involves installing a parallel main along the section of existing water main that is temporarily shut down including temporary water service supply to customers.
Bypass Design	The design of a water supply temporary bypass to ensure MRC's Water & Waste Departments desired level of service to customers and other parts of the reticulation is maintained.
FCR	Acronym for Free Chlorine Residual
UPCIC	Acronym for Under Pressure Cut-in Connections (live taps)
PNI	Acronym for Planned Network Intervention (planned works to disrupt water supply)

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8800W.2 Referenced Documents

This supplementary specification shall be read in conjunction with the following:

- MRS01 “Introduction to Specifications”;
- MRTS01 “Introduction to Technical Specifications”;
- MRS03 and MRTS03 “ Drainage, Retaining Structures and Embankment Slope Protections”;
- MRS04 and MRTS04 “General Earthworks”;
- MRS05 and MRTS05 “Unbound Pavements”;
- MRS50 and MRTS50 “Specific Quality System Requirements”
- MRS70 and MRTS 70 “Concrete”;
- CTM Water Alliance Design and Construction Code;
- AS?NZS 2032 “Installation of PVC pipe systems”;
- AS/NZS ISO 31000 “Risk management - Principles and Guidelines”
- AS/NZS 2566.2 “Buried Flexible Pipelines”;
- AS 3500 “ Plumbing and Drainage – part 1 Water Services”
- WSAA03 “Water Supply Code of Australia” (current version);
- WSAA 05 “Conduit Inspection Reporting Code of Australia” (current version);
- MRC Supplementary Specification 4878 “HDD, Auger Boring, and Pipe Jacking”;
- The project Drawings; and
- Work Health and Safety Act 2011 (Qld)
- Work Health and Safety Regulation 2011 (Qld)
- Water Supply (Safety and Reliability) Act 2008 (Qld)
- Environmental Protection Act 1994 (Qld)
- Queensland Building and Construction Commission Act 1991 (Qld)
- Work Health and Safety Queensland Codes of Practice
- CTM Water Alliance Design and Construction Code;
- The latest relevant Australian (AS), British (BS) and IEC Standards
- Water Services Association of Australia (WSAA) Guideline: Dechlorination of Drinking Water to Discharged Waterways, National Guidance for the Urban Water Industry 2019.

8800W.3 Description of Work Items

Work items incorporated by this supplementary specification are identified in Section 8800W.6 and 8800W.7 with individual activities/tasks for measurement and payment sourced from the Bill of Quantities and listed in MRC Supplementary Specification Annexure 8800W_1 Water Supply Temporary Bypass Section 1

8800W.4 Quality Systems Requirements

8800W.4.1 Std Test Methods (Testing Regime)

The following minimum testing regime applies to this specification:

All reticulated water testing and activities for commissioning of the temporary bypass water supply system shall be carried out by the appropriate test method required as outlined in the relevant WSAA Code, including the Appendices.

- Hydrostatic testing (as required)
- Flushing of the line/s and property services;
- Disinfection of line/s and property services;
- Dichlorination;
- Water Quality sampling, testing, analysis, and assessment.

Civil works activities associated with excavation, bed/floor preparation, concrete pours, and backfilling shall be tested as per the WSAA Water Supply Code of Australia, CTM Water Alliance Design and Construction Code, where there is a lack of detail the relevant MRTS specification MRTS03, MRTS04, and MRTS70 shall apply unless otherwise approved by the Superintendent.

8800W.4.2 Hold Points, Witness Points and Milestones

The following table represents the minimum inspection requirements for this specification;

Activity	Inspection Type	When	Clause Reference
PRELIMINARY			**8800W.5**
Construction Procedure and other submissions as required by Clause 8800W.5	Milestone	4 Weeks prior to works commencing	8800W.5
Handling and Storage of material on Site	Hold Point	At time of delivery	8800W.5.3
Test records and results	Hold Point	Prior to site works commencing, approval to commence works	8800W.5.8
CONSTRUCTION			**8800W.6**
Site inspection of all delivered materials, fittings, and components	Hold Point	At time of delivery to site	8800W.6.2.1
Submission of electrical certification of existing mains and services	Hold Point	Prior to installation of temporary bypass system	8800W.6.2.2
Site layout of Temporary Bypass	Hold Point	Prior to site works commencing	8800W.6.2.4
Carry out Installation of temporary by pass system	Witness Point	During installation to assess against approved works procedure	8800W.6.3
Approval to deviate from design drawings (as required)	Hold Point	Prior to or During installation of temporary bypass system	8800W.6.3
Carry out above ground installation	Hold Point	During installation	8800W.6.3.1
Carry out open trench installation	Hold Point	As required during excavation, laying, backfilling, and testing as required	8800W.6.3.2
Carry out underboring as specified	Hold Point	As required by MRC Supplementary Specification 4878	8800W.6.3.3
Testing and submission of results of temporary bypass water mains, and services	Hold Point	Prior to connection to existing water supply network	8800W.6.4
Connection of temporary bypass main to existing water supply network	Witness Point	At connection point during connection works taking place	8800W.6.5
Monitoring of laid temporary bypass system, and site safety	Witness Point	During site works as required by approved works procedure	8800W.6.6

Collection of "As Constructed" details	Hold Point	Prior to disconnecting from existing water network	8800W.6.7
Testing and submission of results of existing water network	Witness Point	Prior to disconnect of temporary bypass system	8800W.6.8
Notification to customers of disruption to water supply	Hold Point	Prior to disconnecting temporary bypass property services	8800W.6.2.8
Testing and submission of results of temporary bypass water mains, and services	Hold Point	Prior to connection to existing water supply network	8800W.6.8
Reconnection of property services to permanent water supply network	Hold Point	After disconnection of temporary bypass system and reconnection of permanent water network.	8800W.6.8
Remove temporary markings, and reinstate permanent markings on existing water network	Witness Point	During removal of temporary bypass system	8800W.6.8
Removal and reuse of temporary bypass lines, fittings, hydrants, valves, and property service components	Hold Point	At time of removal of temporary bypass system	8800W.6.8
Notification to QFES permanent water network restored	Hold Point	At completion of reconnection to existing water network and after removal of temporary system	8800W.6.8
Backfill and reinstate surface	Witness Point	After disconnection of temporary bypass system and existing water network has been recommissioned	8800W.6.9
POST CONSTRUCTION			**8800W.7**
As-Constructed documentation	Hold Point	4 weeks prior to practical completion being requested.	8800W.7.1
Site ESC Measures in place	Hold Point	Ongoing and at end of project until approval to remove	8800W.7.2

8800W.4.3 Construction Tolerances

Construction tolerances shall comply with the design drawings unless otherwise stated in Annexure 8800W_1 Water Supply Temporary Bypass Clause 2 or as approved by the Superintendent the following construction tolerances shall apply as to this Specification;

- Water Reticulation – Section 21 of WSAA Water Supply Code of Australia, & CTM Code Addenda A1
- Where underboring is conducted tolerances shall be compliant with MRC Supplementary Specification 4878.
- Civil Construction Works where not covered by above MRTS03, MRTS04, MRTS05, and MRTS70 shall apply

8800W.5 Preliminary

The Contractor is to submit the following documentation 4 weeks prior to commencing work or a prestart is conducted:

- Works procedure for temporary bypass, including safety in design to mitigate hazards,
- Design of temporary bypass system,
- Certification for nominated product/s and materials including Prequalification of fittings, components, and materials to design criteria requirements
- Workplace Health and Safety (WHS) Plan including Work Method Statements (WMS)

- Contractors personnel experience, qualification, skills and training (10 days prior to undertaking work on site)
- Programme for the works including projected timeframes and connection timing
- Environmental Management Plan
- Erosion and Sediment Control Plan (as required for site/s)
- Traffic Management Plan and Traffic Guidance Scheme (TGS)
- Quality Plan detailing requirements of 8800.4

Other preliminary requirements unique to the project will be listed in the MRC Supplementary Specification Annexure 8800_1 Alterations to Water and Sewerage Reticulation Infrastructure.

MILESTONE

8800W.5.1 Bypass Design

In association with other project requirements, the temporary bypass system design, materials, installation and maintenance shall comply with the CTM Water Alliance Design and Construction Code, WSAA Water Supply Codes of Australia, this Supplementary Specification and Annexure 8800W_1 Water Supply Temporary Bypass.

During the water supply bypass design process the Contractor shall take into account safety in design of their bypass system, the Contractor shall include appropriate work procedures (including a risk register) to mitigate any hazards associated with the bypass design. The safety in design risk register shall be compliant with Cl 5.2 of MRC D20 Design Drawing Presentation and Documentation Guide.

These work procedures will form part of the Contractors water supply bypass design, and shall be submitted to the Superintendent four (4) weeks prior to works commencing as part of the documentation required for the Planned Network Intervention (PNI).

MILESTONE

The bypass shall be planned to be in place a minimum number of days and aligned with other works and be designed to be in place for a maximum number of days as approved by MRC Water & Waste.

8800W.5.1.1 Predesign Considerations

To enable design of the bypass system, the following items shall be established, and any other limiting factors identified and considered in the design:

- Project's design drawings;
- Proposed Planned Network Intervention (PNI) Plan showing locations of all existing and temporary pipelines, valves, hydrants and service connections, and the valve manipulation steps proposed for each stage of the intervention (PNI required to be submitted to the Superintendent four (4) weeks prior to planned shutdown/intervention);
- Number of properties to be connected to the temporary bypass;
- Location of each MRC water supply network connection to the bypass;
- Method of connection (UPCIC or upstream fire hydrant);
- Operational risks of the temporary water supply bypass;
- Existing water supply system limitations i.e. pressure and flows;
- Requirement for pumps if water supply pump stations are bypassed, the built in redundancy of the pumps and system;
- Size of pump/s calculated based on required pressure and flows;
- Noise suppression of pumps during operations;

- Power supply for any pumped system;
- Location of all fire hydrants effected by the bypass, and provision of temporary fire hydrants if applicable;
- Identify all reticulation outside the immediate scope of works supplied through the bypass main;
- Length of bypass main required, including maximum allowable length approved by MRC Water &Waste;
- Driveway, footpath, road and other crossing requirements;
- Bypass pipeline restraint and all associated hazards and risks;
- Customers services and water requirements due to health conditions i.e. dialysis patients;
- Large meters, dual water supply, critical, key, and high dependent water customers;
- The need to install additional network valves to reduce the length of bypass main
- The need to control water temperature for above ground pipelines

8800W.5.1.2 Design Plan Requirements

The submitted design plans for the water supply temporary bypass shall be in the format of MRC Document D20, address all issues as noted in Clause 8800W5.1.1, and those detailed in MRC Supplementary Specification Annexure 8800W_1, as well as those listed below;

- The temporary bypass system shall be modelled and sized dependent on the pressure required (usually 22m head) to service the number and type of customers, all calculations, modelling, and design drawings shall be RPEQ endorsed and submitted by the Contractor to the Superintendent for approval.
- Where pumped water supply bypass is required calculations for the pumps including built in redundancy, type of pumps, noise suppression, expected pump engagement time each day when in operation.
- The design of the temporary bypass system shall include flush points and sampling points for installation during construction for monitoring and testing purposes.
- Measures to control water temperature within the above ground pipes shall be built in to the system, this could be as simple as regular flushing to control water temperature in the above ground pipe.
- The approved safety in design risk assessment submitted by the Contractor shall set out the frequency of inspections to verify integrity of the bypass system, and enable sampling for water testing to verify the water quality, these checks and their frequency shall be included as part of the submitted construction procedure's and logged with site documentation.

8800W.5.2 Materials

All pipes, fittings, and components to carry out water supply bypass works to MRC water reticulation systems must be supplied with compliance certification appropriate for the pipe, component or fitting from Council's preferred supplier and relevant Australian Standard unless otherwise noted within the design drawings or approved by the Superintendent.

Designs which require pumped water supply shall include pumps which are sized based on the calculated flows and pressure required to provide a continuous supply, each pump shall also have a built in redundancy as well as the pumped system. The calculations and layout of the pumped system shall be included as part of the design drawings and documents submitted to the Superintendent for approval.

Supply of materials to site is the responsibility of the Contractor at their cost, where items are Principal supplied the nominated storage site shall be obtained from MRC Supplementary Specification 8800W_1 Water Supply Temporary Bypass Annexure Section 3 and shall be the point of supply.

Where existing fittings or components have been identified for salvage MRC Supplementary Specification 8800W_1 Water Supply Temporary Bypass Annexure Section 4 will detail the items to be salvaged and the nominated storage site. This will also include any reuse of existing items. MRC Water and Waste shall identify fittings to be salvaged and stored or reused.

Where the PVC pipe is laid above ground in direct sunlight the contractor shall carry out UV protection against solar degradation in accordance with the Manufacturers requirements, this may require the pipe to be painted with a white or light-coloured water-based paint as per AS/NZS 2032 Cl 3.4.5.

With the disconnection of temporary water supply bypass new pipes, fittings and components procured by the Contractor at Principals cost shall be salvaged and stored at the site nominated by MRC Supplementary Specification 8800W_1 Water Supply Temporary Bypass Annexure Section 4 or as directed by the Superintendent.

All civil items/works, and materials shall be supplied, installed, and carried out in accordance with their relevant WSAA Water Supply Codes of Australia, CTM Water Alliance Design and Construction Code, MRTS Specification, and MRC Supplementary Specification 4878 - HDD, Auger Boring, and Pipe Jacking.

8800W.5.3 Handling and Storage of Material on Site

Materials and components must be stored in accordance with the manufacturer's requirements including and the following:

- In dry conditions not exposed to direct sunlight, not in contact with a damp floor or ground,
- Uncontaminated surroundings, kept clean, and animal/rodent free,
- Within the specified maximum and minimum temperature range,
- In their original, sealed moisture resistant bags or containers,
- All stored pipes, fittings, and valves shall be supplied and stored fitted with sealed end caps.

All materials and components shall be brought to site in the original sealed bags or unopened containers clearly labelled with the appropriate manufacturer's name, product type, reference number and batch number. Upon delivery materials shall be inspected with damaged and opened containers returned to the manufacturer.

HOLD POINT

8800W.5.4 Personnel

Personnel, sub-contractors and suppliers utilised in the provision of the temporary water supply bypass shall have the skills, capacity, and experience to carry out the works under the direct supervision of a licenced occupational plumber and drainer, the Contractor shall provide documented evidence for the Superintendent's approval to demonstrate the experience, qualification, skills and training of proposed personnel, sub-contractors, and suppliers.

MILESTONE

8800W.5.5 Environmental

The Contractor shall submit an Environmental Works Plan to the Superintendent for review and approval a minimum 4 weeks prior to site works commencing or the requests for a prestart meeting is submitted. The Environmental Plan and site works shall reflect the requirements of and be carried out in accordance with MRTS51 and as a minimum the following items shall also be addressed by the Plan;

- Chlorinated water should be discharged in accordance with the Contractors Environmental Plan and the water utilities regulators requirements, including dechlorination where necessary,
- Where required an Erosion and Sediment Control Plan shall be prepared for submission in accordance with MRTS52,

- Risk (assessment) of potential degradation of the temporary bypass main and services from contaminants (e.g. oil, fuels, chemicals, salt water environment), and/or traversing through contaminated land or water courses.

MILESTONE

8800W.5.6 Safety During and at Completion of Works

The Contractor shall protect the public from the works, including the temporary bypass system. This may include safety fencing and signage, and shall be included by the Contractor in their works procedure plan and design drawings submitted to the Superintendent for approval.

The location and alignment of the water supply bypass system shall include the following minimum requirements and be addressed within the works procedure plan and design drawings without the use of a suitable crossing structure/s or measures;

- Not obstruct pedestrians, cyclists, or all ability users, or create tripping hazards,
- Not obstruct or interfere with normal vehicle traffic flows, unless approved by the Superintendent,
- Shall be protected from vehicular traffic loadings,
- Shall be laid on an agreed alignment which is practical and maintains current property accesses,
- Shall be designed and installed with restraints at joints in pipeline and/or changes of direction to maintain structural support to withstand imposed mater pressures from the main/s, including temporary hydrants/valves, and property services,
- Shall include lockable vandal proof valves fitted at all connection points to the permanent water network, and at all flushing and testing points.

All cross kerb ramps, cable protectors, footpath and driveway ramps and crossings shall be vehicle, pedestrian, pram, wheelchair and bicycle safe and shall be DDA compliant and other applicable Australian Standards as applies to the temporary bypass system.

MILESTONE

8800W.5.7 Temporary Water Supply Bypass Works Responsibilities

The Contractor shall be responsible for all site WH&S, Traffic Management, Quality, and Environmental requirements.

Connection or alterations to the existing water supply service shall be carried out as required by MRC Supplementary Specification 8800 Alterations to Water and Sewerage Reticulation Infrastructure. The responsibilities of all parties within MRC Supplementary Specification 8800 shall be read in conjunction with and compliment the requirements of this specification.

8800W.5.8 Testing and Records

The Contractor shall carry out testing to the laid temporary bypass system by Clause 8800W.4.1, and Annexure 8800W_1 Water Supply Temporary Bypass prior to connecting to the existing water supply network, which shall include testing pump/s (pressure and flows) where the design requires a pumped system, and submit to the Superintendent for review and approval to proceed with the alterations or connection to the existing water infrastructure in compliance with MRC Supplementary Specification 8800.

HOLD POINT

Timing of the testing and submission of the results is the responsibility of the Contractor to ensure there are no delays in proposed timeline. Council will not carry out any connection or alterations unless all test results are compliant with the requirements of the relevant Australian Std and/or WSAA Water Supply, and the CTM Code.

8800W.5.9 Works Requiring Reuse of Temporary Bypass

Where the works operations require reuse of the temporary bypass main and the reuse has been approved by the Superintendent the Contractor shall securely cap the pipes immediately upon disassembling. Fittings (including valves) shall also be cleaned and capped as required.

The maximum timeframe between disassembling and reuse shall be as stipulated by MRC Water & Waste and the Superintendent. If this time has not expired the Contractor and Superintendent shall assess the cleanliness of the pipes and fittings, this shall be recorded.

Upon agreement by the Superintendent the bypass mains are deemed uncontaminated during relocation, including caps in place, the Contractor shall disinfect with a 50 mg/l chlorine solution for a period of 30 minutes, flush the mains and fittings and carry out sampling prior to being commissioned.

Where the bypass mains and fittings have been out of commission for a period longer than the agreed time period or where contamination has occurred the Contractor shall carry full disinfection and sampling as required by MRC's Water & Waste, which should be documented in the Contractors Works Procedure/s. Monitoring shall also be in accordance with the approved Contractors works procedure.

8800W.5.10 Maintenance of Temporary Bypass System

As part of the works and included within the approved works procedure the Contractor shall carry out inspections of the water supply temporary bypass system. This shall align with their risk management and assessment of the minimum inspection regime necessary to maintain a safe site and an operational water supply bypass system, the bare minimum being twice daily during active site works, and at all other times on a daily basis.

The Contractor shall document all inspections of the water supply temporary bypass system, items to be inspected as a minimum shall be;

- Site safety;
- Trip hazards of temporary measures in place, including temporary ramps, footpaths, driveways, and road crossings;
- Leaks and damage to the bypass mains, fittings, and property services;
- Check the bypass system is operating as intended, this may mean opening a fire hydrant or flushing valve to visually check the water pressure. Documentation of each inspection shall be made available to the Superintendent upon request and be submitted as part of the "As Constructed" data requirements.

It is preferred water supply temporary bypass works should be carried out around education facilities during holidays or semester breaks. The Contractor should also make themselves aware of sporting/cultural/festival events and programme works so as not to impact the venues or events. No temporary works shall be allowed over Easter or Christmas to New Year break. All temporary bypass system/s shall be reinstated to the permanent mains and services during these periods.

The Contractor shall provide Mackay Water & Waste with the contact details of the nominated contacts, these contractor personnel must be on call and contactable at all times during the works involving any water supply temporary bypass system. Where repairs or rectification is required, these are to be completed within the timeframe outlined in MRC Water Customer Charter irrespective of the time of day or outside of site working hours.

8800W.6 Construction

This section lays out the works operations with more detail based on specific requirements of this supplementary specification. Some activities may appear to include items which are stated within other specifications, the purpose is to reinforce the requirements specific to this supplementary specification.

8800W.6.1 Works Operations

Work operations incorporated in this item are those included in Clause 2.1.5 of MRS01 "Introduction to Standard Specifications' and the following work scope activities and associated sub activities;

8800W.6.1.1 Scope of Works

All works are required to be carried out as required by the approved design drawing/s and documentation in accordance with the CTM Water Alliance Design and Construction Code, this Supplementary Specification and Annexure 8800W_1 Water Supply Temporary Bypass;

- Procure, supply, and store materials, pipes, fittings, and components,
- Excavate, backfill (and compact) to infrastructure, including reinstatement of site as required by design drawings,
- Carry out installation and removal of temporary bypass main up to connection point/s, including installation of valves/hydrants and temporary property services,
- Alter or connect to existing infrastructure, including installation of valves/hydrants and reconnection of temporary property services,
- Install thrust blocks or restraining blocks/stops to temporary bypass infrastructure,
- Installation of protective measures to the temporary bypass system, including to footpaths/roads/driveways,
- Carry out removal and reinstatement of markers, paint, and RRPM's for the existing water supply network, and installation and removal of markers, paint, and RRPM's for the temporary bypass system,
- Reconnect permanent water lines and services to water supply system
- Re-energise or bring back online infrastructure,

8800W.6.2 General Works Preparation Prior to Installation

8800W.6.2.1 Supplying all materials inclusive of fittings;

All materials, plant, and labour required to carry out the works under this Specification is to be supplied by the Contractor, where it has been agreed the pipes and fittings are Principal supplied the designated storage site will be the point of supply for the purposes of this Specification.

Storage of all materials shall be in accordance with Clause 8800W.5.3 and the manufacturers requirements at the agreed location/site.

All items shall be inspected at delivery to site prior to use. Inspection of pipes and fittings shall be carried out by the Contractor as required by Section 3 AS/NZS 2566.2. Any items which are damaged are not to be used and are to be returned to the supplier.

HOLD POINT

8800W.6.2.2 Carrying Out Preparation of Connection to the Existing Water Supply

Based on the approved temporary bypass design drawings the Contractor may with the approval of MRC Water and Waste utilise connection by a hydrant or flushing valve upstream of the proposed isolation point, or where the planned connection requires excavation to connect the requirements of MRC Supplementary Specification 8800 shall apply, this may also take the form of a live tapping upstream utilising Under Pressure Cut-In Connections (UPCIC).

The connection to the downstream isolation point shall be as required by the design drawings.

Before the temporary bypass system is installed a licenced Electrician shall be engaged to check all the metallic water services to ensure there are no abnormalities including stray earthing currents from property services or existing the water main. This shall be arranged and carried out by the Contractor with a certificate issued by the Electrician and submitted to the Superintendent prior to proceeding with laying/connecting the bypass system.

HOLD POINT

8800W.6.2.3 Site Set Out

Prior to commencing works the Contractor shall ensure the site layout for installation works correspond and comply with the approved design drawings, and any conditional approval granted by a third party. This may also include isolating any pump/s installation as far away from residential housing as possible.

8800W.6.2.4 Site layout with Superintendent

The location of the temporary bypass system is to be surveyed and marked out on site and shall be inspected and approved by the Superintendent prior to installation works commencing, this shall also verify the location as required by the design drawings.

HOLD POINT

8800W.6.3 Installation of Temporary Bypass System

The Contractor shall carry out the installation of the water supply temporary bypass mains, fittings, hydrants/valves, property services, and pumps/s (as required) in accordance with the design drawings, design documentation, and works procedure submitted for approval by MRC Water and Waste, and the Superintendent. This shall include removal and blacking out of existing water supply network markings and RRPM's and installing temporary markings along the temporary bypass system, all markings shall be installed as required by CTM Water Alliance Design and Construction Code.

WITNESS POINT

Works shall not deviate from the approved design drawing/s unless otherwise approved and endorsed by the RPEQ consulting Engineer. Where this occurs MRC Water and Waste, and Superintendent shall review the proposed alteration prior to any approval which may be granted.

HOLD POINT

8800W.6.3.1 Temporary Bypass Layed Above Ground

The Contractor shall as part of the installation works incorporate all requirements to satisfy Clause 8800W.5.6, and to ensure the bypass system is stabilised prior to operational use. The Contractor and Superintendent shall carry out a conjoint inspection for compliance to the design drawing/s and documentation as the temporary bypass is installed.

HOLD POINT

Once installed it is the Contractors responsibility to maintain the temporary bypass system in compliance with Clause 8800W.5.10 and the approved works procedure.

Aerial installation of temporary bypass lines is not an accepted construction method, Council may only consider this type of installation where the Contractor can validate the construction procedure and incorporate safety measures to protect the bypass main and the publics water supply, MRC Water and Waste shall have the final approval or disapproval of the proposed temporary aerial bypass.

8800W.6.3.2 Open Trench Installation

In certain circumstances open trench construction of the temporary bypass system may be required. Prior to excavations commencing the Contractor shall ensure all services are located and any third party requirements are included in the approved works procedure.

The Contractor shall ensure where open trench installation is to occur all works are carried out as required by the design drawings, AS/NZS 2566.2, and CTM Water Alliance Design and Construction Code unless otherwise approved by the Superintendent, this includes all inspections, testing, and construction tolerances.

HOLD POINT

8800W.6.3.3 Trenchless/Underboring of Conduits/Pipes

All underboring shall be carried out in accordance with the design drawings and MRC Supplementary Specification 4878 HDD, Auger Boring, and Pipe Jacking, and relevant sections and clauses of WSAA 02 and WSAA 03 relating to this activity. All inspections, testing, and construction tolerances shall comply with the requirements of Supplementary Specification 4878 unless otherwise stated in Annexure 4878_1 HDD, Auger Boring, and Pipe Jacking.

HOLD POINT

8800W.6.4 Temporary Bypass System Testing

Prior to alterations or connection to "live" mains the Contractor shall ensure all temporary bypass mains and services have been tested as required by Clause 8800W.4.1 of this Supplementary Specification or as required by Annexure 8800W_1 Water Supply Temporary Bypass, Mackay Water and Waste shall review the test results a minimum 2 days prior to MRC being scheduled to connect to live water infrastructure.

HOLD POINT

MRC Water and Waste Department shall determine whether the connection can be carried out under pressure otherwise MRC will isolate the section of main to carry out the works. The Contractor is **NOT** to carry out any form of isolation of the infrastructure.

8800W.6.5 Connection to Existing Water Supply

All works in connecting to the existing water supply system shall be in accordance with MRC Supplementary Specification 8800 Alterations to Water and Sewer Reticulation Infrastructure.

MRC Water and Waste shall isolate the main/s and supervise any excavation up to and around the main/s, including any temporary works required to be carried out by the Contractor.

All fittings and components shall be assembled prior to the "cut in" commencing, this includes valves, hydrants, and property services as required by the design drawings.

The "cut in" connection shall be carried out in accordance with the CTM Water Alliance Design and Construction Code by an MRC licenced occupational plumber and drainer, lifting of fittings and components to in place shall be carried out by the contractor under the direction of MRC.

WITNESS POINT

8800W.6.6 Monitoring of Temporary Bypass System

The Contractor shall carry out inspections, monitoring, and follow up testing in accordance with the requirements of Clause 8800W.5.10. The Superintendent shall be informed in advance (24hours) of any inspections. All logs of monitoring and inspection shall be submitted with "As Constructed" data.

WITNESS POINT

8800W.6.7 Collect As Constructed Details Prior to Disassembling Temporary Bypass Lines

Where the temporary bypass infrastructure cannot be removed due to the nature of the works i.e. trenchless installation, the Contractor shall make arrangements for "As Constructed" details to be collected prior to the approval to disassemble the temporary bypass system, this shall include required survey data capture of the works. The contractor shall also ensure the "abandoned" lines/services, fittings, are labelled as such within the "As Constructed" drawings and data or labelled with its agreed use i.e. fire hydrant.

HOLD POINT

8800W.6.8 Disconnection of Water Supply Temporary Bypass

Prior to backfilling and reinstatement of surface, bacterial and pressure tests shall occur on the permanent water main works, this shall be carried out after thrust blocks are adequately cured (normally a minimum of seven days). These tests shall be witnessed by the Superintendent and be carried out by a NATA registered laboratory.

WITNESS POINT

Disconnecting the temporary water supply bypass system shall be carried out as required by MRC Supplementary Specification 8800, prior to MRC Water and Waste disconnecting the temporary water supply system they shall notify the effected customers of impending works affecting the water supply.

HOLD POINT

Upon submission and acceptance of complying bacterial and pressure test results by MRC Water & Waste, the Superintendent shall arrange for MRC Water & Waste to carry out reconnection to the permanent water mains as required by MRC Supplementary Specification 8800.

HOLD POINT

MRC Water and Waste shall re-energise the reticulation system when all test results comply with the requirements of WSAA Water Supply Code of Australia, and the CTM Water Alliance Design and Construction Code.

The Contractor shall reconnect all water services including metres to the permanent water main, during which checks for leaks at the meter and adjacent joints shall be monitored, any leaks shall be repaired by the Contractor. The Contractor shall carry out flow and pressure tests to each service, and submit results to the Superintendent for approval.

HOLD POINT

The Contractor shall remove and black out all temporary bypass system markings and RRPM's and reinstate markings and RPPM's along the existing permanent water network, all markings shall be installed as required by CTM Water Alliance Design and Construction Code.

WITNESS POINT

All temporary pipes, fittings, components, and pumps shall be salvaged as directed by the Superintendent and the Contractor shall transport to the approved storage site or dispose of if not salvageable.

Where the Contractor plans reuse the temporary bypass mains, fittings, valves, services, and pumps Clause 8800W.5.9 shall apply.

HOLD POINT

Where temporary bypass connection to the permanent main cannot be completely removed MRC Water & Waste shall inform the Contractor of the options, i.e. convert to a fire hydrant or flushing point. The works shall be carried out by MRC Water & Waste at the time of reconnecting to the permanent water supply network.

The Contractor shall notify and resubmit the drawings previously issued to the QFES that the permanent system has been restored and is operational as per the 'As Constructed' plans.

HOLD POINT

8800W.6.9 Backfill and Reinstate Surface

Where backfilling and reinstating surfaces is required, this shall be carried out after the disconnection of the temporary bypass line/s and after the permanent water main/s has been recommissioned. All works shall be carried out as required by MRC Supplementary Specification 8800.

WITNESS POINT

8800W.7 Post Construction

Works will not be considered complete until all test results, including CCTV as required, are submitted and accepted for approval by the Superintendent.

8800W.7.1 Collection and submission of all As Constructed data including QA data requirements.

Contractor is to supply and submit Works As-Constructed documentation as required by *MRC D20 - Drawings and Documentation* for approval by the Superintendent 4 weeks prior to requesting a practical completion inspection.

Where the nature of the works does not require "As Constructed" Drawings submission, the Contractor shall ensure all test results, and signed off ITP's form the basis of the submission. Format of submitted "As Constructed" documentation shall be compliant with MRC Supplementary Specification 8919.

HOLD POINT

8800W.7.2 Erosion and Sediment Control Plan

ESC measures are to be kept in place and maintained until the Superintendent approves of the removal of such measures.

HOLD POINT

8800W.8 Measurement and Payment

Payment for these works will be on a lump sum basis, excluding the live connection works outlined in Clause 8800W.3. All works (excluding live connections) shall be deemed part of the scheduled item and no separate payment will be made.

The contractor is not responsible for expenses related to the cut-in works performed by Mackay Water Services. However, any costs incurred by the contractor while assisting Mackay Water Services shall be the contractor's responsibility and included in the supply and/or installation of the mains reticulation.

Version Control:

Version	Description	Reviewed / Endorsed	Date
1.0	New Specification	C. Sultana	05.06.2025