

Document Owner: Manager Customer Planning

Drinking Water Mains Repairs and Disinfection

Scope/Purpose: Work undertaken on repairs within the drinking water network needs to be undertaken with the upmost care following best practice as the network is exposed and must be safeguarded against contamination both bacteriological and chemical. Disinfection is key to preventing contamination of the water supply during maintenance but is not a substitute for incorrect procedures and poor practices.

Health & Safety and Operational Information

Hazard Indicators

Personal Protection

- Health and Safety Information**
- Health and Safety documentation.
 - Generic Traffic Management Plans or site-specific Traffic Management plan.
 - Hazardous Waste
 - Confined Space Entry
 - Notify customers of isolation of network

- Operation’s & Maintenance Documentation**
- Corridor Access Requests (CAR) and WIP Permits (site specific or generic/global)
 - Design drawings
 - Site plans
 - Notification Calling Cards

- Customer Information**
- Vulnerable customers (DHB supplied list)
 - Priority customers (WWL)

- Priority Customer Categories**
- Schools and Childcare
 - Commercial premises
 - Hospitals
 - Retirement Homes/Villages
 - Correction Facilities
 - Prisons, Military Installations
 - Oil and Gas Refinery

- Emergency Procedure / Escalation**
- Make “Site Safe” and isolate risks to people or property with resources at hand
 - All forms of chlorine have hazardous substance storage and handling requirements. All people using these chemicals should be aware of the requirements identified in the material safety data sheets.
 - Key phone numbers

- Additional Documentation**
- FH SOP 3W_GEN_015 – Avoiding electrical shocks when working on metal pipes.
 - FH SOP shutdown procedure
 - SOP Reactive Shutdown
 - SOP Asbestos pipe repair
 - Living Safely Manual
 - Service plans (B4uDig)

- Escalate if extra resources required or problems occur!**
- Escalate to Team Leader and inform of the issues faced and/or expected resources required if necessary.



U/G Services



Asbestos Pipes



Concrete Saws

Required Skills, Competencies (Qualifications and/or Certifications)

Competent persons only – NZ Certificate in Infrastructure Works Level 3 or higher with the strand in water

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Standard Operating Procedure

Required Equipment

Equipment and Information	Details
Fully Equipped Vehicle	Ensure vehicle, plant, equipment and materials appropriate to the day's work schedule is available
Notification Cards	Customer Reactive Water Shut Down Notification letter drop cards
Vulnerable & Priority Lists (Confidential)	Ensure you have access to the Vulnerable & Priority Lists

Prepare to do the work

Action	Action Details
Pre-Start Process	Complete the Daily Pre-Start - Planned Maintenance <ul style="list-style-type: none"> - Include Hazard ID - Include Pre-Start Tailgate Meeting Undertake all tasks required in the Generic Planned Maintenance SOP Complete the Risk Control Plan
Compliance	Traffic Management Plan - Where required, TMP to be in place prior to work starting. TMP to be accessible on site.
Check pipe material type	Open the GIS on the iPad select the pipe on which repairs are to be undertaken and check the material type. Note material types may be inaccurate. So check match post initial excavation.
Prep based on expected material	If asbestos suspected ensure you have the appropriate equipment to deal with this hazard. See Asbestos Pipe Repair SOP. Set up silt control measures – socks/sumps if deemed necessary

Perform the work

Action	Trade	Action Details
Maintenance	Serviceperson	Undertake all tasks required in the Pre-Start - Planning for Reactive Maintenance.
Inspection	Serviceperson	Locate the fault and assess if isolation of network is required and also assess scale of the issue if escalation due to the issue being a major burst is required immediately implement the Water Shutdown – Reactive SOP.
Private Land	Serviceperson	Attempt to contact customer prior to undertaking repair. If contactable inform of situation and seek access approval prior to commencing works
Private Land	Serviceperson	If you are accessing private land to undertake repairs, ensure you are safe and that there are no Dangerous dogs / animals or other dangers on entering the property. If you have had to access the land without permission, please ensure you leave a calling card to explain the access reason.
Maintenance	Serviceperson	Excavate to expose pipework, if required undertake shutdown process to enable excavations to occur. Assess damage / issue and decide on repair action. If pipe is found to be asbestos cement, implement the SOP for dealing with Asbestos Cement pipe repairs.
Maintenance	Serviceperson	If trench is flooded, pump dry and clean wet pipes. Ensure trench remains dry throughout repair procedures to ensure no cross contamination can occur
Maintenance	Serviceperson	If Toby or Meter fault is discovered, apply the appropriate SOP for Toby or Meter repair/replacement.
Maintenance	Serviceperson	If required carry out Unplanned Shutdown Procedure to complete the work if service is to be turned off to enable capping to occur. If no service affected this is not a required.
Maintenance	Serviceperson	Ensure appropriate flushed water containment is in place and potential environmental impacts are mitigated prior to taking repair actions
Maintenance	Serviceperson	Flush and disinfect pipes to ensure no contamination has occurred during installation procedures
Maintenance	Serviceperson	Repair main leak using approved material/procedure for pipe wrapping. Ensure no contamination can occur.

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Action	Trade	Action Details
Maintenance	Serviceperson	Cut pipe work and install tapping bands if required. Replace pipe section ensuring you have gone along pipe to find sound pipe sections to install new section onto. For asbestos pipe remove full length. Remove damaged section and bag sample for potential condition assessment.
Maintenance	Serviceperson	Restore water supply as per Unplanned shutdown procedure.
Maintenance	Serviceperson	Carry out reinstatement to ground level. If no additional reinstatement required, close work order as per standard Generic Reactive Maintenance Process
As Built	Serviceperson	As Built - New / Change / Decom (Reticulation or Utilities) Process Complete the appropriate form for update of the asset data
Maintenance	Serviceperson	If further reinstatement required create new work order for the task as per Generate child work order process.
Contact Card	Serviceperson	Customer Reactive Water Shut Down Notification letter drop cards. Explain activities undertaken in their absence
Closure	Serviceperson	Carry out work order closure procedures as per Reactive Maintenance - Generic Maintenance Procedures