

Document Owner: Manager Customer Planning

Flushing Drainage Pipes - Reactive Maintenance

Procedures for implementation of pipe flushing of a section of either the Wastewater or Storm water network due to unforeseen circumstances. This does not cover undertaking the physical works required to restore service when the network has encountered a failure discovered whilst undertaking the flushing works.

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

Operation's & Maintenance Documentation

- Corridor Access Requests (CAR) and WIP Permits (site specific or generic/global)
- Service plans (B4uDig)
- Design drawings
- Site plans
- Notification Calling Cards

Customer Information (Confidential)

- Blow Back at risk customers (WWL)
- Vulnerable customers (DHB supplied list)
- Priority customers (WWL)

Priority Customer Categories

- Schools
- Commercial premises
- Hospitals
- Retirement Homes/Villages
- Prisons
- Military Installations
- Oil Refinery

Emergency Procedure / Escalation

Emergency

- In event of service strike to utility/energy source (e.g. fuel, Gas, Power, Water etc.) report immediately to team leader
- Make "Site Safe" and isolate risks to people or property with resources at hand

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.

Additional Documentation

Required Skills, Competencies (Qualifications and/or Certifications)

Competent persons only

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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 Drainage flushing notification letter drop cards |
| Blow Back List | Blow back at risk customers list |
| Blow back prevention Instruction Sheet | Blow back prevention instructions sheet. |
| Specialist Equipment | Sucker truck with full equipment compliment, Roding equipment, Water Jetting Equipment |

Prepare to do the work

| Action | Action Details |
|--|--|
| Pre Start Process | Complete the Daily Pre Start - Planning Reactive Maintenance |
| Compliance | Traffic Management Plan - Where required, TMP to be in place prior to work starting. TMP to be accessible on site. |
| Identify extent of network to be flushed and associated flushing access points | Identify access manholes to be utilised to flush network. Utilise the iPad embedded GIS to locate all network manholes. If required trace flow restrictions / blockages downstream to open free flowing network and upstream to determine extent of backflow and pipes to be flushed. |
| Identify if additional issues due to flow restrictions | If properties are flooded, have the potential to flood or suffer from wastewater overflow raise separate work order to deal with property damage mitigation and use emergency / escalation process |
| Estimate Service Off period | Based on event scale and issue encountered provide an estimated timeframe for closure of network. Update the work order, work log with this information and save work log. Synchronise iPad |
| Pre flushing notification | Check affected Network service area against current Blow Back list. If possible, notify of closure and intent to flush system and expected timeframe for none utilisation, provide at risk properties with Blow back prevention instructions sheet. On notification, identify if any special needs / alternate service requirements are required for Vulnerable and Priority Customers. |
| Assess activity impact | Identify areas to be protected from potential pollutants and run off. |
| Alternate supply Vulnerable and Priority Customers | Dependant on nature of event and customer needs arrange alternate service provision for Vulnerable and Priority Customers. See Alternate Waste Water Service Process Raise a child work order for provision of this service. Synchronise iPad |
| Check Process Flow Map | MS Visio process flow - Reactive flushing / Jetting - Waste water / Promapp |

Perform the work

| Action | Trade | Action Details |
|-----------------|---------------|---|
| Maintenance | Serviceperson | Undertake all tasks required in the Pre-Start - Planning for Reactive Maintenance. |
| Maintenance | Serviceperson | If required supply wrapping to or undertake wrapping of toilets of at risk properties. |
| Maintenance | Serviceperson | If reactive flushing is due to an overflow event in the wastewater network. Overflows are a higher priority than the blockage, so eliminate or manage the overflow prior to undertaking the flushing maintenance activity. Apply the Wastewater Overflow SOP. |
| Maintenance | Serviceperson | Open manholes at either end of flushing pipe(s) ensure site safety and access is restricted to open access chambers. |
| Health & Safety | Serviceperson | If required undertake Gas safety reading using appropriate meter. |
| Health & Safety | Serviceperson | If required ventilate manholes until gas readings are within permitted limits |
| Health & Safety | Serviceperson | If manhole entry is required undertake procedure in accordance with Confined Space Access SOP |

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| Action | Trade | Action Details |
|-----------------|---------------|--|
| Maintenance | Serviceperson | Check flow at upstream & downstream openings and compare. |
| Maintenance | Serviceperson | Install debris trap in downstream manhole |
| Maintenance | Serviceperson | Ensure appropriate flushed water containment is in place and potential environmental impacts are mitigated |
| Maintenance | Serviceperson | Plunge, rod or jet blast as required to ensure flow. |
| Maintenance | Serviceperson | Flush the pipes until adequate downstream flow is observed and all debris (Silt, Fats and other residues etc.) are believed to have been removed. |
| Record | Serviceperson | Record volume of debris removed during cleaning (m ³) in the work order on the iPad |
| Record | Serviceperson | Record Jetting pressure level required to flush network (KPa) in the work order on the iPad |
| Maintenance | Serviceperson | Log Service Restored status on iPad. Synchronise iPad |
| Maintenance | Serviceperson | All possible effluent and sludge shall be removed from the site. |
| Maintenance | Serviceperson | All contaminated liquids shall be disposed of at the closest Wastewater Treatment Plant. |
| Health & Safety | Serviceperson | Contamination the affected area thoroughly disinfected with disinfectant solution, Liquid Chlorine and hydrated lime (as most suitable) for odour. |
| Inspection | Serviceperson | When appropriate, proceed with CCTV inspection from downstream manhole to determine cause of flushing requirement (specially to identify tree roots). Apply CCTV Pipe Inspection SOP |
| Maintenance | Serviceperson | On completion of activity, check all access points. Confirm in work log that all affected manholes and access points have been closed and secured. |
| Inspection | Serviceperson | A visual inspection of the site must be carried out to ensure NO effluent or sludge remains. |
| Record | Serviceperson | If additional maintenance is uncovered during flushing works raise a reactive work order to ensure this work is logged for completion. Apply Generate child work order SOP |
| Communicate | Serviceperson | Implement letter drop / Hub notification procedures for post flushing. |
| Record | Serviceperson | Based on network isolation area provide a count of: Residential Customers Commercial Customers Public Service Customers Create a new work log on the iPad and record the numbers of affected customers. |
| Closure | Serviceperson | Carry out work order closure procedures as per Reactive Maintenance - Generic Maintenance Procedures |