

Document Owner: Manager Customer Planning

Blocked Gravity Main – Manual Clearance Procedure

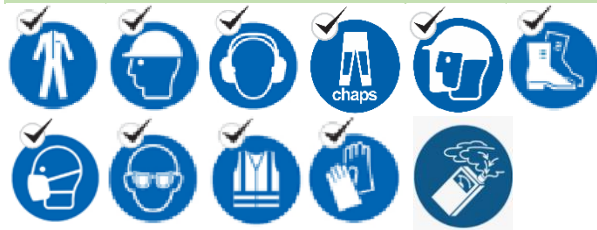
Procedures for clearing blocked stormwater and wastewater gravity mains.

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
- Gas detection

Operation's & Maintenance Documentation

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

Customer Information (Confidential)

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

Priority Customer Categories

- Schools and Childcare
- Commercial premises
- Hospitals
- Retirement Homes/Villages
- Correction Facilities
- Military Installations
- Oil and Gas 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

- Confined Space Access SOP

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 Tripod and safety harness Gas detection
Customer Information (Confidential)	Blow back at risk customers list. Vulnerable and priority Customers Lists.
Specialist Equipment	Roding equipment and plungers

Prepare to do the work

Action	Action Details
Pre Start Process	Complete the Daily Pre-Start - Planning Reactive Maintenance and RCP.
Compliance	Traffic Management Plan - Where required, TMP to be in place prior to work starting. TMP to be accessible on site.
Wastewater overflow initial site assessment	Assess the situation and determine if an overflow has occurred and the potential cause of the issue. If has been an overflow caused by a blockage or by a network surcharge implement the Wastewater Overflow SOP and fill up the Overflow Form (Survey 123). If issue is from a blockage undertake the tasks as detailed below. If the situation meets the criteria for a wastewater overflow immediately inform your supervisor and then commence repair and service restoration operations.
Identify blocked network section to be cleared	Identify access manholes to be utilised to unblock network. Utilise the iPad embedded GIS to locate all network manholes. Trace flow restrictions / blockages downstream to open free flowing network and upstream to determine location of blockage. If blockage is located on a private service connection, implement the Service Connection Blockage SOP.
Identify overflow locations.	Review catchment on GIS to ensure the understanding of the flow direction and for stormwater outlets locations.
Identify if additional issues due to blockage	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.
Customer Notification	Inform affected properties of the blockage via door knock and / or letter drop.
Alternate supply and 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.

Perform the work

Action	Trade	Action Details
Maintenance	Serviceperson	Undertake all tasks required in the Pre-Start - Planning for Reactive Maintenance. Implement TMP. Review and update if required to meet site conditions.
Maintenance	Serviceperson	Locate first clear downstream manhole.
Health & Safety Record	Serviceperson	Make sure RCP was filled up with all the risks and safety controls plan for the works. If required undertake Gas safety check using appropriate meter. Record gas detection readings If required ventilate manholes until gas readings are within permitted limits. If manhole entry is required undertake procedure in accordance with Confined Space Access SOP. A permit to work is required prior to accessing any manhole

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Maintenance	Serviceperson	Check flow at upstream & downstream openings and compare. Install a debris trap at the downstream manhole.
Maintenance	Serviceperson	Plunge or rod pipelines as required to remove blockage: <ul style="list-style-type: none"> • Hold tool and rods up near waist area under crook of the arm well away from the face area whilst rods under tension. Feet and body position well balanced. • When walking backwards withdrawing rods watch foot placement and ground conditions. • When a long tail of rods is used, ensure second person is there to assist and guide the tail. • Awareness of holding rods tight in case of pushback when blockage cleared under pressure. • If needing to have rods under tension near head/face area have adequate protection in place e.g face mask/shield. • In case of thunderstorms & lightning activity in the area assess the risk of lightning strikes using steel rods.
Maintenance	Serviceperson	Flush the mains pipes until adequate downstream flow is observed and all debris (Silt, Fats and other residues etc.) is removed. Select service restored status on the work order
Health & Safety	Serviceperson	On completion of clearance operations place all manhole covers back and secure appropriately.
Record	Serviceperson	Record volume of debris removed during cleaning (m ³) in the work order on the iPad
Assess need for further investigation	Serviceperson	Investigate the materials removed to determine the root cause of the blockage. If structural damage, siltation and / or root intrusion is believed to have caused the blockage. Request a CCTV assessment of the pipeline to enable accurate pipe failure assessment. Generate new work order for the task as per child work order process.
Record	Serviceperson	Provide a count of customer who have lost service due to the issue: <ul style="list-style-type: none"> • Residential Customers • Commercial Customers • Public Service Customers Create a new work log on the iPad and record the numbers of affected customers.
Health and Safety	Serviceperson	Dispose of all contaminated liquids, effluent and sludge at the closest Wastewater Treatment Plant. Decontaminate/disinfect the affected area with Jeyes fluid, liquid chlorine, and hydrated lime (as most suitable) for odour.
Inspection	Serviceperson	A visual inspection of the site must be carried out to ensure NO wastewater or sludge remains and blockage is removed.
Escalate issue due to difficulties encountered	Serviceperson	If initial, attempt to clear is unsuccessful, rod pipeline from either end to locate the location of the blockage, mark this point on the surface at best estimated location. If necessary, mark upstream and downstream blockage extent points. Escalate the issue to your supervisor and request assistance as appropriate. This may involve calling in the CCTV unit, Sucker truck or getting jetting equipment etc. onto site as appropriate.
Create additional works order	Serviceperson	If required generate new work order for the additional assistance tasks as per child work order process
Final site check	Serviceperson	Ensure all manhole covers have been refitted and secure appropriately.
Closure	Serviceperson	Carry out work order closure procedures as per Reactive Maintenance - Generic Maintenance Procedures.