TOWN OF GREENVILLE, INDIANA

ORDINANCE 2025-WO-04

AN ORDINANCE ADOPTING A STANDARD OPERATING PROCEDURE FOR WATER MAIN REPAIRS

WHEREAS, the Greenville Water Utility generally is responsible for the repair and maintenance of its water distribution system up to and including the water mains installed to serve Greenville Water Utility customers;

WHEREAS, Greenville Water Utility customers are responsible for the repair and maintenance of the water system;

WHEREAS, the Greenville Water Utility is committed to providing reliable and safe water servants to its residents and businesses;

WHEREAS, the Greenville Water Utility recognizes the need to have a clear, efficient and safe process for the repair of broken or leaking water mains to minimize disruptions in service, ensure public safety and protect the integrity of the water distribution system;

WHEREAS, the Greenville Water Utility has developed and documented a standard operating procedure for the repair of water mains which outlines the roles, responsibilities and steps for the repair process, including leak detection, excavation, repair, testing, restoration and documentation; and

WHEREAS, the Greenville Water Utility wishes supersede any prior Standard Operating Procedures regarding water main repairs in conflict with this Ordinance.

NOW, THEREFORE, BE IT ORDAINED that the Board of Directors of the Greenville Water Utility hereby adopts the Standard Operating Procedure attached hereto as Exhibit A is hereby adopted by the Greenville Water Utility Board.

PASSED AND ADOPTED this date April 14, 2025, by the following vote:

5 ayes and 0 nays.

PRESIDENT OF THE WATER
UTILITY BOARD
OF GREENVILLE, INDIANA

GREGORY REDDEN,
PRESIDENT

JACK TRAVILLIAN
CLERK/TREASURER

Standard Operating Procedure (S.O.P) for Repairing Broken Water Mains

Purpose:
This Standard Operating Procedure (S.O.P) outlines the steps to be followed by the water utility staff for safely and efficiently repairing broken water mains. The aim is to minimize service interruptions, ensure the safety of workers and the public, and restore water service as quickly as possible.

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1. Scope

This S.O.P applies to all water utility personnel involved in the identification, assessment, and repair of broken water mains. It includes the process from the initial detection of the break to the final restoration of service and testing.

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2. Responsibility

- **Water Superintendent:** Oversees the repair operation, ensuring safety protocols are followed and that the work is completed according to the standards. Ensure proper tests are done for water quality.
- **Repair Crew:** Performs the necessary excavation, repair, and restoration work as outlined in this procedure. Call 811 for emergency locates.
- **Office:** Receives initial reports of service disruptions and coordinates communication with customers.

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3. Materials and Equipment

- Personal Protective Equipment (PPE) (e.g., gloves, boots, hard hats, reflective vests)
- Shovels, mini excavators, and other excavation equipment
- Pipe repair clamps, couplings, or new pipe sections
- Pressure testing equipment
- Water main shut-off valve keys
- Leak detection tools (e.g., listening devices, pressure gauges)
- Hydrants, valves, and other fittings
- Asphalt or concrete patching materials (Contracted out if needed for surface restoration)

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4. Procedure

1. Staff gets notified of main break or water surfacing.

2. Confirm the Break:

a. Utilize leak detection equipment and confirm the exact location of the break.
b. Assess the size and nature of the break (crack, burst, joint failure, etc.).
c. Determine the potential risk to public safety, traffic, and surrounding infrastructure.

Step 2: Planning and Mobilization

- **Notify Affected Parties:**
  - Inform customers in the affected area about the service interruption.
  - Contact O'Mara if the repair is beyond means for the utility.
- **Mobilize Repair Crew:** Deploy the repair team, ensuring they have the necessary equipment and materials. The repair team will call 811 to ensure other utilities are marked before digging.
- **Notify Office Staff**: Communicate with the office staff and let them know the affected area. Office will help with customer service.
- **Ensure Traffic Control:** Set up road closures, detours, and barriers to protect the work area. Ensure clear signage is visible to the public.
- **Activate Emergency Shutoff:** Close valves or use isolation methods to isolate the broken section of the water main from the rest of the system.

Step 3: Excavation and Isolation

1. **Excavate the Area:**
   - Use appropriate excavation equipment to expose the broken water main.
   - Ensure that proper shoring and safety measures are in place to prevent cave-ins or accidents.
2. **Confirm Water Main Isolation:** Ensure the water supply to the damaged area is fully shut off.
3. **Identify the Extent of the Damage:** Inspect the pipe for the type of damage (crack, fracture, corrosion, etc.) to determine whether repair can be done by patching or if the section needs replacement.

Step 4: Repair

1. **Prepare the Pipe:**
   - For clamp-based repairs, ensure the area around the break is clean and dry.
   - For replacement repairs, cut out the damaged section of the pipe using a cutting tool, and prepare the replacement pipe.
2. **Install Repair Clamp or New Pipe Section:**
   - If using a clamp, secure it tightly to ensure a water-tight seal.

- If replacing the section, align the new pipe and connect it to the existing pipe with appropriate couplings or fittings.

3. **Welding or Soldering (if applicable):** For certain types of pipe materials (e.g., steel or cast iron), welding or soldering may be necessary to ensure a secure joint.
4. **Check for Leaks:** Once the repair is completed, test the new section of the pipe by gradually re-pressurizing the water main. Use pressure gauges to monitor leaks.

Step 5: Testing and Recommissioning

1. **Pressure Test:** Test the repaired section of the water main to ensure it can handle normal operating pressures.
2. **Disinfection (if applicable):** If the break occurs in a potable water section, disinfect the pipe before returning it to service to ensure there is no contamination.
3. **Flush the Line:** Flush the water main to remove any debris, sand, or other contaminants. Once flushed grab chlorine and bac t samples.
4. **Restore Water Service:** Gradually open the valve to restore water flow to the affected area, monitoring pressure and flow as needed.
5. **Boil Water:** Once water is restored notify affected area to boil water until further notice.

Step 6: Surface Restoration

1. **Backfill the Excavation:** Once the repair is complete, backfill the excavation with appropriate material (e.g., gravel, soil) and compact it to prevent future subsidence.
2. **Restore the Surface:**
   - Replace asphalt, concrete, or other surface materials as necessary to restore the area to its original condition.
   - Use the appropriate methods to repair roads, sidewalks, or any other infrastructure affected.

Step 7: Final Inspection and Documentation

1. **Conduct a Final Inspection:** Ensure that the repair site is secure, and the area is safe for public access. Inspect the work to ensure it meets all required standards.
2. **Update Records:** Document the repair details, including the cause of the break, the type of repair, materials used, and the final pressure test results. This information should be added to the maintenance records for the system.

Step 8: Customer Notification

1. **Notify Customers:** Once the repair is complete, inform affected customers that service has been restored and provide any relevant instructions (e.g., letting the water run to clear for discolored water or boil water).
2. **Post-Repair Survey (if applicable):** After a few days, check in with customers to ensure no ongoing issues with water quality or pressure.

5. Safety Precautions

- **Personal Protective Equipment (PPE):** Ensure that all workers wear appropriate PPE, including gloves, boots, reflective vests, hard hats, ear protection and eye protection.
- **Traffic Control:** Ensure that barriers, warning signs, and flaggers are used to prevent accidents or injuries from passing vehicles or pedestrians.
- **Confined Space Safety:** If work requires entering confined spaces (e.g., manholes or vaults), ensure that proper confined space entry procedures are followed.
- **Site Inspection:** Everyone is responsible for site inspections for safety. Making sure people are wearing (PPE). Be aware of potential hazards that may be present.

6. Documentation and Reporting

- Record all details of the water main break, repair work performed, materials used, and any unusual circumstances.
- Ensure that all affected areas are documented for future maintenance and system upgrades.

7. Review and Continuous Improvement

- Regularly review repair data to identify trends or recurring issues that may require preventive measures.
- Incorporate lessons learned from each repair into future procedures and training.