

Direct Potable Water Reuse Standard Operating Procedure

Wichita Falls, Texas

Pipeline Inspection and Emergency Response WW-M2

This SOP supersedes any previous SOP on this topic.

INTRODUCTION

This is the Standard Operating Procedures for inspection of the DPR pipeline between the River Road WWTP and the Cypress WTP.

OBJECTIVE

The objective of this document is to provide detailed guidelines for the inspection and proper response guidance in the event an issue should arise or be documented during an inspection.

CITY OF WICHITA FALLS TEXAS
Inspection and Response Plan for Pipeline

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APPENDIX

1. Inspection Log

I. DEFINITIONS

RRWWTP.....	River Road Wastewater Treatment Plant
Cypress SWTP.....	Cypress Surface Water Treatment Plant
Cypress DPR WTP.....	Cypress Direct Potable Reuse Water Treatment Plant
TCEQ.....	Texas Commission on Environmental Quality
HDPE.....	High-Density Polyethylene

II. EMERGENCY CONTACTS

	Work	Home	Cell
On-Call Supervisor Pager	763-6579		
Utilities Operations Manager.....	691-1153		704-7236
Water Superintendent.....	691-1153		
Wastewater Superintendent.....	397-2535	529-6141	733-4106
Water Distribution Superintendent...	761-4333		
Water Plant Operator.....	691-1153		
Wastewater Plant Operator.....	397-2542		
24 Hour Dispatcher.....	761-4333		

III. INTRODUCTION

The purpose of this plan is to provide a systematic way to inspect and make repairs to the 13-mile HDPE pipeline between the River Road plant and the Cypress Water treatment Plant.

To aid in the inspection process, the pipeline will have markings placed every 1,000 feet on it identifying the pipeline segments. The segments will be numbered in ascending order from the pump station at the River Road WWTP to the Cypress WTP. This will assist in communicating locations to others if any problems arise; facilitating response times and to minimize any confusion in identifying locations.

IV. OBJECTIVE

The objective of this document is to provide a plan to inspect and make repairs and communicate shutdowns and startups with plant staff. This is to include but not limited to:

- Protect the public health
- Aid in the inspection process.
- Initiate the appropriate leak response plan.
- Lessen any potential environmental impacts.

V. MONITORING

City staff daily will monitor the HDPE pipeline responsible for transporting water from the River Road WWTP to the Cypress DPR WTP. Inspection will begin as close to 8:00 A.M. as possible. Inspection will be completed utilizing either the Wastewater's ATV or one of the small Ford Ranger trucks due to having to drive on the bike trail. Inspection will be completed on a daily schedule. A detailed journal will be maintained of the inspection. The journal will document the following:

- Who inspected the pipeline.
- Date pipeline was inspected.
- Start and end time of inspection
- Line segments inspected.
- Any deficiencies found during inspection.
- The ambient temperature
- Exterior temperature of the pipeline.

VI. NOTIFICATION

If a failure or potential failure is observed in the HDPE pipeline, staff will take necessary actions to repair the leak or rectify the problem immediately. Failures may be determined by physical inspection or any abnormalities that may be observed at either facility. This may include but not limited to loss of flow or a loss of pressure in the system. Any time a leak or a potential area for a leak is observed. The on-call Supervisor for the Water Distribution and Wastewater Treatment Divisions will be notified immediately. If at any time either plant operator at the RRWWTP or the Cypress WTP has any concerns due to things such as drops in pressure or flow velocity, the pipeline will be immediately shutdown and a crew will be dispatched to inspect the line. If a leak has been determined, the response team will be notified by one of two means:

- Called directly via telephone @ 940-761-4333
- Communicate with dispatcher via the Cities two-way radio system. KDL-470

VII. SHUTDOWN

If any leak requires the HDPE pipeline to Cypress DPR WTP to be depressurized or temporarily taken out of service, the plant operators at the River Road WWTP will notify the plant operators at the Cypress DPR WTP via telephone or radio that the HDPE pipeline is out of service until further notice. Refer to SOP WW-A1, Shutdown Communication Protocol. The pumps at the RRWWTP will be locked out and tagged out to by Plant Operator to prevent unauthorized startup of the pump station. Reference High Turbidity SOP for shutting down of pumps. In the event a leak should occur, the TCEQ will be notified.

VIII. LEAK REPAIR

Repairs will be completed by the City of Wichita Falls Water Distribution staff, which has extensive experience in repairing large water main leaks. Repairs will be made under the supervision of an employee that maintains at least a class C Water Distribution license issued by the TCEQ. Repairs will be made as per pipe manufactures recommendation.

If a leak were to occur and depending upon what type it is will dictate the repair procedure. If the leak were to be a puncture or penetration, an electro fusion repair patch would be installed over the area. This is completed using a portable power pack that utilizes heat fusion of the patch to the pipe. If the leak was larger due to a pipe failure, the line would be cut and resurfaced and utilizing heat fusion spliced together.

If needed, the repair will be disinfected with Calcium Hypochlorite before the pipeline is placed back into service. A determination will have to be made if any outside water source entered the pipeline. If so, determine the gallons of water that may have entered the pipe and utilize the following formula to calculate chlorine needed. To achieve a chlorine dosage of 8 Mg/l, 95 Lbs. of Calcium Hypochlorite (70%) will need to be added to every 1,000,000 (million) gallons of water. Utilizing this calculation one can adjust the amount up or down as needed. For example, if the estimate was 10,000 gallons then dose the pipe with 0.95 Lbs. of Calcium Hypochlorite.

If for any reason the City staff can't resolve the problem, a third party vendor will be utilized that can quickly repair the faulty section. The City will have in reserve at all times a clamp and proper materials for repairing a leak on the pipeline and maintain at least two contacts of vendors that could make emergency repairs if needed.

Once the HDPE pipeline has been repaired it must be inspected by a Supervisor that is licensed and holds a minimum class C water distribution license issued by the TCEQ.

IV. CLEANUP RESPONSE

If a leak were to occur and the re-use water enters into the State waterways, the City staff will immediately start applying chemicals at the leak site that will neutralize any chlorine that would be discharged. Once this is established, staff will go downstream approximately 50 yards dependent upon the estimated size of the leak and monitor for any chlorine residual in the receiving stream using field chlorine test strips. If chlorine is present, chemicals to neutralize the chlorine will be added at this point, tested every 25 yards downstream, and treated with neutralizer. If no chlorine is detected, test will be done upstream every 10 yards and where chlorine is detected chlorine neutralizing chemicals will be applied to these areas.

If a leak were to occur and it did enter into the State waterways. City shall follow procedures in 210 permit R10509-001; a copy will be in Operations Control room for reference. City staff will keep a record of the following:

- Amount of water discharged.
- Beginning and ending time of discharge.
- Gallons of water discharged.
- Waterway where water discharged.
- Chemical and amount applied.
- Any visible fish kills.
- Any other pertinent information observed.

X. STARTUP

Once the Supervisor verifies that the pipeline has been repaired and disinfected (if needed) correctly, they will notify the River Road WWTP plant operators and TCEQ that the system is once again operational and safe to transmit water to Cypress DPR WTP.

The River Road WWTP operator will notify the Cypress DPR WTP operator that the HDPE pipeline is ready for service. The Cypress DPR WTP operator will have sole determination as to when to bring the HDPE pipeline back in service. Once the plant operator at the Cypress DPR WTP determines the need to convey water through the HDPE pipeline, they will contact the River Road WWTP plant operator and notify them of such.

Once the HDPE pipeline is fully pressurized and back in service and transmitting water. The leak site will be monitored for a minimum of 30 minutes to insure that the repair is holding and no leaks are present. Once this has been determined, they will contact the River Road WWTP operator and advise them of such and that they have completed their repairs.

Associated SOP's: River Road Shutdown Communication.

Prepared By:_____

Prepared Date_____

Approved by: _____

Approved Date: _____

Reviewed by:_____

Reviewed Date:_____

Reviewed by:_____

Reviewed Date:_____

Reviewed by:_____

Reviewed Date:_____

SOP considered effective upon approval date.

*SOP's are to be reviewed and/or updated annually or any time this process has changed.

Sign below and date that you have received this SOP.

Printed Name	Signature	Date	Printed Name	Signature	Date

Appendix 1.

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