

**OPERATION AND MAINTENANCE PLAN  
IRRIGATION PIPELINE  
CODE 430**

Landowner/Operator \_\_\_\_\_

Job Location \_\_\_\_\_ GPS \_\_\_\_\_

Prepared By \_\_\_\_\_ Date \_\_\_\_\_

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**OPERATION AND MAINTENANCE ITEMS**

This irrigation pipeline was designed and installed to convey water to your irrigation system. Life of this installation can be assured and usually increased by carrying out the following recommendations. This checklist is provided to help you in the operation and maintenance of the pipeline.

**OPERATION CHECKLIST**

**For gravity or pumped pipelines prior to filling the pipeline:**

- Check that all preseason maintenance is complete.
- Before starting, read and record flow meter totals.
- Inspect all drains to be sure that drain valves are closed.
- Inspect all mainline, lateral, and turnout valves. Open the operational turnout. The first and last risers on each line, as well as any riser that is at a high point in the line, should be cracked open to allow air to be released from the system.
- Open all manual air release valves.
- Inspect all air-vac valves to see that the airway is open (stem pushed down) and the float ball and seat are in place and undamaged.
- Visually inspect all pressure relief valves to be sure they are free to operate and have not been adjusted to a higher or lower pressure setting.
- Before turning on the pump, the valve at the pump should be closed to the point that it is not more than 1/4 open.

**Flushing and filling the pipelines:**

- When an empty pipeline is initially filled be certain that it is filled slowly. Fill the pipeline slowly by limiting the water amount entering the pipe to about one quarter full so air can exit the pipe and water pressure inside the pipe is slowly increased. Inline valves along the pipeline must be opened and all air vents and air-release valves must be operational.
- After the pipeline is filled, slowly open the headgate into the pipeline or the valve at the pump to full open. Close any risers or valves that have been cracked to allow air to be released.

**Operation during the irrigation season:**

- Whenever possible, open the new turnout before closing the old one. Always close valves slowly to prevent water hammer.
- Inspect the pipeline inlet daily or more often if necessary. Remove trash or debris. Observe flow conditions in the canal and make adjustments necessary to keep the pipeline inlet submerged.
- Check pressures regularly. A change means there is probably an operational or maintenance problem.
- Inspect flow meters at least monthly for proper operation.
- Check pump and valves for noisy operation. Noise is an indication that cavitations may be occurring. Cavitation can greatly reduce the life of the pump and valves and erode the inside surface of the pipe.
- Check that air-vacuum valves are seated and not discharging water.
- At the end of the irrigation season:**
- Close the main headgate on a gravity flow system.
- Insure that drains are opened and in places where pump-out risers are used to evacuate water from the pipeline, that water has been pumped out of the pipe at the end of the season. A pipeline must be drained at the end of the irrigation season to avoid pipeline breakage during the winter from water freezing within the pipeline.
- Drain any valves, such as check valves or pressure reducing valves that require manual draining.
- Flow meters may be equipped in such a way that the instrumentation parts of the meter may be removed and stored inside during the winter, insure that at the end of each irrigation season this task is completed. Follow instructions from the manufacturer when installing the instrumentation at the beginning of the irrigation season to insure accurate measurement.

**Maintenance Items**

- Inspect all mainline, lateral and turnout valves.
- Inspect all air-vacuum relief valves, pressure relief valves and other appurtenances.
- Repair or replace any damaged valve or appurtenance.
- Repair any leaks in the system promptly. Warning, a stream of water under high pressure is dangerous and can cut through skin and bone.
- Obtain pipeline appurtenance operation and maintenance instructions and parts list from the contractor/supplier, and keep them for specific instructions on operation and supplies needed for maintenance.

Other \_\_\_\_\_

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