



Operation & Maintenance Plan Irrigation System, Microirrigation (Code 441)

Landowner/Operator:

Date:

NRCS Service Center:

Conservation District:

Practice Location:

Tract/Field ID:

(Lat/Long or UTM Coord, or Sec/TS/R)

Expected Lifespan

The minimum expected lifespan of this practice is at least 15 years.

A properly operated and maintained **Irrigation System, Microirrigation** is an asset to your property. The purpose of this system is to effectively and efficiently apply irrigation water to crops. The life of the practice can be assured and usually increased by developing and carrying out a good operation and maintenance program.

This practice will require you to perform periodic operation and maintenance to maintain satisfactory performance. The following are some requirements to help you develop a good operation and maintenance program.

Operation and Maintenance

1. Only operate the system when needed to furnish water for plant growth or to store moisture within the rooting depth of the plant. Monitor crops regularly noting areas of moisture stress and repair or adjust system operation as needed.
2. Operate the system at the pressure, discharge rate, speed, duration and frequency as designed.
3. Clean or backflush filters when needed.
4. Inject chemicals as required to prevent precipitate buildup and algae growth.
5. Inspect after significant storm events and at least annually to identify repair and maintenance needs.
6. Periodically examine each emitter for proper operation. Clean plugged emitter, and replace if defective and worn.
7. Flush lateral lines regularly.
8. Check to make sure that all connections are watertight and all valves are working properly.
9. Check operating pressures often; a pressure drop (or rise) may indicate problems.
10. Check pressure gauges to ensure proper operation; repair/replace damaged gauges.
11. Check for proper operation of backflow protection devices.
12. Check chemical injection equipment regularly to ensure it is operating properly. Wear skin and eye protection when checking equipment. Avoid spilling chemical fertilizers and pesticides. Immediately clean up spill if they happen.
13. Inspect or test all pipeline and pumping plant components and appurtenances, as applicable.
14. Promptly repair all leaks by replacing any worn gaskets, valves, fittings, gaskets, or other worn or damaged parts.
15. During non-seasonal use, place appurtenances in an area where they will not be damaged but are secure, if necessary.
16. Maintain all pumps, piping, valves and other electrical and mechanical equipment in good operating condition following the manufacturer's recommendations.
17. Maintain all screens, filters, valves, timers and other electrical and mechanical equipment in good operating condition following manufacturer's recommendations. Drain and protect from freezing, as necessary.

18. Inspect for damage from rodents or burrowing animals. Repair any damage. Take appropriate corrective actions to alleviate further damage.
19. Immediately repair any vandalism, vehicular or livestock damage. Do not allow livestock near equipment during operation.
20. Maintain records of:
 - a. Crop type and location for each crop irrigated.
 - b. Source of the water used.
 - c. Date and amount of each irrigation water application.
 - d. System inspections and repairs that influence uniformity and leaks.
 - e. Calibration or fertigation and chemigation equipment, if used.
 - f. Results of irrigation system uniformity evaluations.

Operation, Maintenance and Inspection Costs

1. It is estimated that the annual time to routinely inspect and make minor repairs to your Micro-Irrigation System will be:
 - a. Inspection = 1 hours/week/acre
 - b. Minor Repairs = 1 hours/week/acre
 - c. Layout of tubing and emitters = 1 hour/week/acre
 - d. Major repairs to damage caused by major storm event will require extra time and materials.
2. Most minor repairs can be made by the operator using basic hand tools. However, major repairs to damage to filters, manifold, etc. may require hiring a professional experienced in these repairs and improvements.
3. Most maintenance, such as mowing, reseeding, debris removal, etc. can be accomplished using common farm machinery. Occasionally major damage may require heavy construction equipment to make repairs.

Specific Site Requirements