

NATURAL RESOURCES CONSERVATION SERVICE  
SOUTH CAROLINA  
OPERATION AND MAINTENANCE REQUIREMENTS  
PUMPING PLANT  
CODE 533

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

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

County \_\_\_\_\_ SCD \_\_\_\_\_ Farm/Tract No. \_\_\_\_\_

Referral No. \_\_\_\_\_ Prepared By \_\_\_\_\_ Date \_\_\_\_\_

**OPERATION AND MAINTENANCE ITEMS**

A properly operated and maintained pumping plant is an asset to your farm. This pumping plant was designed and installed to convey water in a pipeline where it can be distributed for use. The estimated life span of this installation is at least 15 years. The life of the structure can be assured and possibly increased by performing operation and maintenance (O&M) activities.

- The practice should be inspected routinely and especially after major rainfall events and at least once a year. All items needing maintenance should be repaired immediately.
- Maintain all pumps, agitators, piping, valves and other electrical and mechanical equipment in good operating condition following the manufacturer's recommendations.
- Maintain grounding rods and wiring of all electrical equipment in good working condition.
- Check all pump bases and mountings for durability and ability to hold the pump in place without vibration, repair when necessary.
- Replace, repack or tighten the seals when leakage is in excess of manufacturer's recommendations.
- Drain all pumps and piping including valves that are subject to freezing. If parts of the system cannot be drained, a noncorrosive anti-freeze solution shall be added.
- Inspect and/or test all pumping plant components and appurtenances (safety features, valves, pressure regulators, pumps, switches, anti-siphon devices, fuel storages, fuel lines), as applicable.
- Promptly repair or replace damaged or inoperable components in accordance with the manufacturer's recommendations.
- Perform routine maintenance of all mechanical components (power unit, pump, drive train, etc.) in accordance with the manufacturer's recommendations.

- Perform routine tests and inspections of all automated components of the pumping plant, to assure the proper functioning as designed.
- Follow *start-up and shut-down* procedures for the operation of the pumping plant in accordance with the manufacturer's recommendations.
- Do not enter confined places without proper safety precautions for breathing and exit while inspecting or repairing equipment.
- Open/close valves in a manner that prevents excessive water hammer.
- Where applicable, fill pipe at the specified rate requirements to remove entrapped air and prevent water hammer surges. Appurtenances, such as a flow meter or other means (e.g., number of turns of a gate valve) should be used to determine the rate of flow into the pipeline. If filling at a slow flow rate is not possible, the system shall be open to the atmosphere (outlets open) prior to pressurizing.
- Check and ensure proper operation of any backflow protection devices, where applicable.
- Check for debris, sediment, minerals, algae and other materials which may restrict system flow.
- Inspect and maintain secondary containment facilities, if applicable.
- Prior to retrofitting any electrically powered equipment, electrical service must be disconnected and the absence of stray electrical current verified.
- Maintain erosion protection at outlets, where applicable.
- Repair any settlement or erosion that occurs around the pumping plant facility and reseed as needed. If this problem persists, evaluate the facility and/or pipes for leakage and erosion of the fill material into or along the pipe.
- Repair or replace pump safety guards as needed.
- Immediately repair any vandalism, vehicular or livestock damage to the structure, earthen areas surrounding the structure, or any appurtenances.
- Eradicate or otherwise remove all rodents or burrowing animals. Immediately repair any damage caused by their activity. (If threatened species are involved, follow policy on endangered or threatened species.)

Additional Operation and Maintenance Requirements Specific to this Plan: \_\_\_\_\_

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*Contact your local NRCS office for any additional technical assistance you might need for implementation of this O&M plan for your conservation practice.*

This O&M Plan was discussed and a copy provided to the landowner/operator.