



CONSERVATION ENHANCEMENT ACTIVITY

E554118Z3

**CONSERVATION
STEWARDSHIP
PROGRAM**

Installation of end of pipe or ditch treatment for nitrogen

Conservation Practice 554: Drainage Water Management

**APPLICABLE LAND USE: Crop (Annual & Mixed); Crop (Perennial);
Associated Ag Land**

RESOURCE CONCERN ADDRESSED: Water Quality Degradation

PRACTICE LIFE SPAN: 1 year

Enhancement Description

Add end of pipe/ditch treatment if nitrogen is the pollutant of concern. Add CPS 605, Denitrifying Bioreactor for each drainage outlet in the field.

Criteria

- Bioreactor must treat at least 15% of the peak flow from the drainage system. Exclude surface water from the bioreactor as much as possible.
- Treat at least 60% of the long term average annual flow from the drainage system.
- Provide a low outlet drain to allow the chamber to fully drain.
- Provide some means to prevent migration of soil particles into the bioreactor, such as lining.
- Water control structures will be designed for required capacity and hydraulic retention time.
- Manage water levels evenly into, within and out of the bioreactor.
- Protect surface of bioreactor from compaction and intermittent storm flows by mounding, blend excess soil in the adjacent area, or haul away.



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- Monitor the effects to downstream flows. Initial flow from the bioreactor at start up may contain undesired contaminants.
- Enhancement will comply with all applicable federal, state, and local laws and regulations.

Documentation Requirements

- Plan view of layout including location.
- Profile of bioreactor including inlet and outlet structure, typical cross section.
- Details of required structures, material specifications, seeding recommendations using State specific protocol for Denitrifying Bioreactor, 605.
- Operation and Maintenance plan, including water level management, inspection of inlet, outlet and surface outlet.
- Requirements for monitoring the bioreactor media and replacement, as needed.