

Watershed Agricultural Program SOP

2.1.24.1

VEGETATED TREATMENT AREA PHOSPHORUS LEVEL MONITORING

Purpose

The purpose of this SOP is to outline the process and frequency of monitoring soil phosphorus levels within Vegetated Treatment Areas (VTA) in addition to routine visual inspections. This will help ensure VTAs continue to function as intended throughout their 10 year lifespan to achieve the maximum water quality benefit.

Background

The USDA Natural Resources Conservation Service (NRCS) VTA practice standard is followed by the Watershed Agricultural Program (WAP) throughout the planning and design process to treat waste water from a variety of agricultural sources including that from barnyards, silos, compost facilities, animal feeding areas, milk houses and wash stalls. The NRCS standard states that the purpose of the VTA is to “improve water quality by reducing loading of nutrients, organics, pathogens, and other contaminants associated with livestock, poultry, and other agricultural operations”. The NRCS has extensive science-based requirements for siting, sizing and maintenance of VTAs, which includes measuring and monitoring soil phosphorus levels. The current NRCS lifespan of a VTA is 10 years from the date of completion following which, the VTA will be eligible for repair or replacement under the current WAC policy.

Pre Design Phosphorus Testing Requirements

As per the NRCS VTA practice standard, prior to installation WAP staff shall collect a composite sample of the VTA area to have evaluated by a qualified laboratory using the Morgan P soil test procedure. Soil phosphorus levels must be below 80 lbs/acre otherwise the existing soil must be amended or replaced with suitable material. Below 80 lbs/ac, the maximum phosphorus level permitted at a site prior to VTA installation will be at the discretion of the certifying engineer.

Phosphorus Monitoring Requirements

Every three years WAP staff shall collect a composite soil sample in the lower 1/3 of the VTA to a depth of 12 inches to monitor soil phosphorus levels. In the event a Morgan P soil test reveals that phosphorus levels are within 15% of the threshold (between 68 lbs/acre and 80 lbs/acre), sampling shall be conducted annually thereafter to monitor the phosphorus levels.

The VTA will be eligible for repair, amendment or replacement before the 10 year lifespan has been reached if soil phosphorus levels exceed the 80 lbs/ac threshold or other problems outside of regular operation and maintenance are identified by WAC staff.

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Soil Removal / Reuse / Disposal

VTA systems are designed to receive and treat a variety of agricultural wastes and potential pollutants, which may include detergents, soaps and cleaning agents found in greywater and pathogens and nutrients from manure. All soil that is removed from a VTA will be handled in accordance with all applicable local, state and federal laws.

For VTAs that have been used to treat waste water from manure storage areas (compost pads, barnyards, dumpster pads, animal feeding areas) the landowner may choose to use the removed VTA soils on site as an amendment to crops or pastures, which shall be done in accordance with a nutrient management plan.

VTA soils that have been used to treat waste water from wash stalls, farm washing machines, or milkhouses, or any other soils from VTAs unwanted by the landowner, will be tested by a qualified laboratory for all parameters contained in Title 6 of the Official Compilation of NY Codes, Rules and Regulations Part 375¹ before determining their suitability for future uses and exporting off site. If any of these parameters exceed the Unrestricted Use limits², the soil will be required to be handled in accordance with NYS DEC law.

¹ http://www.dec.ny.gov/docs/remediation_hudson_pdf/part375.pdf

² <http://www.dec.ny.gov/regs/15507.html#15513>