

**Appendix F:
Operations and Maintenance Plan**

**Antares Solar Field
East Lyme, Connecticut**

Prepared For Submission To:
Connecticut Siting Council

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General Overview

The project, located southeast of the intersection of Grassy Hill Road and Walnut Hill Road, is proposed to be developed by constructing solar panel clusters that generate upwards of 6MW of electricity as well as gravel access around the field with a proposed building and associated drainage structures and utilities. The site demolition that will occur includes removal of existing trees, building foundations, stone walls, and fence.

No work is proposed within the adjacent 100' upland review area and no new stormwater discharge locations are proposed. The disturbed site area will be treated for water quality and quantity before being discharged to one of two existing discharge locations.

The site is not located within the 100-year flood hazard area, according to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM) for New London County, effective date July 18, 2011. The site is located within Zone "X" which is delineated as "areas determined to be outside the 0.2% annual chance floodplain."

The following Operations and Maintenance Plan was prepared specifically for this proposed solar field in the Town of East Lyme, Connecticut

Purpose & Goals

The purpose of this Manual is to ensure that the stormwater BMP components are operated in accordance with all approvals and permits. The primary goal is to inform all the property managers about how the system operates and what maintenance items are necessary to protect downstream wetlands and watercourses. The secondary goal is to provide a practical, efficient means of maintenance planning and record keeping to verify permit compliance.

Responsible Parties

Greenskies Renewable Energy, LLC will be responsible for implementing the Plan on the entire property. The party will be responsible for overseeing the maintenance of the entire solar field.

List of Permits & Special Conditions

The project will receive a number of permits, which may contain special conditions that require compliance by the owners and maintenance contractors. These permits may include the following:

- Connecticut Siting Council Approval
- Connecticut General Permit for the Discharge of Stormwater Associated with Construction Activity

Maintenance Logs and Checklists

Greenskies Renewable Energy, LLC will keep a record of all maintenance procedures performed, date of inspection/ cleanings, etc. Copies of inspection reports and maintenance records shall be kept on site in the manager's offices once they are established.

Forms

The following forms will be developed for annual maintenance. Copies of the forms will be kept on-site as part of the Storm Water Management Plan.

- Annual Checklist
- Quarterly Checklist
- Monthly Checklist

Employee Training

All necessary Greenskies Renewable Energy, LLC employees will take part in an employee-training program, with annual updates, to ensure that the employees charged with maintaining the BMP's do so in accordance with the approved permit conditions. All employees that have maintenance duties will be adequately informed of their responsibilities. All sub-contractors (Vactor, snowplowing, etc.) will be informed of special requirements and responsibilities.

Spill Control

Greenskies Renewable Energy, LLC will have a spill control program. That program will be updated annually and incorporated into the employee-training program.

Storm Water Management

System Components

The storm water management system has several components that are shown on the Overall Grading, Drainage, and Utilities Plan (GU-0), and they perform various functions in treating storm water runoff:

Catch Basins are inlets, which trap road sand and floatable debris prior to draining through the storm sewer system. The catch basins (CBs) are equipped with 2' deep sumps, and hoods over the outlet pipes.

Catch Basins and Outlet Protection

Greenskies Renewable Energy, LLC is responsible for cleaning the catch basins and outlet protection on the property. A Connecticut licensed hauler shall clean the sumps, and dispose of removed sand legally. As part of the hauling contract, the hauler shall notify Greenskies Renewable Energy, LLC in writing where the material is being disposed.

Each catch basin shall be inspected every four months, with one inspection occurring during the month of April. Any debris occurring within one foot from the bottom of each sump shall be removed by Vacuum "Vactor" type of maintenance equipment.

During the inspection of each of the catch basin sumps, the hoods (where provided) on each of the outlet pipes shall also be observed. In the event that a hood is damaged or off the hanger, it shall be reset or repaired.

Detention Ponds

The detention ponds shall be inspected every six months in the months of April and October. The inspection shall follow the maintenance list below. The detention basin shall be inspected, maintained and cleaned periodically (if required) during construction, and at the end of construction once the vegetation is fully stabilized.

For the first year of operation following construction, inspect the detention basin each month for the months of January, February, March and April, and once every four months thereafter. After the first year of operation, the detention basin shall be inspected a minimum of two times yearly with one inspection occurring in the month of April. Any accumulations found to be occurring within one foot of the inlet orifice shall be removed from the detention basin and properly disposed off-site. Also, any floating material discovered during inspections shall be removed from the basin.

A detailed maintenance logbook shall be kept for each detention ponds. Information is to include, but not be limited to, the date of inspection, record of sediment depth, condition of the inlet pipe, condition of orifice, condition of outlet control structure, observation of any floatables, and date of cleaning performed.

Regular inspection/maintenance for the detention ponds includes the following items:

- checking that the storm inlet into the detention pond is clear and functioning properly,
- checking that the outlet control structure is clear and the outlet is functioning properly,
- checking that the outlet channel from the pond is clear and not eroding,
- removing paper and debris from inside of pond,
- mowing the crest of the basin for maintenance access,
- removing invasive plant species from wetland marsh in bottom of pond,
- checking slopes for any dips or settlement that might indicate seepage,

The bottom of the detention ponds are planted as a marsh for additional filtering, and will not normally be mowed. The sides of the ponds will be maintained as a meadow. The crest of the ponds will be mowed periodically for maintenance access.

Leaky Berm

The leaky berm shall be checked for and cleaned of trash, excessive sediment, other debris and erosion on a monthly basis. Check the outlet pipes and verify they are clear of debris and functioning properly. A detailed maintenance logbook shall be kept with information including, but not limited to, the date of inspection, record of grit depth, condition of vegetation, observation of any floatables, and date of cleaning performed.

Swales

Grassed drainage swales shall be checked for and cleaned of trash, excessive sediment, other debris and erosion on a monthly basis. Maintain the swales as meadow during growing season. A detailed maintenance logbook shall be kept with information including, but not limited to, the date of inspection, record of grit depth, condition of vegetation, observation of any floatables, and date of cleaning performed.

Site Maintenance

Landscaping

The management company retained by Greenskies Renewable Energy, LLC will maintain landscaped areas. Normally the landscaping maintenance will consist of mowing lawns, raking leaves, etc. The lawn areas, once established, will be maintained at a typical height of 3 ½". This will allow the grass to be maintained with minimal impact from weeds and/or pests. The low-maintenance areas will be maintained as a meadow or allowed to revert back to natural conditions.

Topsoil, brush, leaves, clippings, woodchips, mulch, equipment, and other material shall be stored off site.

Maintaining Native Vegetation

Existing vegetation around the perimeter of the development will be maintained in its native condition. No clearing, grading, stockpiling, storage, or development will occur in these areas.