



Operation and Maintenance Plan and Long-Term Pollution Prevention Plan

Ground-Mount Solar PV Development
40 Sizer Drive, Wales, MA 01081
Project # 3652200259

Prepared for:

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1.0 INTRODUCTION

Wood Massachusetts, Inc. (Wood MA) has prepared this Operations and Maintenance Plan and Long-Term Pollution Prevention Plan as a combined document to ensure that the stormwater best management practices (BMPs) designed and constructed as part of the proposed ground-mounted solar photovoltaic (PV) project (the Project) located at 40 Sizer Drive in Wales, MA (the Site) continue to function as designed. The elements of this plan were developed in accordance with the Standards 4 and 9 of the Massachusetts Stormwater Standards and the requirements of the Massachusetts Stormwater Handbook.

2.0 OPERATIONS AND MAINTENANCE PLAN

The BMPs designed and constructed as part of the Project shall be operated and maintained in accordance with the requirements identified on the drawings submitted with the Notice of Intent and this Operations and Maintenance Plan.

2.1 Stormwater Management System Owners and Responsible Party

The owner of the stormwater management system at the Site and the party responsible for operation and maintenance of the stormwater BMPs is:

Suppin Solar Development, LLC
3 Corporate Park, Suite 168
Irvine, CA 92606

2.2 Construction Period Erosion and Sedimentation Controls

Stormwater inspections during construction through project completion (final site stabilization) will be performed under the EPA NPDES Construction General Permit. Each of the following areas must be inspected by or under the supervision of the owner and operator at least once every seven (7) calendar days and within twenty-four (24) hours after any storm event, which generates at least 0.25 inches of rainfall per twenty-four (24) hour period and/or after a significant amount of runoff or snowmelt:

- All areas that have been cleared, graded, or excavated and where permanent stabilization has not been achieved;
- All stormwater erosion, runoff, and sediment control measures (including pollution prevention control measures) installed at the site;
- Construction material, unstabilized soil stockpiles, waste, borrow, or equipment storage and maintenance areas that are covered by this permit and are exposed to precipitation;
- All areas where stormwater typically flows within the site, including temporary drainage ways designed to divert, convey, and/or treat stormwater;
- All points of discharge from the site;
- All locations where temporary soil stabilization measures have been implemented;
- All locations where vehicles enter or exit the site.

Additional provisions include:

- Sediment shall be removed before it accumulates to one-half foot deep at the installed sediment barrier;
- Sediment barrier shall be replaced where it is worn, torn, or otherwise damaged;
- Any part of the sediment barrier that is not properly installed on the ground shall be re-anchored or replace.

2.3 Post-Construction

Following construction completion and final site stabilization, Sunpin Solar Development, LLC and their Contractors will perform stormwater inspections as follows:

- Remove temporary erosion and sediment controls (sediment barrier);
- Inspect site for stability and any evidence of erosion or sedimentation;
- Inspect the lower “drip edge” of the solar PV panels for erosion. If erosion along the drop edge is observed erosion control matting shall be installed along the length of the edge;
- As part of bi-annual facility inspection and maintenance, the Site will be inspected for general site stability and function of the detention basin.

2.4 Maintenance Tasks

2.4.1 General O&M Requirements

The BMPs specified for this Project are designed to attenuate runoff from the Project in areas located upgradient of the existing surrounding wetlands. These BMPs will be most effective if properly maintained. This section describes the general maintenance concepts that must be implemented in order to extend the lifespan of the BMPs and maximize their ability to minimize accelerated erosion and sediment pollution.

In general, maintenance of BMPs requiring earth disturbance should occur in late spring or summer, after spring rains have diminished, drier weather has set in, and when vegetation can re-establish itself through the growing season. Other times may be suitable if weather permits or if the potential for sediment transport is low. Any maintenance should occur with the intent to limit earth disturbance during times of high erosion potential.

If earth disturbance occurs as part of maintenance activities, appropriate erosion and sediment controls shall be implemented. Fertilizer should not be applied, as this will result in an export of nitrogen and phosphorus from the BMP; with an exception for initial vegetation establishment.

Removed sediment shall always be managed in such a manner that it will not erode and wash into the stormwater conveyance system or a local water body.

2.4.2 Bioretention Basins

Inspections should occur as outlined below. Inspections should also occur after major storms to determine if the basin is functioning properly.

Inspect and remove trash:	Monthly
Mow:	2 to 12 times per year
Mulch:	Annually in Spring
Remove dead vegetation:	Annually in Fall or Spring
Replace dead vegetation:	Annually in Spring
Prune:	Annually in Fall or Spring

Replacing of the filter media and all vegetation will only occur as needed. Adhering to the above maintenance tasks will extend the life of the bioretention facility. Outlet structures and pipes should also be inspected to ensure there is no clogging or accumulated sediment.

2.4.3 Crushed Stone Access Road

Annually in the spring season the washed crushed stone shall be re-distributed and supplemented to achieve an even, compacted surface conforming to the original design grades. Snow plow damage shall be inspected throughout the winter season and repaired as needed. Any vegetation growing within the roadway is to be removed immediately upon identification. Potholes shall be repaired as required. If standing water is observed more than 48 hours after a storm event, then the crushed stone surface shall be excavated, the subsoil shall be scarified to breakup any hard-packed sediment, and the roadway shall be restored to original design specifications. Trash and debris shall be removed from the washed crushed stone surface as needed and shall be disposed of in accordance with applicable local, state and federal guidelines and regulations. The surface of the washed crushed stone access road shall not be used to store soil or other materials that could clog the permeable stone surface.

2.5 General Site Maintenance

The Site area to be occupied by the solar array will be vegetated with low-maintenance native grass species. The grass will be mowed bi-annually, and any woody vegetation not otherwise managed by mowing will be manually removed. This includes the area immediately adjacent to the perimeter fence, to prevent woody vegetation from impacting the fence. Herbicides are not proposed for use on the Site.

2.6 Scaled Plans

Plans drawn to scale that depict the location of the stormwater features, their discharge points, and elements of the overall stormwater management system are included with the Site Plan Review. A Proposed Stormwater Conditions Plan is included in this O&M Plan

2.7 Public Safety Features

The Project will be surrounded by a chain link fence. The gate will be locked at all times and will need to be opened to conduct routine maintenance activities.

2.8 Estimated Operation and Maintenance Budget

An estimated Operation and Maintenance budget is estimated to be approximately \$5,000 per year to perform the general maintenance described in this O&M Plan.

3.0 LONG-TERM POLLUTION PREVENTION PLAN

In accordance with EPA Standards, the development and implementation of suitable practices for source control and pollution prevention shall be incorporated in a Long-Term Pollution Prevention Plan (LTPPP). The primary focus of the LTPPP is to establish procedures and controls for limiting the potential sources of pollutants, including nutrients that may contribute to excessive contaminant levels in the site's stormwater runoff. To this end the following sources controls and procedures will be in place at the site:

- **Good House Keeping** – The site shall be kept clean at all times. Refuse disposal and pickup shall occur on a regular basis and all material shall be disposed of in designated locations.
- **Storing Material and waste products inside or under cover** – No material storage is to take place outside at the site on either paved or lawn areas. All materials stored on-site will

be in conformance with all storage requirements of local, state, and federal agencies.

- **Spill Prevention and Response** – A spill recovery kit shall be readily accessible at the facility at all times. Contact information for an emergency cleanup vendor shall be visible and apparent at the facility. All employees shall be briefed on clean-up response and procedures.
- **Maintenance of lawns and other landscaped areas** – All landscaping and maintenance shall be performed so as not to disturb stabilized surfaces.
- **Storage and use of herbicides and pesticides** – Application of herbicides or pesticides (if required) will not be applied during construction.
- **Nutrient management plan** – The goal of the nutrient management plan is to minimize the potential sources of excess nutrients on the site and the release of nutrients in the stormwater from the site. This minimization relates both to infiltrated water and runoff. In general, the nature of the site use will tend to reduce nutrients in the stormwater. Further, procedures indicated above or in the O&M Plan will act to reduce the levels of nutrients in the stormwater and the nutrients entering the groundwater.

Ground-Mount Solar PV Development
40 Sizer Drive, Wales, MA
 BMP MAINTENANCE LOG

BMP STRUCTURE	FREQUENCY	WORK PERFORMED	DATE PERFORMED	COMMENTS
Vegetation Trimming/Mowing	Bi-annual mowing & removal of woody vegetation			
Vegetated ground cover	Inspect bi-annually, repair as needed			
Bioretention basin	Inspect monthly, clean/repair as needed			
Crushed Stone Access Road	Inspect bi-annually, clean/repair as needed			
Other				
Additional Comments:				

Inspector Name: _____

Date: _____