



# Solar Project Best Practices and Policies for Tioga County Municipalities

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## Project Plans & Agreements Supplemental Documents

Editable versions of these tools and templates, as well as video presentations, are available from the Tioga County Office of Economic Development & Planning.

Pages 2-3: Abandonment & Decommissioning Plans Overview

Pages 4-9: Decommissioning Plans & Agreements presentation slides

- *Presentation video is also available*

Pages 10-16: Template Decommissioning Agreement

Pages 17-18: Operations & Maintenance Plans Overview

Pages 19-24: Operations & Maintenance Plan presentation slides

- *Presentation video is also available*

Prepared by:

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# ABANDONMENT & DECOMMISSIONING PLANS

## Ground-Mounted Solar Energy Systems

### PURPOSE

Local municipalities as part of their solar energy system code requirements should necessitate having a decommissioning plan in place prior to final approval of the project in order to remove and remediate the project site at the end of solar facilities lifecycle, which is typically 20–25 years.

The decommissioning plan outlines the required steps to remove the system, dispose of or recycle its components, and remediate and re-establish the land to its original state.

Decommissioning plans should also include a decommissioning agreement between all stakeholders, while also including a detailed cost estimate and identify the form of the financial security.

### *Decommissioning Standards*

*Solar Energy Systems should file a decommissioning plan as part of the site plan review process. Requiring a financial surety for decommissioning may not be justified for small solar farms, as some farms could be too small to be able to acquire a bond or similar instrument*

### COMPONENTS

The Decommissioning Plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and a plan ensuring financial resources will be available to fully decommission the site. The following elements are typically outlined in the decommissioning plan requirements:

#### 1. Introduction

- a. Project Overview
- b. Existing Land Use
- c. Definitions & Acronyms

#### 2. Abandonment

- a. Priority Enforcement
- b. Scope of Abandonment
- c. Opportunity to Cure
- d. Decommissioning by the Local Government

#### 3. Decommissioning, Site Restoration and Monitoring

- a. Objectives
- b. Decommissioning Process
- c. Restoration Process
- d. Post-Restoration Monitoring
- e. Final Decommissioning Plan
- f. Certificate of Compliance
- g. Timing, Schedule, and Extensions
- 2 h. Town Access and Reporting
- i. Indemnification

#### 4. Financial Plan

- a. Objective
- b. Timing
- c. Surety
  - i. Surety Amount
  - ii. Surety Obligations

#### 5. Miscellaneous Provisions

- a. Additional Responsibilities
- b. Environmental Issues
- c. Safety Issues
- d. Legal Issues

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## THINGS TO CONSIDER

- Financial Mechanisms**  
Depending on the local government code requirements, financial security in the form of a surety bond, letter of credit, or cash escrow should be provided and held by a federally insured financial institution.
- Decommissioning Cost Estimate**  
Cost estimates should be prepared by a licensed professional engineer, preferably with solar development experience. Periodic reevaluation of costs should also be built into the decommissioning requirements. It is strongly encouraged that *salvage values are not considered as part of the cost estimate.*
- Decommissioning Agreement**  
A Decommissioning Agreement between all stakeholders (e.g. site owner, site operator, local jurisdiction, etc.) in addition to the Decommissioning Plan should be prepared and attached to the Plan.
- Lease Agreement**  
Land-lease agreements between the solar operator and site property owner, should include a decommissioning clause, which will require coordination with property owner and operator, as they may have differing preferences.

### CONSIDERATIONS

- Contingency Value
- Observation, Permitting, and Review Costs
- Hauling Costs
- Removal of all Landscaping and Roadways

## RESOURCES

The New York State Energy Research and Development Authority (NYSERDA) offers free technical assistance to local governments that want to implement model solar energy local laws, which can be downloaded at <https://www.nyserda.ny.gov/solarguidebook>

The following local governments provide further examples of decommissioning requirements set-forth in their respective town codes, which are intended further guidance on model language:

**Town of Farmington, N.Y.**, § 165-65.3(H): Abandonment and decommissioning <https://ecode360.com/32697969>

**Town of Albion, N.Y.**, § 105-9: Abandonment and decommissioning <https://ecode360.com/32604095>

**Town of Avon, N.Y.**, § 130-82: Abandonment and decommissioning <https://ecode360.com/35773954>





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# INTRODUCTION TO SOLAR ENERGY SYSTEMS

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**MARCH 30, 2022**





# DECOMMISSIONING PLANS & AGREEMENTS

## DECOMMISSIONING PLANS & AGREEMENTS

- Decommissioning and Site Reclamation Plan (Decommissioning Plan) describes the Applicant's decommissioning and site reclamation strategy for the Project area after the solar generating facility permanently ceases operation.
- Permanent closure would typically occur as a result of facility age, damage beyond repair to the facility, economic conditions, abandonment or other reasons as specified within the adopted solar law.
- The Decommissioning Plan addresses dismantling and removal of Project components and reclamation of areas disturbed over the life of the Project. Reclamation would primarily be accomplished through revegetation.
- A Decommissioning Agreement is part of the local legislative approval process or as a condition of approval of a site plan and/or SUP. This requires an owner, lessee, or developer of real property subject to this section to enter into a written agreement to decommission solar energy equipment, facilities, or devices and restore the property back to original conditions.

# DECOMMISSIONING PLANS & AGREEMENTS

## Decommissioning Plan Requirements

- Defined conditions upon which decommissioning will be initiated (i.e., end of land lease, no operation for 12 months, Abandonment, prior written notice to facility owner, etc.).
- The party responsible for decommissioning.
- A detailed schedule for removal of all utility equipment, conduit, structures, fencing, roads, and foundations.
- A detailed schedule for restoration of property to condition prior to solar development.
- Timeframe for completion of decommissioning activities including restoration.
- Description of any agreement (e.g., lease) with landowner regarding decommissioning.
- Plans for updating the decommissioning plan.
- Decommissioning Cost Estimate



# DECOMMISSIONING PLANS & AGREEMENTS

## Decommissioning Cost Estimate Requirements

- Prepared by a license professional, stamped and signed
- Detailed breakdown of all items to be removed and restored
- Include costs associated with hauling materials off site, permits, inspections, and reviews
- Require review and renewal of decommissioning estimate periodically
- Include inflation values
- DO NOT include salvage values
- Require to be approved and posted before issuance of permits



# Thank You

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## DECOMMISSIONING AGREEMENT

This **DECOMMISSIONING AGREEMENT** (this "Agreement") dated as of \_\_\_\_\_, 2022 (the "Effective Date") is made by and among the [VILLAGE/TOWN/CITY], a duly formed municipal corporation under the laws of the state of New York (the "Village/Town/City"), with offices located at \_\_\_\_\_, [SOLAR COMPANY], a New York limited liability company, with offices at \_\_\_\_\_ (the "Owner") and [PROPERTY OWNER], owners of the Property as defined below, with a mailing address of \_\_\_\_\_, (the "Landowner"). The [Village/Town/City], Owner, and Landowner may hereinafter be referred to individually as a "Party" or collectively as the "Parties."

WHEREAS, Owner intends to permit, construct, operate and maintain solar energy generating facilities with an aggregate size of approximately [Size] Megawatts of alternating-current nameplate capacity that will generate electric power (the "Project") on a portion of property, more particularly identified hereto, and commonly known as [Property Address (Tax Map #, the "Property")], such parcel being located within the [Village/Town/City], \_\_\_\_\_ County, New York (the then current owner(s) of the Property are referred to under this Agreement as the "Landowner"); and

WHEREAS, the Owner has agreed to submit a final decommissioning plan and Decommissioning Bond (as defined below) providing the [Village/Town/City] and Landowner (or any of Landowner's heirs, successors or assigns) with access to funds for the Decommissioning (as defined below) of the Project on the terms and conditions set forth under this Agreement; and

WHEREAS, the Parties now desire to enter into this Agreement and to agree upon the obligation to decommission the Project and the terms and conditions of the financial surety provided to the [Village/Town/City] for the purpose of Decommissioning the Project.

NOW, THEREFORE, in consideration of \_\_\_\_\_ (\$0.00) and other promises and good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. **DECOMMISSIONING BOND** - Prior to obtaining a building permit to start physical construction of the Project (the "Bond Start Date"), the Owner (or its successor in title) shall post an irrevocable Decommissioning Bond (the "Decommissioning Bond") by a rated lending institution or other surety company acceptable to the [Village/Town/City], which said Decommissioning Bond shall be for a term of no less than 35 years, the expected useful life of the Project. The Decommissioning Bond shall name the [Village/Town/City] as the bonded or benefitted party. Said Decommissioning Bond shall be in the initial amount of \$\_\_\_\_\_ (the "Initial Bond Amount"), which represents no less than 150% of the estimated removal cost to Decommission the Project as determined by the Owner and [Village/Town/City] engineering consultant and shall have an AM Best rating of aa or higher. Details of the expected Decommissioning activities and costs are described on the Decommissioning Plan (Attachment 1), which is incorporated herein and made a part hereof.



(a.) Upon posting of the Decommissioning Bond, the Owner (or its successor in title) will provide the [Village/Town/City] with the original Decommissioning Bond policy and all related documents with contact information for the financial provider.

(b.) The Decommissioning Bond shall provide for an automatic annual escalation that shall increase the amount of coverage to offset inflation, which shall be determined based on the annual rate of inflation (as determined by the Consumer Price Index as published by the U.S. Bureau of Labor Statistics, utilizing the index for all items less food and energy).

(c.) Owner or its successor in title to the Project shall be responsible for providing the [Village/Town/City] with proof of the continuation of the Decommissioning Bond not less than sixty (60) days prior to the anniversary of the Bond Start Date and for so long as the Project remains in commercial operation and until decommissioning is completed, which is expected to be for a period of thirty-five (35) years. Failure of Owner or its successor in title to provide the [Village/Town/City] with proof of continuation of the Decommissioning Bond as stated above shall be grounds for revocation of any Special Use Permit granted for the Project, provided that the [Village/Town/City] shall have notified Company of such failure, and Company shall not have cured such failure within fifteen (15) days of receiving notice.

(d.) The Parties agree that the Bond shall be used solely to pay for any Decommissioning costs of the Project pursuant to the terms and conditions of this Agreement. The [Village/Town/City] shall have no right to use any portion of the Decommissioning Bond for any reason other than to pay for Decommissioning costs related to the Project pursuant to the terms and conditions of this Agreement and the Decommissioning Plan, and any breach by the [Village/Town/City] of the foregoing will be deemed a default under this Agreement.

(e.) Owner or its successor in title shall have no further payment obligations in connection with Decommissioning during the operation of the Project so long as Owner or its successor in title complies with providing the Decommissioning Bond in accordance with this Agreement. Nonetheless, in the event the actual Decommissioning costs exceed the amount covered by the Decommissioning Bond, Owner or its successor in title to this Project shall be responsible for any such excess costs, provided such excess costs are not as a result of the [Village/Town/City] using any amount covered by the Bond for any reason other than to pay for Decommissioning costs of the Project.

2. **DECOMMISSIONING DEFINED** - Decommissioning as used in this Agreement shall mean the removal and disposal of all structures, equipment and accessories, including subsurface foundations and all other material, concrete, or debris, that were installed in connection with the Project and the restoration of the parcel of land to the original state prior to construction on which the Project is built to either of the following, at the Landowner's (or any of Landowner's heirs', successors' or assigns') sole option ("Decommissioning"): (i) the condition such lands were in prior to the development, construction and operation of the Project, including but not limited to restoration, regrading, and reseeding, or (ii) the condition designed by Owner (or its successor in title) and as agreed upon with and by the Landowner

(or any of Landowner's heirs, successors or assigns) and the [Village/Town/City]. Costs of Decommissioning under this Agreement include labor, disposal costs, professional services, professional consulting services of the [Village/Town/City] and any other costs reasonably associated with such restoration. Details of the expected Decommissioning activities and costs are described on the Decommissioning Plan (Attachment 1).

3. **TRIGGERING EVENTS OF DECOMMISSIONING** - The Parties agree that the Decommissioning process of the Project shall commence (and the funds to pay for the cost of any such Decommissioning from the Decommissioning Bond may be called on) by Owner for the following reasons, (each, a "Triggering Event"):

(a.) Owner or its successor in title provides thirty (30) days' written notice to the Town of its intent to retire or decommission the Project (the "Owner Decommissioning Notice");

(b.) Commercial operation of the Project has not started within twelve (12) months of the completion of construction;

(c.) The Project ceases to be operational or becomes abandoned for more than 180 consecutive days as determined by the [Village/Town/City] Code Enforcement Officer, acting reasonably;

(d.) The Site Plan approval or Special Use Permit relating to the Project has been revoked; or

(e.) Failure to keep in effect the Decommissioning Bond meeting the requirements of this Agreement (including escalation in amount pursuant to paragraph 1. (b.)) as required under this Agreement.

4. **FAILURE TO COMMENCE AND/OR COMPLETE DECOMMISSIONING** - In the event the Owner or its successor in title fails to initiate Decommissioning of the Project within sixty (60) days after any Triggering Event or fails to complete Decommissioning within one hundred twenty (120) days after any Triggering event, the [Village/Town/City] will have the right to fully Decommission the Project through use of the Decommissioning Bond upon providing written notice to Owner (or its successor in title) and the and to Landowner (or any of Landowner's heirs, successors or assigns). Any one of the Triggering Events outlined in this Section 3 shall give rise to the obligation of Owner or its successor in title to perform Decommissioning pursuant to the terms and conditions of this Agreement.

5. **EASEMENT AND RIGHT OF ENTRY FOR TOWN TO PERFORM DECOMMISSIONING** - Owner (or its successors or assigns) and Landowner (or any of Landowner's heirs, successors or assigns) hereby grants to the [Village/Town/City] a temporary easement, which shall be specified and recorded in Office of the \_\_\_\_\_ County Clerk, at the expense of Owner, allowing the [Village/Town/City] and its contractors or agents the right of reasonable access to Landowner's property upon which the Project is located to Decommission the Project and Owner (or its successors in title) and Landowner (or any of Landowner's heirs, successors or assigns) shall defend, hold harmless and indemnify the [Village/Town/City] for any and all claims, liability, loss or damage arising out of the [Village/Town/City] exercising its right to Decommission the Project as provided for herein, except in cases of negligence or willful misconduct by the [Village/Town/City] or any of its employees, contractors, or agents. The above easement and right of entry shall only apply if

the [Village/Town/City] has the right to perform Decommissioning of the Project pursuant to the terms and conditions set forth in Section 4 above, and the easement shall terminate upon completion of the Decommissioning. Prior to entering the Property to Decommission the Project pursuant to this easement, Owner or [Village/Town/City] shall show proof to Landowner (or any of Landowner's heirs, successors or assigns) of its New York State workmen's compensation and commercial liability insurance policies.

**6. LANDOWNER AS A PARTY TO THIS AGREEMENT** – The Landowner (or any of Landowner's heirs, successors or assigns) is a Party to this Agreement, as the obligations contained herein related to the property upon which the Project is to be constructed.

(a.) In the event that Owner or its successor in title fails to comply with the obligation to maintain and provide a Decommissioning Bond as required by section 1. (b.) above or should such Decommissioning Bond not be honored by the surety for any reason not the fault of the [Village/Town/City], Landowner or his successor, heirs and/or assigns shall be responsible for all obligations to Decommission the Project as otherwise required herein. It is the specific intention of the Parties that all obligations thereunder shall attach to the real property upon which the Project is located and that such obligations will bind future owners of the real property to the extent as set forth in this section.

(b.) In the event that Landowner or his successor, heirs and/or assigns fails to fully Decommission the project as required by section 6. (a.) above (which is intended to only be required if Owner or its successor in title fails to comply with the obligation to maintain and provide a Decommissioning Bond as required by section 1. (b.) above or should such Decommissioning Bond not be honored by the surety for any reason not the fault of the [Village/Town/City]), the [Village/Town/City] may, but shall not be required to perform or complete such Decommissioning of the Project, and if completed by the [Village/Town/City], the [Village/Town/City] shall append or add the cost thereof to the real property tax bill for the real property upon which the Project was located.

(c.) If the requirement to Decommission has been triggered (by any of the events listed in section 3. above) and the Owner or its successor in title defaults in Decommissioning and the [Village/Town/City] has to use the Decommissioning Bond to complete the Decommissioning, the Landowner or his successor, heirs and/or assigns will be responsible for any costs in excess of the Decommissioning Bond to completely Decommission the Project. Any such cost in excess of the Decommissioning Bond paid by the [Village/Town/City] shall be appended or added to the real property tax bill for the real property upon which the Project was located.

(d.) This Agreement shall be recorded at the Office of the \_\_\_\_\_ County Clerk at the expense of Owner and shall be indexed against the real property upon which the Project is to be built.

**7. COMPLETED DECOMMISSIONING** – Upon full and complete Decommissioning of the Project to the reasonable satisfaction of the Landowner (or any of Landowner's heirs, successors or assigns) and the [Village/Town/City], the Landowner (or any of Landowner's heirs, successors or assigns) and Owner or its successor in title shall have no further obligation to the [Village/Town/City] and the Decommissioning Bond will be promptly returned and released to the Owner or its successor in title.



8. **AMENDMENT TO THIS AGREEMENT** - This Agreement may not be amended or modified except by written instrument signed and delivered by the Parties. This Agreement is binding upon and shall inure to the benefit of the Parties and their respective administrators, successors and assigns, including any successor Owners of the Project and any subsequent owners of the real property upon which the Project is located.

9. **WORKERS' COMPENSATION INSURANCE** - Owner shall provide the [Village/Town/City] with proof that it either carries sufficient Workers' Compensation insurance coverage for its employees in New York or that it is exempt from such requirement.

10. **ADDITIONAL DOCUMENTS** - The Parties agree to execute and deliver any additional documents or take any further action as reasonably requested by another Party to effectuate the purpose of this Agreement.

11. **LAW THAT GOVERNS** - The Parties agree that this Agreement shall be construed and enforced in accordance with and governed by the laws of New York.

12. **EXECUTION IN COUNTERPARTS** - This Agreement may be executed through separate signature pages or in any number of counterparts, and each of such counterparts shall, for all purposes, constitute one agreement binding on all Parties.

13. **FUTURE NOTICES** - Any and all notices required to be sent by the Parties shall be addressed as listed below. If any Party experiences a change in address, written notice of such change shall be provided to the other Parties.

By certified mail or mail courier service,

To the Town:

[Village/Town/City]  
[Office/Department]  
[Address]  
[Village/Town/City]

To the Company:

[Solar Company]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

To the Landowner:

[Property Owner(s)]  
[Address]  
[Village/Town/City]

IN WITNESS WHEREOF, the undersigned, intending to be legally bound hereby, have duly executed this Agreement as of the date first written above.

[VILLAGE/TOWN/CITY]:

Town/Village/City of \_\_\_\_\_

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

OWNER:

[Solar Company]

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title:

LANDOWNER:

\_\_\_\_\_

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) SS:

On the \_\_\_\_ day of \_\_\_\_\_, 2022, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signatures on the instrument, the individual or the person upon behalf of which the individuals acted, executed the instrument.

\_\_\_\_\_  
Notary Public  
My Commission Expires:

STATE OF NEW YORK )  
COUNTY OF \_\_\_\_\_) SS:

On the \_\_\_\_ day of \_\_\_\_\_, 2022, before me, the undersigned, a Notary Public in and for said State, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of

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Notary Public  
My Commission Expires:



# OPERATIONS & MAINTENANCE PLANS

## Ground-Mounted Solar Energy Systems

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### PURPOSE

- Solar operations & maintenance services are technical services required to establish and maintain a specific performance level for a solar energy system.
- Activities to ensure system performs as planned, optimize production, reduce risks, protect values and comply with rules and regulations.
- An effective Operation & Maintenance Plan (O&M) Plan enhances the likelihood that a system will perform at or above its projected productions rate and cost over time.
- Historically, O&M practices and approaches have not been standardized, and instead, they were implemented in various proprietary methods.

### COMPONENTS

Although all solar energy projects differ from one another; O&M Plans shall minimally include the following key components:



Staffing Levels



Emergency Procedures & Contacts



Warranty/Contingency Plan



Local Authorities & Stakeholders



Equipment Testing Plan



Project & Site Specific Detailed Maintenance Plan



Unscheduled Maintenance



Equipment (e.g. pads, conduits, etc.) and Mechanical (wires, generators, etc.) Maintenance



Security & Safety Protocols Plan



# THINGS TO CONSIDER

Solar energy systems will need optimal monitoring, inspection, warranties, insurance and the O&M Plan should detail the maintenance philosophy:

A detailed, site specific Operation and Maintenance Plan (O&M Plan) should be provided as part of the application

The O&M plan should be reviewed as part of the application review process

The O&M plan will govern how the site will be maintained once operational

The O&M Plan should include a detailed, site specific maintenance schedule of all items including roadways, fencing, and landscaping, site, and grass areas inside and outside of fenced areas.

Reports generated are to be forwarded to the local municipal Code Enforcement Official

Emergency procedures and contacts should be included







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# INTRODUCTION TO SOLAR ENERGY SYSTEMS

LANCE BRABANT - DIRECTOR OF PLANNING & ENVIRONMENTAL SERVICES

SHAUN R. LOGUE - SENIOR PLANNING ASSOCIATE

**MARCH 30, 2022**

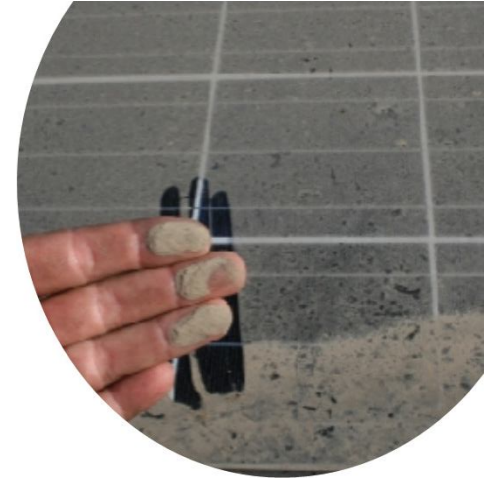


# OPERATION & MAINTENANCE PLAN

## OPERATIONS & MAINTENANCE PLAN

### PURPOSE:

- ✓ Solar operations & maintenance services are technical services required to establish and maintain a specific performance level for a solar energy system.
- ✓ Activities to ensure system performs as planned, optimize production, reduce risks, protect values and comply with rules and regulations.
- ✓ An effective Operation & Maintenance Plan (O&M) Plan enhances the likelihood that a system will perform at or above its projected production rate and cost over time.
- ✓ Historically, O&M practices and approaches have not been standardized, and instead, they were implemented in various proprietary methods.





# OPERATIONS & MAINTENANCE PLAN

## COMPONENTS:

- ✓ Staffing Levels
- ✓ 24-Hour Staffing
- ✓ Outside Hiring
- ✓ Warranty/Contingency Plan
- ✓ Annual/ Routine Equipment Testing Plan
- ✓ Unscheduled Maintenance
- ✓ Security Plan & Emergency Procedures & Contacts
- ✓ Safety Protocols
- ✓ Local Authorities
- ✓ Stakeholders
- ✓ Project & Site Specific Maintenance Schedule Includes:
  - Project Site
  - All Equipment
  - Grass Areas
  - Fencing
  - Landscaping
  - Stormwater Mitigation Areas
  - Wires & Poles
  - Roadways



## OPERATIONS & MAINTENANCE PLAN

Examples:

- Maintain the facility condition as required including:
  - a) Weed Maintenance / Vegetation Management - Ensure that vegetation is kept at a level that does not impact generation and or personnel ability to traverse the site (at least twice a year). Ensure that identified trees and landscaping in need of replacement are replaced by the following growing season.
  - b) Screening - Site production data is reviewed periodically to ensure performance. Also, the onsite camera is used to inspect overall condition of the site.
  - c) Road maintenance - Condition of the road is inspected (at least once a year) by service tech when on site for corrective or preventative maintenance. Remediation will be performed when discrepancies are noted.
  - d) Perform all scheduled and unscheduled inspection and maintenance of stormwater structures



# Thank You

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