

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Solid Waste Program, Attn: Geraldine Travers
17 State House Station
Augusta, Maine 04333-0017
Telephone: (207) 287-2651

FOR DEP USE ONLY

ATS ID: _____	Seq: _____	DEP ID: _____	Received by DEP: _____
Bureau: <u>S</u>	Type of Application: _____	Activity: <u>M</u>	Fees Paid: _____
Project Analyst: _____	Check No.: _____		

APPLICATION FOR A SOLID WASTE PROJECT MINOR REVISION

This form shall be used to request approval, pursuant to 38 MRSA, Section 1301 et seq., and Maine's Solid Waste Management Regulations, of minor changes to: (a) project design or operation; or (b) the conditions of a permit as previously approved by the Board or Department of Environmental Protection. Please contact DEP Solid Waste staff to determine if your project is a minor revision or amendment.

PLEASE TYPE OR PRINT

Company Name: Town of Windham Telephone: 207-892-1907
Contact Person: Barry Tibbetts Telephone: _____
Contact e-mail: batibbetts@windhammaine.us

Applicant Name: <u>Town of Windham</u>	Agent/Consultant Name: <u>ReVision Energy</u>
Telephone: <u>207-892-1907</u>	Telephone: <u>221-6342</u>
Mailing Address: <u>8 School Rd</u>	Mailing Address: <u>758 Westbrook St.</u>
Street Address: _____	Street Address: _____
Town: <u>Windham</u> State: <u>ME</u> Zip: <u>04062</u>	Town: <u>South Portland</u> State: <u>ME</u> Zip: <u>04106</u>
E-mail: <u>batibbetts@windhammaine.us</u>	E-mail: <u>joshb@revisionenergy.com</u>

Address: Billing

Name: ReVision Energy

Mailing Address: 91 W. Main St

Street Address: _____

Town: Liberty State: ME Zip: 04949

Site/Activity Information

Project Description: Installation of 504 kW Solar Array Minor Revision

Location: Enterprise Drive Windham Directions: _____

PLEASE SEE OTHER SIDE OF SHEET - SIGNATURE REQUIRED

SIGNATURE OF APPLICANT

By signing this application, the applicant certifies that he or she has: (1) filed a complete copy of this application in the municipal office of the municipality in which the project is located, (2) reviewed the instructions contained in this application form, and (3) reviewed the appropriate state laws that relate to the proposed project.

I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

DATE: 4/08/2020

SIGNATURE: 

PRINTED NAME: Barry Tibbetts
(Applicant)

TITLE: Town Manager
(If other than applicant, attach letter of agent authorization.)

**PLEASE SEE ATTACHED FEE SCHEDULE TO DETERMINE THE APPLICATION FEE FOR
FOR A MINOR REVISION**

INSTRUCTIONS

1. **Please refer to the relevant requirements of the Solid Waste Management Regulations when preparing this application.** If you have any questions that arise at any point during the application process, please contact the DEP Solid Waste Program staff.
2. Pre-Application meeting. Applicants proposing a minor revision to a license are encouraged to contact the DEP staff to decide whether a pre-application meeting would be useful in preparing your proposal for a change in the licensed project. The meeting can help avoid unnecessary expense and processing delays.
3. Fill out the application completely. **INCOMPLETE APPLICATIONS WILL BE RETURNED, CAUSING UNNECESSARY DELAYS IN THE REVIEW PROCESS.** All work to support the investigation, design, and construction of a solid waste facility must be undertaken by individuals whose training, experience and professional certification is appropriate to accomplish the specific tasks with accuracy and technical proficiency. Reports, plans or other materials submitted in support of the application must bear the signature and, if appropriate, the seal of the individual who drafted or supervised the drafting of each document.
4. Send the application along with all attachments and a check for the fee made payable to "Treasurer, State of Maine" to: Maine Department of Environmental Protection, Bureau of Bureau of Remediation and Waste Management, 17 State House Station, Augusta, Maine 04333-0017. Please consult with DEP staff to determine how many copies of the completed application form and supporting reports must be submitted to the Department. In general, three copies of site plans, drawings, soil maps, or other data on sheets larger than 8½" x 14" copies must be submitted unless the staff determines that fewer copies are needed. **ALL PLANS SHOULD BE FOLDED TO SIZE 8½" x 11"** unless otherwise indicated by DEP staff. Any part of the application which has been prepared by a P.E., C.G. or C.S.S. must be stamped and signed by that person. If the applicant is a corporation, a certificate of good-standing from the Secretary of State must be included.
5. Send one complete copy of the application and any amendments that are subsequently submitted to the Municipal Office of the town within which the project is located. If the project is located in an unorganized area, send the application to the appropriate Office of the County Commissioners and the Maine Land Use Regulation Commission, 22 State House Station, Augusta, Maine 04333-0022. The application must be filed in the municipal office or at the County Commissioners Office and LURC at the time of filing with the DEP.
6. Keep a copy of the completed application for your files. This copy will be helpful in speeding up communications with the DEP staff if any questions arise during the review of the project.
7. Upon the approval by the Department of Environmental Protection, a permit will be issued and sent to the applicant. The applicant should read the permit carefully in order to become familiar with any conditions. Failure to comply with conditions of approval may lead to enforcement action or the revocation of a permit.

MINOR REVISION APPLICATION - REQUIRED INFORMATION

1. Existing DEP permit number: S-05544-7C-A-N
2. DEP Project Analyst for original application (if known): _____
3. Description of Proposed Change: _____

See project description in the attached supplemental application information document

(Attach additional sheet(s) if necessary.)

4. **Provide all documentation necessary to support the proposed change.** This documentation shall include, as appropriate, revised site plans, construction drawings, operations manual and technical data.
5. **List supporting attachments:** see attachment list on bottom of supplemental application
information document.

END

Supplemental Application Information for MDEP Application for a Solid Waste Project Minor Revision – Windham Landfill

1. This application is for a minor modification of closure order #S-05544-7C-A-N
2. Project Description
 - a. The proposed solar project is to be installed on the closed municipal solid waste and ash landfill located on Enterprise Drive in Windham. The landfill was closed and capped in 1993 with a cap comprised of 18" of impermeable soil covered by a 30 mil PVC synthetic membrane. Above the membrane there is a 12" sand drainage layer, a layer of filter fabric, 8" of select borrow and finally 4" of topsoil or compost mixture. This solar project is to be installed by ReVision Energy Inc. and is designed for an expected 25 - 40 year lifespan. Power generated by this PV project will be fed back into the CMP electric grid via a new service which will be installed on the southern end of the site as detailed on the accompanying site map. The service transformer has been sited outside of the limit of waste. The proposed PV system consists of 1,344 solar panels mounted on aluminum and steel racking which is ballasted by cast concrete blocks. The design of this ballasted system is to comply with Maine DEP standards of not penetrating the landfill cap, while having a robust system design capable of handling required wind and snow loading.
 - b. See attached civil drawings
 - c. The modules will be mounted on aluminum and steel framed racking and which has integrated concrete form footings. The racking will be assembled and installed on a crushed stone bed running the length of each row, see foundation detail on attached civil drawing set. This crushed stone bed will aid levelling, increase the friction between blocks and the soil, and simplify maintenance. Once the racking has been assembled, concrete will be pumped into each integrated ballast form. On the eastern end of the southern row of modules, conduit will enter the ground and will travel underground to the CMP transformer and meter, located off the landfill cap. Minimum cover depth per NEC 2014 300.5(A) for this location is 18" for non-metallic conduit or 6" for rigid metallic conduit. Additional topsoil will be added above the conduit when necessary to achieve minimum cover depth and the added soil will be graded to allow grass cutting machinery to easily travel over it. Array grounding will be accomplished by a method that does not penetrate the landfill barrier layer. No part of the equipment located on the capped area will penetrate the barrier soil layer. Ballast placement, conduit trenching, and burial, final grading and reseeding will be done by a qualified subcontractor. Specific construction techniques and equipment used will be at the discretion of the sub-contractor, but the applicant will verify that techniques and equipment are consistent with the overall goal of not damaging the clay barrier layer. A temporary construction access will be

created using timber mats installed on the cap of the landfill to allow heavy concrete and pump trucks to access the array. There is ample space off cap in the flat former transfer station lot to the south of the landfill for lay down area and storage

- d. There is a 6" sandy layer underneath the 18" impermeable material to facilitate gas migration. Landfill gas is currently being controlled by 21 passive gas vents the location of which is shown on the site plan. No changes to this system are being proposed. Each vent consists of (4) 10' lengths of perforated pipe connected to each other at right angles buried in a crushed stone lined trench in the intermediate cover and connected to a vertical riser. A boot seal is used at each riser – PVC membrane interface. The PV array is not expected to have any impact on the functioning of the existing landfill gas mitigation system. Per current MDEP best practice standards, the array will be located at least 10' away from gas vents to allow for safe venting and any possible future servicing.
- e. As described in the solid waste closure order, the landfill was established prior to 1973 and was used for municipal solid waste. From 1977-1988 the landfill also accepted ash from the towns incinerator. In September of 1988 the landfill stopped accepting household and commercial waste. The current topography of the landfill consists of a central area consisting of several peaks with gently sloping sides with a perimeter area consisting of steeper sloping sides. Each of these areas constitutes approximately 50% of the total landfill area, the PV array is proposed to be installed in the central lower slope areas. The proposed PV equipment including modules, racking, and ballasts will contribute a dead load of less than 4.5 psi. Since the landfill has been closed for almost 30 years, future settlement is expected to be minimal and there is no expectation that the PV equipment will contribute to differential settlement or ponding. No structures are proposed for the landfill area other than the racking and ballast previously described. The racking and ballast systems have been engineered for the wind and snow loads likely to be experienced at the site, and require no additional reinforcement for installation or maintenance. Gravel will be placed between the ballast blocks and the topsoil layer to eliminate the potential for sliding or other motion due to wind loading or gravity. Construction equipment necessary for installation will be limited to low ground pressure equipment intended for off-road use. Rubber tired or rubber tracked equipment will be used whenever possible to reduce damage to the topsoil layer. Any damage to the topsoil layer will be repaired, and alternate plans will be made if damage is likely to occur to the barrier layer.
- f. No changes are proposed to the existing stormwater control system to accommodate increased runoff from the PV array. The PV modules themselves are not considered impervious surface and so the increase in impervious surface attributable to the PV array is limited to the footprint of the concrete ballast

blocks. The ballast blocks represent a total impervious area of 8,736' sq. ft. See SME stormwater letter included as attachment to this application.

- g. See erosion and sedimentation control plan included in attached civil engineering drawings
- h. Post construction the site will be inspected quarterly to ensure vegetation regrowth, once vegetation is stabilized the PV array will be inspected annually. While ReVision Energy operates the system, they will be responsible for inspection, maintenance, and repair of the PV array. Mowing and vegetation maintenance will remain the responsibility of the town of Windham.
- i. ReVision Energy has designed and installed several thousand solar electric installations across Maine, New Hampshire and Massachusetts since 2003. Many of these have been ground mounted arrays on a scale similar to and significantly larger than the system proposed here and we have previously installed 5 landfill projects of similar design. The equipment and components proposed have proven to be reliable in installations across the country and around the world, and the techniques required for working on landfills have been established through our past projects as well as projects in neighboring states such as Massachusetts. While the Power Purchase Agreement with the Town of Windham is in effect, it will be the responsibility of ReVision Energy or a 3rd party investor/owner to operate and maintain the solar equipment.. Once the Town of Windham takes ownership of the system, it will have the option of hiring ReVision Energy to continue operating and maintaining the project or having its facilities staff trained by Revision Energy to operate and maintain the solar project itself.
- j. For the Town of Windham Landfill solar project, ReVision Energy or an investment partner will function as the third-party project owner and Developer. In the last five years, ReVision Energy has secured 3rd party financing for Power Purchase Agreements, totaling nearly 20 MW of total PV, and over \$40 million in construction cost. ReVision Energy has financed these projects with its own operating capital, the capital of investment partners, as well as leveraging low-interest debts from existing debt providers such as CEI and Bangor Savings Bank.
- k. Project schedule - Pending local and DEP permitting, construction on the solar array is expected to begin as early as the 1st week in June. The construction of the array and associated electrical is expected to take 8 weeks, although CMP electrical service work may take longer. It is anticipated that the array will be ready for commissioning in early Fall 2020

Attachments:

- Stamped one-line electrical drawing

- SME Civil site plan
- SME storm water Letter
- SME Settlement letter