Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
Southeast Regional Office • 20 Riverside Drive, Lakeville MA 02347 • 508-946-2700

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July 1, 2016

Paul Zensky
Soltage, LLC
66 York Street, 5th Flr
Jersey City, NJ 07302

RE: Final Decision
Approval with Conditions
Application for: BWP SW 36 Post-Closure Use - Major
Ground Mounted Solar Photovoltaic (PV) Array
Transmittal #: X269529

AT: Plainville Landfill
14 Belcher St
Plainville, MA 02762
Facility ID #: 31960 Regulated Object #: 172853

Dear Mr. Zensky:

The Massachusetts Department of Environmental Protection, Solid Waste Management Section (the "MassDEP"), has completed its Administrative and Technical review of the referenced Post-Closure Use permit application (the "Application") for the Plainville Landfill (the "Landfill") located at 14 Belcher Street, Plainville, Massachusetts.

MassDEP has determined the Application and supplemental submittal are administratively and technically complete and hereby **Approves** the Post-Closure Use of the Landfill for a 6.0 megawatt ("MW") DC (4.9 MW AC) solar photovoltaic ("PV") array, subject to conditions as specified herein.

I. SUBMITTALS:

The Application consists of bound report and fourteen drawings (36" x 24") prepared by Tetra Tech. ("Engineer") signed by John Scaramuzzo, Massachusetts Registered Environmental Engineer No. 41349 and two drawings (36" x 24") prepared by Power Engineers LLC signed by David J

Colombo, Massachusetts Registered Electrical Engineer No. 40426 on behalf of Soltage LLC. The Application is signed by John Scaramuzzo for Tetra Tech and by Paul Zensky on behalf of Soltage LLC.

A series of supplemental submittals consisting of structural and stability calculations were submitted. The final design calculations were submitted via e-mails on May 23, 2016.

II. APPLICATION REVIEW AND DECISION PROCESS:

The Application was submitted and reviewed pursuant to the provisions of 310 CMR 19.029(2): Applicable Permit Procedures and 310 CMR 19.033: *Permit Procedure for an Application for a Permit Modification or Other Approval*. According to these review procedures, MassDEP's decision regarding the proposed activities shall be either: a "Provisional Decision" pursuant to 310 CMR 19.033(4)(a); or a non-provisional decision pursuant to 310 CMR 19.033(4)(b). MassDEP has determined that a Provisional Decision is appropriate for this Application. Therefore, MassDEP issued a Provisional Decision on June 6, 2016 and established a 21 day public comment period that ended on June 27, 2016. MassDEP did not receive any comments during that period.

MassDEP has reviewed the Application pursuant to 310 CMR 19.000: *Solid Waste Regulations*, 310 CMR 19.143: *Post-Closure Use of Landfills* and MassDEP's *Landfill Technical Guidance Manual*, *May 1997* (the "Manual").

III. SITE DESCRIPTION:

The Plainville Landfill property covers approximately 138 acres, of which approximately 88 acres were landfilled. On March 7, 1974, a site assignment for the Landfill was granted by the Plainville Board of Health. Landfilling operations commenced in 1975 and ceased in 1998. Closure activities were completed in 1998.

The proposed PV array will overlie portions of the top plateau of the Landfill and portions of the 3:1 side slopes. The final cover system on the landfill plateau consisted of 9 inches of topsoil, 9 inches of drainage sand and a 40 mil high density polyethylene ("HDPE") geomembrane. The final cover system on the Landfill side slopes consisted of 9 inches of topsoil, 9 inches of gravel subgrade, a geocomposite drainage layer, and a 40 mil HDPE geomembrane.

An active landfill gas collection system was installed a the Landfill consisting of vertical gas extraction wells with above grade controls and lateral landfill gas conveyance pipes installed beneath the final cover system geomembrane. The active flare system at the Landfill is operated under the AQ02 Non-Major Comprehensive Plan Approval (Transmittal No. W00486, Permit No. 4199013) and the AQ09 Restricted Emissions Status Plan Approval (Transmittal No. X263842, Permit No. SE-14-034)) issued by MassDEP on October 19, 1999 and on June 29, 2015, respectively.

IV. POST-CLOSURE USE SOLAR ARRAY PROPOSAL SUMMARY:

Republic Services ("Owner") is the owner of the Landfill and prepared a February 16, 2016, correspondence stating their support for Soltage, LLC ("Soltage") to construct the ground solar photovoltaic array at the Landfill. Hereinafter, Soltage shall be referred to as the "Applicant". The Applicant and all construction and maintenance personnel associated with the solar photovoltaic installation on the Landfill shall be referred to as the "Applicant's Contractors".

The Applicant has proposed to develop a 6.0 MW DC (4.9 MW AC) solar photovoltaic ("PV") array installation on approximately 30 acres of the Landfill. The Applicant has proposed to install PV panels on the top of the landfill as previously approved at other landfills and on 3 to 1 side slopes, which has not only been previously proposed, but not yet constructed, at the BFI Randolph Landfill and the BFI East Bridgewater Landfill.

The solar array layout was designed by Schletter, Inc. based on site information and total array size of 6.0 MW DC. Schneider Structural Engineers provided stamped drawings and structural calculations by Ronald H. Schneider, Registered Structural Professional Engineer No. 45127, based on the Schletter design. Various load combinations and factors of safety for the panel mounting system were designed and calculated for uplift, overturning and sliding stability as required by the Massachusetts Building Code. RISA-3D 14.0 was used to determine the reactions when the rack was tilted at 5, 10 and 15 degrees along the Landfill side slope. Given this basis of information for the system, Design Consultants, Inc., ("DCI") Michael Clark, Registered Civil Professional Engineer No. 34818 calculated the crushed stone coefficient of friction to be 0.81, the sand/geomembrane coefficient of friction to be 0.62 and a slope stability factor of safety of 1.55 based on an assumed geocomposite/geomembrane friction angle of 26 degrees.

Due to the uncertainty of the assumed geocomposite/geomembrane friction angle, DCI recommended that the site specific geocomposite/geomembrane friction angle be determined by testing samples using obtained from the installed final cover system using ASTM D5321 - Shear Strength. As a condition of this permit, the Applicants, or other authorized entity, must submit a scope of work to sample the existing final cover system materials, repair the final cover system in the sample areas, analyze the samples to determine the interface friction angle, recalculate the Landfill side slope stability if/as necessary, and submit a statement that the Landfill side slope will or will not be stable with the addition of the proposed PV array on the side slopes. Should the evaluation determine that the Landfill side slope will not be stable with the proposed PV array installed, the Applicant shall include recommended further actions. (Refer to Condition #3)

A sliding resistance factor of safety of 1.56 was calculated which is greater than the Applicant's recommended minimal required safety factor of 1.5. Based on the anticipated maximum loading of the ballasts, racking system and modules on the landfill surface, a bearing pressure of 2.4 pounds per square inch (psi) was calculated, below the maximum capacity calculated to be 8.0 psi (1,500 pounds per square foot (with a 1.3 safety factor).

The PV array tentatively consists of the following components pending final selection of array components:

- Approximately 19,368 - ET Solar ET-P672310WW - PV modules;
- Four 850kW (SMA850CP-US) inverters;
- Two 750kW (SMA750CP-US) inverters;
- Two 2,000 kVA transformers;
- One 1,500 kVA transformer;
- Approximately 3,228 Schletter Inc. PV Minim Ground Mount System support racks;
- Approximately 6,456 concrete ballast blocks 27 to 30 inches wide by 7 feet long by 1 foot high;
- New reinforced concrete equipment pads located in two locations off the Landfill final cover system; and
- New customer supplied and utility company supplied power poles located off the Landfill final cover system.

PV Array Design: The solar arrays will consist of approximately 19,368 photovoltaic modules (six modules per panel) broken into two large sub-arrays each supplying DC power to a separate inverter/transformer power station. The solar array will utilize PV modules (39 inches by 77 inches) mounted on aluminum framed racks attached to the precast concrete foundations. The PV array will use monocrystalline PV modules laid out in panels, 1 module high and 6 modules long (panel layout 1 x 6), mounted on racks of 6 modules each with two ballast blocks per rack. The modules and associated racking will be approximately 54 inches in height in the rear and 25 inches in the front. The rows of solar panels will be spaced approximately 10 feet between rows. A 20 foot radius will be maintained between the racks and gas collection extraction wells.

Energy will be collected via electrical conduit to a load center and transformer, and inverter. The resulting power will then be transmitted into the National Grid local distribution system.

The PV panels will be supported by aluminum posts and frames that are connected to a concrete foundation/ballast system installed over a crushed stone base. The array will be installed on areas of the Landfill with maximum slope of 1 foot of rise per 3 feet of horizontal run (3:1). Ballast blocks will be 7 feet long, 27 to 30 inches wide depending on the location of installation, and 1 foot high, with 3 inch keys set at 12 inch intervals along the block length and with a 3 inch key the entire length of the uphill side of the ballast block. Where the Landfill slope exceeds 15 degrees, the narrow side (27 to 30 inches) of the ballast blocks will set a maximum slope of 15 degrees by raising the downslope block with a crushed stone base. The surface of the crushed stone below the upslope and downslope blocks will be set at 15 degrees from horizontal along the block narrow side. A geotextile fabric will be laid over the Landfill's vegetative support layer. Minimal stripping of the top soil from beneath the ballast may be required. The long (7 foot) side of the ballast block will be set level.

As a condition of this Permit, prior to the installation of any ballast blocks at slopes greater than these design slopes (7 foot side level, 27 to 30 inch side maximum 15 degrees), supplemental design information must be submitted by a Massachusetts Registered Professional Engineer including an analysis of the maximum loading on the racking system at the proposed racking system orientation and an analysis of the ballast block design for overturning and sliding. (Refer to Condition #4)

Three reinforced concrete inverter pads will be located off the Landfill along the edge of the access road. Each pad will be minimum of 8 inches thick, reinforced concrete. Final pad design (dimensions) for the inverter/transformer pad will be determined based on the final equipment selection and approval by the electrical inspector and/or utility representative. At any location where the conduit penetrates the Landfill ground surface, explosion proof fittings will be utilized. New riser poles will be installed outside the limits of the Landfill final cover system to support over head wires leading from the equipment pads to an existing utility pole.

As a condition of this permit, final details of all electrical work must be submitted to MassDEP and must be designed in accordance with the most recent versions of the Massachusetts Electrical Code. All electrical permits must be secured from the local building official. (Refer to Condition #2)

Solar Glare Analysis/Remediation: Based on the surrounding area and proposed locations of solar panel installation, the Applicant stated that no off-site glare issues are expected to develop. the Applicant stated that the developer will take responsibility to modify or remove any problem array areas that are identified. (Refer to Conditions #20 and 25)

Landfill Access: As a condition of this permit, during construction of the PV array, only low ground pressure vehicles (<7psi) will be permitted to travel over the Landfill final cover surface. Throughout all stages of construction, the Landfill final cover system must continually be monitored for any signs of damage or stress. A final inspection of the Landfill surface must also be performed at the conclusion of the PV array construction project and any areas of concern must be repaired. (refer to Condition #14)

Storm Water: The Landfill's surface level stormwater control system consists of rock-lined drainage swales, a perimeter swale lined with grass cover and/or rip rap erosion protection, and detention basins.

The potential stormwater impacts of the placement of solar panels over the landfill final cover system surface were evaluated using HydroCAD modeling of the pre-development and post-development runoff conditions for the 2-year, 10-year, 25-year, and 100-year storm events. The results of the stormwater analysis indicate that the proposed Landfill Solar Project does not increase the storm water flow.

Site Security: Site security will continue as existing for the Landfill. A new chain link fence will be installed to surround and protect the new electrical inverter and transformer pads. Final layout and equipment specifications will be provided prior to the start of construction. The Engineer stated that the site fencing is for only required to satisfy security requirements of 310 CMR 19.130.

Post Closure and Post-Closure Use Operations and Maintenance: There are no proposed changes to the post closure operation and maintenance plan for the area to be maintained by Republic Services and not used for the PV array.

As a condition of this permit, MassDEP is requiring that, during the first year of operation of the PV array, inspections of the Landfill final cover system be performed on a monthly basis and

thereafter quarterly, at a minimum. MassDEP is also requiring that inspections include the condition of the security fencing. (Refer to Condition #20)

Health and Safety: As stated in the Application, as a condition of this permit, MassDEP is requiring that a Solar Array Construction Period Health and Safety Plan and a Post Closure Operations and Maintenance Health and Safety Plan be submitted and that personnel training be provided for employees who access the solar array areas of the Landfill. (Refer to Condition 11)

Site Maintenance: The Applicant will be responsible for vegetation maintenance within 10 feet of the solar array components. Republic Services will retain responsibility for maintainance of the remainder of the Landfill.

Decommissioning Plan and Financial Assurance Mechanism: As a condition of this permit, the Applicant is required to establish a Financial Assurance Mechanism in order that sufficient funds are available to properly decommission the solar PV array system and all of its appurtenant structures and features, and to properly restore the Landfill/Site to its original condition. (Refer to Condition #23)

V. PERMIT DECISION WITH CONDITIONS:

MassDEP, having determined the information in the Application is satisfactory and in accordance with its authority granted pursuant to M.G.L. c.111, s. 150A, and 310 CMR 19.000, hereby issues this Final Decision for the Post-Closure Use of the Plainville Landfill for a Solar Photovoltaic Array subject to the conditions identified herein.

1. Permit Limitations: The issuance of this approval is limited to the proposed Solar Photovoltaic Array at the Landfill as detailed in the Application and does not relieve the Applicant from the responsibility to comply with all other regulatory or permitting requirements. Post-Closure Use construction shall proceed in complete compliance with the approved plans, MassDEP's regulations and requirements, the Manual or as required by this Approval. This approval does not relieve Republic Services, as the owner of the Landfill, from its responsibility to comply with all post closure monitoring and maintenance requirements for the entire Landfill. There shall be no deviation from this Approval without prior consent from MassDEP. MassDEP shall be consulted prior to any deviation from the approved design. MassDEP may require a permit modification application for significant design modifications.

2. Pre-Construction submittals: Prior to construction, the Applicant shall submit the following to MassDEP for its review and approval at least 60 days prior to commencing construction activities, unless otherwise approved by MassDEP:

    a) A final PV array layout plan with an accompanying statement that the engineering assumptions regarding stability, sliding, and the potential for glare impacts made in the Application, or as revised in the supplemental submittals, are consistent with the final PV array layout.

b) Revised copies of electrical drawings E-1 and E-2, if any revisions are made to the general layout and details of all PV modules, electrical conduits, conduit supports, electrical equipment, equipment pads, utility poles, etc.

c) A modified electrical equipment pad detail indicating the connection of the electrical conduit to the pad mounted equipment. Due to the potential for subsurface landfill gas migration, the electrical conduit shall not penetrate the base of the concrete pad unless the pad is elevated above the ground surface and placed on a gas migration barrier overlain by crushed stone, or equivalent design suitable to prevent the migration of landfill gas into the electrical equipment along the conduit.

d) A detail for the proposed underground conduit, designed to be explosion proof.

e) All electrical drawings must be stamped by a Massachusetts Registered Electrical Engineer.

3. Landfill Final Cover System Evaluation: Prior to installation of any component of the PV array on the side slopes of the Landfill, or on any area of the Landfill that would impact modification of the side slopes of the Landfill, the Applicants, or other authorized entity, must submit a scope of work to sample the existing final cover system geocomposite and geomembrane materials, repair the final cover system in the sample areas analyze the samples to determine the interface friction angle, recalculate the Landfill side slope stability if/as necessary, and submit a statement that the Landfill side slope will or will not be stable with the addition of the proposed PV array on the side slopes. Should the evaluation determine that the Landfill side slope will not be stable with the proposed PV array installed, the Applicant shall include recommended further actions.

4. PV Array Installation: As submitted within the Application including supplemental information, the PV array racking system foundations have been designed to be installed with the long (7 foot) side of the ballast block set level and the short (27 inches to 30 inches) side of the ballast block installed up to 15 degrees from horizontal. Prior to the installation of any ballast blocks at slopes greater than these design slopes, supplemental design information must be submitted by a Massachusetts Registered Professional Engineer including a analysis of the maximum loading on the racking system at the proposed racking system orientation and an analysis of the ballast block design for overturning and sliding.

5. Enclosures and Combustible Gas Alarms: Any enclosures that that allow human entry shall have a landfill gas monitor that is fully operational at all times. The monitor shall be calibrated to a methane standard; have an audible and a lighted beacon. At a minimum, the alarm shall be set to sound when the concentration of explosive gases exceeds 10% of the Lower Explosive Limit (LEL).

6. Regulatory Compliance: The Applicant, Engineer and Applicant's Contractors shall fully comply with all applicable local, state and federal laws, regulations and policies, by-laws, ordinances and agreements. This includes but is not limited to, 310 CMR 19.142: *Post-Closure Requirements*, 310 CMR 19.143: *Post-Closure Use of Landfills*, and 310 CMR

19.043: *Standard Conditions*. Applicable federal regulations include, but are not limited to, 29 CFR Part 1910, OSHA standards governing employee health and safety in the workplace and all applicable local, state and federal electrical codes and permits, including National Electrical Code (NEC), 2011 Edition, Article 690-"Solar Photovoltaic (PV) Systems", as amended.

7. Inspection and Repair of Settlement Areas: Prior to construction of the PV array, any suspect settlement areas on the Landfill project area shall be surveyed to determine the lowest spot. The surrounding area should be then surveyed to find the "relief point" defined as the lowest surrounding area where ponded water would flow off the cap. The elevation difference is defined as the "pond value". Minor settlement shall be defined as less than a 12 inch pond value. Any Landfill project area that has undergone minor settlement shall be corrected by the placement of additional vegetative support soil to promote runoff and the area shall be reseeded. Any area repaired should be surveyed and the location marked on a plan with the pond value. Any future settlement should be recorded cumulatively. If/when the total settlement reaches 12-inches, the area will be considered to have suffered "major settlement" as defined below and appropriate repairs to eliminate ponding shall be performed.

   Major settlement is defined as a pond value of 12 inches or more. When this occurs, the final cover system must be repaired to prevent water from ponding above the low permeability layer. The Applicant may either:

   1. Strip off the final cover soils above the low permeability layer, inspect and repair the low permeability layer if/as necessary, place low permeability soil as necessary to promote runoff, replace final cover soils; or

   2. Expose the low permeability soil or geomembrane in a trench around the perimeter of the settled area. Fill the area with soil to form slopes promoting runoff. Cap the area with a new low permeability membrane, geosynthetic clay liner (GCL), or low permeability soil layer that ties into the existing low permeability layer at the identified perimeter. Place new drainage sand and vegetative support material over the new cap area.

   Any proposal to repair minor settlement may be done as routine maintenance, provided that the Applicant's report the settlement to MassDEP and state their intent to perform repairs and provides MassDEP with final survey results and a summary write up.

   Any proposal to do major settlement repair must be submitted within a Corrective Action Design (BWP SW 25) permit application, since disruption of the final cover system will take place and repair details must be submitted and approved.

8. Notification of Construction: The Applicant shall notify MassDEP, Southeast Regional Office solid waste section chief, in writing (e-mail is acceptable) when the post-closure use construction commences and again when construction is completed.

9. Certification Report: Within ninety (90) days of completing the installation of the solar photovoltaic array, MassDEP shall be provided with a certification report for MassDEP's records. All construction work shall be completed under the supervision of a Massachusetts Registered Professional Engineer who shall have sufficient staff on-site to provide quality assurance/quality control (QA/QC) oversight for all construction work at the Landfill. The report shall be signed and stamped by a Massachusetts-registered professional engineer and include, at a minimum, written certification from the supervising engineer that the project was performed in accordance with MassDEP regulations, requirements and the approved Post Closure Use permit application. The report shall include a project narrative, as-built drawings depicting all pertinent site features and photographs representative of the construction processes and completed work. A list of equipment used on the Landfill, the Landfill area accessed by the vehicle, and the pressure rating of each vehicle shall be indicated in the certification report. Should the Applicant desire a formal review and written approval of the certification report, the Applicant must submit a formal BWP SW 43, Landfill Closure Completion permit application.

10. Preconstruction Work: Prior to commencement of construction activities, all Landfill gas extraction wells, remote valves, Landfill soil-gas monitoring wells, groundwater monitoring wells and other existing above ground structures on the Landfill cap and appurtenances shall be flagged for visibility, and protective barriers shall be placed around such structures, as needed, to prevent damage by vehicles accessing the area.

11. Health and Safety: The Applicant, Engineers and Applicant's Contractors are responsible to ensure all necessary precautions are taken to protect the health and safety of workers and the general public during both the construction phase and during the operation and maintenance phase of the post-closure use.

    A site specific Solar Array Construction Period Health and Safety Plan shall be developed and submitted to MassDEP (for its files) prior to the beginning of any construction work. The Solar Array Construction Period Health and Safety Plan shall include at a minimum;

    - protocols for monitoring of landfill gas as needed,
    - protocols for modifying work practices if landfill gas is detected at levels deemed unsuitable, and
    - training for all workers including the Applicant workers conducting construction activities at the Landfill regarding hazards associated with the landfill gas and the PV array, including electrical hazards.

    A site specific Post Closure Operations and Maintenance Health and Safety Plan for the post-closure use period, shall be developed and submitted to MassDEP (for its files) prior to the beginning of any construction work. The Post Closure Operations and Maintenance Health and Safety Plan shall include at a minimum;

    - protocols for monitoring of landfill gas as needed,
    - protocols for modifying work practices if landfill gas is detected at levels deemed unsuitable, and

- training for all workers including the Applicant workers conducting maintenance activities at the Landfill regarding hazards associated with the landfill gas and the PV array, including electrical hazards.

12. Personnel Training: The Applicant, Engineers and Applicant's Contractors shall instruct all construction and maintenance personnel regarding the potential hazards associated with landfill gas and shall give on-the-job training involving in any activity authorized by this permit. Such instruction and on-the-job training shall teach personnel how to comply with the conditions of the permit to carry out the authorized activity in a manner that is not hazardous to public health, safety, welfare or the environment.

13. Landfill Gas Notification Requirements:
    a. As specified in solid waste management regulations at 310 CMR 19.132 (4) (g),

    "When, at any time, the concentration of explosive gases exceeds 10% of the lower explosive limit (LEL) in any building, structure, or underground utility conduits, excluding gas control, gas recovery and leachate collection system components, the owner or operator shall:

    1. *take immediate action to protect human health and safety;*
    2. *notify the Department's Regional Office that covers the municipality in which the facility is located within two hours of the findings; and*
    3. *undertake the actions specified under 310 CMR 19.150, Landfill Assessment Requirements and 310 CMR 19.151: Corrective Action, as required by the Department."*

    b. If at any time monitoring detects the presence of any combustible gases at or in excess of 10% of the lower explosive limit at any location within a building or within any utility conduits on site or off-site, the Applicant shall notify MassDEP's Bureau of Waste Site Cleanup-Emergency Response Section (508) 946-2850 within two (2) hours of the exceedance as per 310 CMR 40.0321(1) (a) of the regulations.

14. Vehicles Operating on the Landfill Final Cover System: The Applicant have not proposed to construct permanent or temporary access roads.

    Vehicles operating on the Landfill final cover system shall be low-pressure construction equipment, with fully loaded ground pressures of **7 psi** or less. Site specific engineering calculation must be submitted prior to operation of any equipment with a bearing pressure of greater than 20 psi on the access roads above the Landfill final cover system.

    Construction equipment shall limit turning on the vegetative support layer as much as possible. If MassDEP determines the use of any equipment is creating the potential for damage to the final cover system, the usage of such equipment shall immediately cease upon notification by MassDEP. All operators of the vehicles entering the final cover system area shall be clearly instructed by the on-site engineer and/or the contractor of the requirements of this permit prior to arrival, to avoid damage to the Landfill final cover system components.

A list of equipment used on the Landfill, the Landfill area accessed by the vehicle, and the pressure rating of each vehicle shall be indicated in the certification report.

15. Permanent and Temporary Roads: Equipment shall not access the final cover system from permanent and temporary roads where the transition will result in excessive pressure and wear on the Landfill vegetative service. The on-site engineer may allow the construction of temporary ramps as necessary.

16. Integrity of the Final Cover System: All disturbances of the Landfill shall be limited to the proposed excavations and installations as depicted and described within the Application and approved plans. Excavations shall be limited to the topsoil layer. No excavations shall penetrate the sand drainage layer without written approval by MassDEP. The Applicant, Engineer and Applicant's Contractors shall ensure that vehicles operating on the Landfill surface do not compromise the integrity of the Landfill final cover system.

17. Construction Precautions: All excavations and construction shall be supervised by a Massachusetts Registered Professional Engineer. All necessary precautions shall be taken to protect the Landfill storm water control system, environmental monitoring network and the Landfill gas vents and other on site structures. All operators of vehicles entering the construction area should be clearly instructed by the on-site engineer and/or the Applicant's Contractor of the permit requirements to avoid damage to the Landfill components. The on-site engineer shall observe the extent of each excavation performed on the Landfill capping system. If any damage occurs to any Landfill components, the Engineer shall notify MassDEP within 24 hours and provide a written plan with a schedule for repairs.

18. Array Setbacks: The Applicant shall maintain a minimum 20 foot radius buffer between the closest edge of the PV array modules and all Landfill gas extraction wells and a 20 foot radius buffer between the electrical equipment and all Landfill gas extraction wells. The Applicant shall maintain a suitable access way for motorized equipment to access the landfill gas extraction wells.

19. Solar Glare Analysis/Remediation: The Applicant shall monitor the solar glare from the panels as they are installed to confirm that no off-site glare issues develop. No portion of the array shall cause reflective glare to any motorist in any direction or impact the general public. The Applicant shall take remedial actions if a problem develops during or after installation of the panels.

20. Post-closure Use Operation and Maintenance Plan: During the first year of operation of the PV array, inspections of the Landfill final cover system shall be performed on a monthly basis. Monthly inspection reports shall be submitted to MassDEP within fourteen (14) days of completion. Following the first year of operation of the PV array, inspections of the Landfill shall be performed on a quarterly basis and shall be submitted to MassDEP within fourteen (14) days of completion. The Applicant, Engineer and Applicant's Contractors shall monitor the effectiveness of the site security system and the storm water management system which should include; swales, structures and any and all conveyance systems. MassDEP shall be

consulted prior to any deviation from the approved storm water design. MassDEP may require a permit modification application for significant design modifications. Any erosion problems, settlement problems, security or other issues observed at the Landfill shall be reported to MassDEP and repaired immediately.

21. Site Security: Pursuant to 310 CMR 19.130(23) Owner is required to provide sufficient fences or other barriers to prevent unauthorized access to the Landfill. The Owner must continually monitor and evaluate the potential for unauthorized access and institute all appropriate measures to prevent unauthorized access during the closure and post-closure period.

22. Transfer: No transfer of this permit shall be permitted except in accordance with the requirements of 310 CMR 19.044. The form established by MassDEP for permit transfers is the BWP SW 49 application form. Any time, the Applicant for this project do not include a municipal entity, the Applicant shall (or *MassDEP will require the Applicant to*) provide to MassDEP a financial assurance mechanism, in accordance with 310 CMR 19.051, for the costs of decommissioning and site restoration activities.

23. Decommissioning Plan Financial Assurance Mechanism: The lease agreement between Republic Services and the Applicant includes a decommissioning plan that requires the Applicant to remove the permitted improvements from the premises.

    Pursuant to the provisions of 310 CMR 19.051, the Applicant shall establish a Financial Assurance Mechanism ("FAM") in order that sufficient funds are available to properly decommission the solar PV array system, and all of its appurtenant structures and features, and to properly restore the Landfill to its original condition The FAM shall be based on the MassDEP approved cost estimate and shall be "in-place" at least thirty (30) days prior to the start of construction. MassDEP has determined that the appropriate amount of the required FAM is $70,000 per megawatt AC for landfills that have an existing FAM that covers landfill maintenance. Accordingly, the required FAM amount for the 4.9 MW AC array proposed at the Landfill is $343,000.

24. Entries and Inspections: In accordance with *310 CMR 19.043: Standard Conditions*, MassDEP and its agents and employees shall have the right to inspect the Landfill and any equipment, structure or land located thereon, take samples, recover materials or discharges, have access to and photocopy records, to perform tests and to otherwise monitor compliance with this permit and all environmental laws and regulations.

25. Reservation of Rights: MassDEP reserves the right to require additional assessment or action, as deemed necessary to protect and maintain an environment free from objectionable nuisance conditions, dangers or threats to public health, safety and the environment. MassDEP reserves all rights to suspend, modify or rescind this permit if it determines the solar array compromises the integrity of the final cover system and/or results in a threat to public health, safety or the environment. MassDEP reserves the right to modify and re-issue this permit based on the site specific calculations to be performed for this Landfill.

This approval pertains only to the Solid Waste Management aspects of the proposal does not negate the responsibility of the owners or operators to comply with any other local, state or federal laws, statutes and regulations or enforcement actions, including orders issued by another agency now or in the future. Nor does this approval limit the liability of the owners or otherwise legally responsible parties from any other applicable laws, statutes or regulations now or in the future.

V. REVIEW OF DECISION

Pursuant to 310 CMR 19.033(4)(a) MassDEP determined that a Provisional Decision was appropriate for this Application and issued a Provisional Decision on June 6, 2016 and established a 21 day public comment period that ended on June 27, 2016. No comments were received during the comment period.

VII. RIGHT TO APPEAL

Right to Appeal: This approval has been issued pursuant to M.G.L. Chapter 111, Section 150A, and 310 CMR 19.033: Permit Procedure for an Application for a Permit Modification or Other Approval, of the "*Solid Waste Management Regulations*". Pursuant to 310 CMR 19.033(5), any person aggrieved by the final permit decision, except as provided for under 310 CMR 19.033(4)(b), may file an appeal for judicial review of said decision in accordance with the provisions of M.G.L. Chapter 111, Section 150A and M.G.L. Chapter 30A no later than thirty days of issuance of the final permit decision to the Applicant. The standing of a person to file an appeal and the procedures for filing such an appeal shall be governed by the provisions of M.G.L. c. 30A. Unless the person requesting an appeal requests and is granted a stay of the terms and conditions of the permit by a court of competent jurisdiction, the permit decision shall be effective in accordance with the terms of 310 CMR 19.033(3).

Notice of Appeal: Any aggrieved person intending to appeal a final permit decision to the Superior Court shall first provide notice of intention to commence such action. Said notices of intention shall include MassDEP Transmittal No. X269529 and shall identify with particularity the issues and reason why it is believed the final permit decision was not proper. Such notice shall be provided to the Office of General Counsel of MassDEP and the Regional Director for the regional office which processed the permit application, if applicable at least five days prior to filing of an appeal. The appropriate addresses to send such notices are:

Office of General Counsel
Department of Environmental Protection
One Winter Street
Boston, MA 02108

Regional Director
Department of Environmental Protection
20 Riverside Drive
Lakeville, MA 02347

No allegation shall be made in any judicial appeal of a final permit decision unless the matter complained of was raised at the appropriate point in the administrative review procedures established in 310 CMR 19.000, provided that a matter may be raised upon showing that it is material and that it was not reasonably possible with due diligence to have been raised during

such procedures or that matter sought to be raised is of critical importance to the environmental impact of the permitted activity.

Please direct any questions regarding this matter to me at (508) 946-2847 or Dan Connick (508) 946-2884 or write to the letterhead address.

Very truly yours,

This final document copy is being provided to you electronically by the Department of Environmental Protection. A signed copy of this document is on file at the DEP office listed on the letterhead.

Mark Dakers, Chief
Solid Waste Management Section
Bureau of Air and Waste

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