STORMWATER POLLUTION PREVENTION PLAN

Carson Power
Renaissance Battery Energy Storage Systems Project
370 Youngs Road
Town of Amherst
Erie County, New York 14221

CHA Project Number: 113192.000

October 2026

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1.0 PROJECT INFORMATION

Project Name and Location	Owner/Operator Name and Address
Renaissance Battery Energy Storage Systems Project 370 Youngs Road Amherst, New York 14221	RQC, Ltd. 370 Youngs Road Amherst, New York 14221

2.0 PROJECT DESCRIPTION

2.1 Purpose and Extent of Proposed Development

The proposed Renaissance Battery Energy Storage Systems (BESS) Project is located on a parcel at 370 Youngs Road, in the Town of Amherst, Erie County, New York (see Figure 1 – Site Location Map in Appendix A). The proposed project site is bounded by Wehrle Drive to the north, Youngs Road to the west, and commercial buildings and parking areas to the south and east. The parcel is approximately 3.9 acres of land containing mostly grass areas in the northern half of the property and an existing building structure, parking lot area, and access entrance in the south portion of the property.

Carson Power, LLC is proposing to construct four (4) 5 MW battery storage systems on the northern portion of the property. Project work will also include earthwork and installation of pervious gravel areas, conventional gravel areas, and an asphalt drive, as well as proposed dry swales for stormwater management. The porous gravel areas will contain stone sections which NYSDEC have reviewed and approved as an alternative stormwater management practice for National Grid substations. A copy of the memorandum is included in Appendix C. Stormwater within these gravel sections will be collected via underdrains and routed towards the storm pipe system for conveyance.

Nevertheless, the proposed battery storage facility project will be classified under Appendix B Table 2 of the SPDES General Permit GP-0-25-001, with proposed stormwater management practices and ESC measures. In order to evaluate the potential impacts associated with the development of the site, existing and proposed condition hydrographs were generated using standard NRCS TR-55 methodology. Peak flows were computed using the HydroCAD software and the required Water Quality Volume (WQv) and Runoff Reduction Volume (RRv) were computed using the Runoff Frequency Spectrum (RFS) Method, discussed in the New York State Stormwater Management Design Manual.

For the purposes of the hydrologic analysis, 1 design point was defined to characterize the drainage patterns of the existing conditions watershed. The proposed improvements will increase impervious area and alter the permeability of the project site. This increase in impervious area will create the potential for an increase in the amount of stormwater runoff and a need for stormwater treatment. To meet the full stormwater quality (WQv) and minimum runoff reduction volume (RRv) criteria, runoff will be treated through the proposed porous gravel sections with underdrains, while runoff from the conventional gravel areas will sheet flow into 2 proposed dry swales onsite.

This SWPPP was prepared to cover the construction of the entire project, and it was designed based on the criteria presented in the State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities (GP-0-25-001), the New York State Stormwater Management Design Manual (July 31, 2024), and the New York State Standards and Specifications for Erosion and Sediment Control (November 2016). Construction under this SWPPP is scheduled to take place from September 2026 through December 2026.

Table 1 – Construction Project Activity Category

The Construction General Permit (GP-0-25-001) eNOI is submitted for:	
X	A construction activity not part of a common plan of development or sale.
	An entire common plan of development or sale.
	One or more phases of a common plan of development or sale.
	Tree clearing that is associated with, or will support, a renewable energy generation, transmission, or storage project.
The nature of this construction project is checked below:	
	New construction with proposed standard SMPs, Green Infrastructures, and ESC measures.
X	Redevelopment with increase in impervious areas with proposed standard SMPs and ESC measures. Green Infrastructures are required for the new impervious areas onsite.
	Redevelopment with no increase in impervious areas with proposed ESC measures only and no SMPs.

2.2 Project Disturbance Area

Site Area: 3.9± acres
Total Disturbed Area: 1.98± acres
Existing Total Impervious Area: 0.01± acres
Proposed Total Impervious Area: 0.55± acres

2.3 Description and Limitations of On-Site Soils

The soil disturbance for the proposed work is limited to the 1.98 acres and consists of mostly loams and rock outcrop complex. Based on a review of the USDA Soil Surveys of Erie County, New York, soils on the project site are described in the following list (see Figure 2 – USDA Soils Map). A summary of the soil composition is shown in Table 2.

Table 2 - Soil Analysis Summary

Soil Name	Hydrologic Soil Group*
BhB – Benson-Rock outcrop complex, 3 to 8 percent slopes	D
WaA – Wassaic silt loam, 0 to 3 percent slopes	C

The Natural Resource Conservation Service (NRCS, formerly known as the SCS), as part of their soil classification system, assigns each soil series to a Hydrologic Soil Group (HSG). The HSG is a four-letter index intended to indicate the minimum rate of infiltration obtained after prolonged wetting, and to indicate the relative potential for a soil type to generate runoff. The infiltration rate is the rate at which water enters the soil at the soil surface. The HSG also indicates the transmission rate – the rate at which water moves within the soil. Soil scientists define the four groups as follows:

- HSG 'A' (sand, loamy sand, or sandy loam): Soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sands or gravels and have a high rate of water transmission (> than 0.30 inches/hour).

- HSG 'B' (silt loam or loam): Soils have moderate infiltration rates when thoroughly wetted, and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to fine texture. These soils have a moderate rate of water transmission (0.15 to 0.30 inches/hour).

- HSG 'C' (sandy clay loam): Soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water, and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05 to 0.15 inches/hour).

- HSG 'D' (clay loam, silty clay loam, sandy clay, silty clay, or clay): Soils have high runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high-water table, soils with a clay pan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (< 0.05 inches/hour).

If a soil is classified to a dual hydrologic group (A/D, B/D, or C/D), the first letter represents drained conditions and the second letter represents undrained conditions.

2.4 Historic Places

The proposed Renaissance BESS project will have no impacts, whether stormwater discharge or construction activities, on a property that is listed or eligible for listing on the State or National Register of Historic Places in Erie County, NY. This determination was confirmed based upon review by The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) SHPO and a copy of the letter of No Impact (November 07, 2025) is included in Appendix B.

3.0 SEQUENCE OF MAJOR ACTIVITIES

3.1 Construction Sequence

This SWPPP presents temporary erosion and sediment controls, to assist the operator in compliance with the project's SPDES General Permit for construction activity. To the degree practicable, all temporary erosion and sediment control mitigation measures shall be installed immediately before associated project areas are disturbed in anticipation of all soil disturbing activities to follow.

It is the responsibility of the Contractor to ensure that all soils removed from the project site are spoiled in a manner consistent with all local, state, and federal regulations. Appropriate erosion and sediment controls shall be installed at all spoil sites. Disturbances associated with offsite spoil areas do not contribute to the total disturbances associated with onsite activities.

- Establish the contractor work area and staging area as shown on the plans.
- Install all temporary erosion and sediment control measures in accordance with the plans and NYSDEC requirements.
- Clear and grub existing trees and vegetation within the project limits, including removal of rock outcrops where necessary.
- Perform earthwork activities including excavation, rock cutting and removal, re-grading of steep slopes, and preparation of subgrades for proposed improvements.
- Construct proposed access roads, pervious gravel areas, and impervious pavement areas.
- Install underground utilities, stormwater management practices, and associated site infrastructure.
- Install the battery storage facility, consisting of transformers, associated switchgear, breakers, electrical tie-ins, and any other above-ground site features.
- Complete proposed landscaping, top-soil placement, and seed/mulch for final stabilization of all disturbed areas.
- Upon final stabilization of disturbed areas, remove all temporary erosion and sediment control measures.

3.2 Name of Receiving Waters

Stormwater runoff from the proposed Renaissance BESS Project will be directed to two catch basins, located on the northern and western portions of the site. Stormwater from both catch basins will be released through the towns municipal separate storm water system, ultimately discharging into Ellicott Creek, a Class B (Standard B) stream.

The water quality of surface waters in New York State is classified by the New York State Department of Environmental Conservation as A, B, C, or D, with special classifications for water supply sources (AA). A "T" used with the classification indicates the stream supports, or may support, a trout population. Water quality standards are also provided. The standards apply the same classification system but, in some cases, are more stringent in an effort to eventually improve the water quality. The higher standard is most often used to reflect the existence or the potential for breeding trout (designation of (T) as discussed above). All surface waters with a Classification and/or a Standard of C (T), or better, are regulated by the State.

Ellicott Creek in Erie County, NY is currently listed as 303(d) segments impaired by construction related pollutants (Appendix D of the GP-0-25-001 permit), but it is not identified as an enhanced phosphorus watershed (Appendix C of the GP-0-25-001 permit).

4.0 EROSION AND SEDIMENT CONTROLS

4.1 Pre-Construction

Prior to construction, the Owner shall have the Contractors and subcontractors identify at least one (1) person from their company who meets the requirements of a Trained Contractor. A Trained Contractor will be responsible for installing, constructing, repairing, and replacing the erosion and sediment control (ESC) practices.

In addition, the Trained Contractor will be responsible for the implementation of the SWPPP and the inspection and maintenance in accordance with New York Standards and Specifications for Erosion & Sediment Control (Blue Book). The Owner's Representative shall ensure that at least one (1) Trained Contractor is on-site daily when soil disturbance activities are being performed. The Trained Contractor shall inspect the site's ESC practices daily to ensure these facilities are operational. Pre-construction requirements to be followed by the Owner and Contractors prior to the commencement of any construction activities are described in Appendix H.

4.2 Timing of Controls/Measures

The erosion and sediment control measures shall be constructed prior to clearing or grading of any portion of the project. For projects where soil disturbance is greater than five (5) acres, and construction activity has temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) days from the date the soil disturbance activity ceased. Permanent stabilization should be performed as soon as possible after completion of grading. After the entire project area is stabilized, the accumulated sediment shall be removed from the project area. Erosion control devices shall remain in place until disturbed areas are permanently stabilized. The soil stabilization measures selected shall be in conformance with the most current version of the technical standard, New York Standards and Specifications for Erosion and Sediment Control.

4.3 Erosion and Sediment Controls / Stabilization Practice

Applicable erosion and sediment control measures and details are included in Appendix G.

4.3.1 Temporary Stabilization

Topsoil stockpiles, staging areas and disturbed pervious portions of the project area where construction activity temporarily ceases for at least 7 days shall be stabilized with temporary seed and mulch no later than 7 days from the last construction activity in that area.

Temporary seed shall be ryegrass applied at the rates specified below:

- If seeding in spring, summer or early fall then seed with annual or winter rye at a rate of 30 lbs per acre. If the area is to remain stabilized over the winter into the following spring, use winter rye only.

- If seeding in late fall or early winter, use certified Aroostook winter rye (cereal rye) at a rate of 100 lbs per acre.

Any seeding method may be used that will provide uniform application of seed to the area and result in relatively good soil to seed contact. Area must be free of large rocks and debris and seeded within 24 hours of disturbance or scarification of the soil surface will be necessary prior to seeding. Fertilizer or lime is not typically used for temporary plantings.

Mulch shall be applied in conjunction with seeding and applied at the rate of 90 lbs per 1000 square feet. Mulch shall be reapplied as necessary. Areas of the project area, which are to be paved, shall be temporarily stabilized by applying temporary gravel subbase until pavement can be applied.

Proposed grades which will have slopes steeper than 3:1 shall be stabilized with erosion control blankets.

Sediment control fencing and inlet protection shall be installed around the site where depicted on the attached plan sheets. Prior to commencing any earthwork, a stabilized construction entrance shall be installed as indicated on the attached plans. This entrance shall be utilized as the exclusive construction entrance and exit to the construction areas. Construction traffic shall be limited to the construction entrance.

4.3.2 Permanent Stabilization

Disturbed portions of the project area where construction activities permanently cease shall be stabilized with permanent seed no later than 7 days after the last construction activity. The permanent seed mix shall be in accordance with the project specifications and plans. Construction and maintenance of erosion and siltation control measures are in accordance with the Blue Book.

Where construction activity is complete over areas to be permanently vegetated, stabilize with permanent seeding. Verify seeding dates with engineer. If engineer determines that seed cannot be applied due to climate, topsoil shall not be spread, and mulching shall be applied to the exposed surface to stabilize soils until the next recommended seeding period. Other project areas shall be permanently stabilized with pavement, concrete, gravel or building structures.

4.4 Compliance with Climate Change Regulations

This project complies with the requirements of the Community Risk and Resiliency Act (CRRA) and 6 NYCRR Part 490 by addressing future physical risks due to climate change. The project design incorporates considerations for increasing temperature, precipitation variability, flooding frequency, sea-level rise, storm surges, and shifting ecological conditions.

In alignment with state guidelines, site planning, elevation, and sizing of control measures, conveyance systems, and detention systems have been evaluated to mitigate climate-related risks. The project references the latest climate data available from the NYSDEC (6 NYCRR Part 490) to ensure resilience against anticipated environmental changes.

By integrating these considerations, this project meets regulatory requirements and supports long-term sustainability and resilience efforts.

4.5 Winter Operations

If construction activities proceed through the winter season, access points should be enlarged and stabilized to provide for snow stockpiling. Drainage structures should be kept open and free of potential snow and ice dams. Inspection and maintenance are necessary to ensure the function of these practices during runoff events. For sites where construction activities temporarily cease, temporary and/or permanent soil stabilization measures shall be installed within seven (7) days from the date the soil disturbing activity ceased. Disturbed areas should be stabilized with seed and mulch, or other approved methods, even if the ground is covered by significant amounts of snow.

4.5.1 Winter Shutdown

Site inspections (by the qualified inspector) may be decreased to a minimum of one (1) time every thirty (30) days for sites where soil disturbing activities have ceased and at least 100% of the site has been stabilized by an approved method. Inlet protection should be installed and/or repaired before shutdown of the site. The owner or operator shall provide written notification to the respective NYSDEC regional office prior to reducing the frequency of any site inspections.

4.6 Final Site Inspection

The qualified inspector shall perform a final inspection of the site to certify that:

- All disturbed areas have achieved final stabilization.
- Temporary erosion and sediment control practices have been removed; and
- Post-construction stormwater management practices (if required) have been constructed in conformance with the SWPPP.

Upon satisfactory completion of the final site inspection, the qualified inspector shall sign the appropriate sections of the Notice of Termination (eNOT) form.

4.7 Other Controls

4.7.1 Waste Disposal

Waste materials – Foreign waste materials shall be collected and stored in a secured area until removal and disposal by a licensed solid waste management company. All trash and construction debris from the project area shall be disposed of in a portable container unit. No foreign waste materials shall be buried within the project area. All personnel shall be instructed regarding the correct procedure for waste disposal. Notices stating these practices shall be posted in the project trailer and the individual who manages day-to-day project operations will be responsible for seeing that these procedures are followed.

Petroleum Impacted Waste – During the excavation activities, there is the potential that petroleum impacted soils may be encountered. If field evidence of contamination is identified during the project, potentially contaminated soils will be segregated and stockpiled on polyethylene sheeting and covered in a predetermined staging area. The potentially impacted stockpiled soils will then be sampled to determine if the soils are suitable for use as clean backfill. In the event that the soils are not suitable for re-use, the contaminated soil will be properly characterized and disposed of at an off-site company and NYSDEC permitted facility. The excavation will then be backfilled with clean, imported fill.

Hazardous Waste - All hazardous waste materials shall be disposed of in a manner specified by local or state regulations or by the manufacturer. Project personnel shall be instructed in these practices and the individual who manages day-to-day project operations shall be responsible for seeing that these practices are followed.

Sanitary Waste - Any sanitary waste from portable units shall be collected from the portable units by a licensed sanitary waste management contractor, as required by NYS DEC regulations.

4.7.2 Sediment Tracking by Vehicles

A stabilized construction entrance shall be installed (where depicted on attached plan) and maintained as necessary to help reduce vehicular tracking of sediment. The entrance shall be cleaned of sediment and redressed when voids in the crushed stone become filled and vehicular tracking of sediment is occurring. Dump trucks hauling materials to and from the construction project area shall be covered with a tarpaulin to reduce dust. Any sediment and debris tracked from work area along project adjacent roadways shall be immediately removed with a street sweeper or equivalent sweeping method.

4.7.3 Non-Stormwater Discharges

Non-stormwater discharges are not expected to exit the project area during construction.

4.8 Certification of Compliance with Federal, State, and Local Regulations

The stormwater pollution prevention plan reflects the New York State requirements for stormwater management and erosion and sediment control. To ensure compliance, this plan was prepared in accordance with New York State Standards. There are no other applicable State or Federal requirements for sediment and erosion plans (or permits), or stormwater management plans (or permits).

5.0 POST CONSTRUCTION STORMWATER MANAGEMENT

5.1 Hydrologic Evaluation

The proposed project has been designed in accordance with the State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities (GP-0-25-001) and the New York State Stormwater Management Design Manual (July,2024). The proposed Carson Power Renaissance BESS Project requires a stormwater management design that meets standard practice requirements for 1-, 10-, and 100-year peak flow mitigation, as well as water quality volume and runoff reduction volume across the entire project site.

The proposed Carson Power Renaissance BESS Project will add approximately 0.44 acres of new impervious area, with runoff directed to a proposed dry swale and a porous gravel area.

The required WQv for the project area was computed using the Runoff Frequency Spectrum (RFS) Method, discussed in the New York State Stormwater Management Design Manual.

$$WQv = \{(P)(Rv)(A)\} / 12$$

Where:

WQv = water quality volume (acre-feet)
P = 90 % rainfall event (inches)
Rv = 0.05 + 0.009 (I), where I is percent impervious cover
A = watershed area (acres)

For the Town of Amherst, the 90% of the annual runoff is generated by storms of 1.0 inches of rainfall. Detailed computations are included in Appendix F.

In order to evaluate the potential impacts associated with the development of the site, existing and proposed condition hydrographs were generated. The conditions were modeled using the SCS unit hydrograph method using a type II rainfall distribution. Rainfall amounts were referenced from Northeast Regional Climate Center, Point Precipitation Frequency Data website. The 24-hour rainfall amounts for the 1-, 10- and 100-year design storms for Erie County are 1.93-, 3.47- and 5.29-inches respectively.

Runoff curve numbers and times of concentration were computed using standard NRCS TR-55 methodology. Additionally, peak stormwater flows and hydrographs for the existing and post-development conditions were computed using HydroCAD version 10.20.

5.2 Existing Condition Hydrology

For the purposes of this analysis, the extent of the hydrologic model included to those areas impacted by the Renaissance BESS project. For the purposes of the existing condition analysis, one (1) design point and two (2) contributing sub-areas were defined to characterize the natural drainage patterns of the watershed (See Figure 4 - Existing Drainage Area Map).

Design Point 1 (DP-1) is located at the proposed project site along with the building and parking lot to the south that will drain into existing catch basins along Youngs Road and Wehrle Drive. Runoff will drain eastward in the existing closed stormwater conveyance systems and will ultimately discharge into the Ellicott Creek.

Drainage Area 1 (DA-1) consists of a grassy terrain situated on the northern portion of the property along with the concrete walks on the north side of the existing building. The natural ground cover primarily consists of grassy vegetation.

Drainage Area 2 (DA-2) consists of the existing building structure and its associated sidewalks and parking lots. This area also includes some grass areas on the edge of the asphalt parking lot and building structure.

Results of the existing condition analysis are shown in Table 3 and detailed computations are included in Appendix D.

Table 3 - Existing Condition Analysis Summary

Design Point	Drainage Area	Area (acres)	Tc (hrs)	Curve Number	Peak Flow Rate (cfs)		
					1-yr	10-yr	100-yr
DP-1	DA-1	1.99	0.083	78	1.57	5.46	10.81
	Total	***1.99***	**--**	**--**	***1.57***	***5.46***	***10.81***

5.3 Proposed Condition Hydrology

The existing condition drainage areas have been revised to reflect the new drainage patterns of the proposed watershed with one (1) design point and three (3) contributing sub-areas (See Figure 5 – Proposed Drainage Area Map).

Design Point 1 (DP-1) remains at the proposed project site along with the building and parking lot to the south that will drain into existing catch basins along Youngs Road and Wehrle Drive. Runoff will drain eastward in the existing closed stormwater conveyance systems and will ultimately discharge into the Ellicott Creek.

Drainage Area 1A (DA-1A) is located on the north of the property consisting of the proposed conventional gravel access drive and surrounding grassy area with the concrete walk to the north of the building. Runoff from this area will be captured by a dry swale or catch basin and carried to DP-1.

Drainage Area 1B (DA-1B) includes the proposed porous gravel section and electric equipment. Stormwater within these gravel sections will be collected via underdrains and routed to the proposed catch basin. The porous gravel areas will contain stone sections which NYSDEC have reviewed and approved as an alternative stormwater management practice for National Grid substations. A copy of the memorandum is included in Appendix C.

Drainage Area 2 (DA-2) consists of the existing building and its associated sidewalks and

parking lots to remain onsite. This area also includes some proposed electric equipment and associated gravel areas on the southern side of the site and the mowed grass areas on the edge of the asphalt and building.

Results of the proposed condition analysis are shown in Table 4 and detailed hydrology computations are included in Appendix E.

Table 4 – Proposed Condition Analysis Summary

Design Point	Drainage Area	Area (acres)	Tc (hrs)	Curve Number	Peak Flow Rate (cfs)			
					1-yr	10-yr	25-yr	100-yr
DP-1	DA-1A	1.56	0.083	81	1.60	4.89	6.55	9.21
	DA-1B	0.43	0.083	94	1.01	2.02	2.49	3.21
Total	***Unmitigated***	***1.99***	***--***	***--***	***2.61***	***6.91***	***9.04***	***12.42***
	Mitigated	***1.99***	***--***	***--***	***0.09***	***2.82***	***5.29***	***8.38***

The proposed condition mitigated peak flow rate of the 25-year storm event (5.29 cfs) will be attenuated by the proposed SMPs to be no greater than the existing condition's peak flow rate of the 10-year storm event (5.46 cfs), in accordance with Town of Amherst requirements.

5.4 Post-Development Stormwater Management Practices

5.4.1 Runoff Reduction Volume

In accordance with the New York State Stormwater Management Design Manual (July 2024), further reduction in the water quality volume (WQv) shall be designed to reduce the total amount of runoff leaving the project site and to replicate pre-development hydrology. This volumetric reduction is defined as the Runoff Reduction Volume (RRv). Runoff reduction shall be achieved by infiltration, groundwater recharge, reuse, recycle evaporation or evapotranspiration of 100% of the post-development water quality volumes to replicate pre-development hydrology by maintaining pre-construction infiltration, peak runoff flow, discharge volume, as well as minimizing concentrated flow by using runoff control techniques to provide treatment in a distributed manner before runoff reaches the collection system. This requirement can be accomplished by application of on-site green infrastructure techniques, standard stormwater management practices with runoff reduction capacity, and good operation and maintenance. Runoff reduction can be achieved by three methods: reduction of contributing drainage area, reduction of runoff volume through practice storage, and using standard stormwater practices with runoff reduction capacity.

Projects that cannot meet 100% of runoff reduction requirement must provide a justification that evaluates each of the green infrastructure planning and reduction techniques and identifies the specific limitations of the site according to which application of this criterion is technically infeasible. Implementation of green infrastructure cannot be considered infeasible unless physical constraints, hydraulic conditions, soil testing, existing and proposed slopes, or other existing technical limitations are objectively documented. And determination of application of

none of the runoff reduction options is feasible may not be based on the cost of implementation measures or lack of space for required footprint of the practice.

Project that do not achieve runoff reduction to pre-construction condition must, at a minimum reduce a percentage of the runoff from impervious areas to be constructed on the site. The percent reduction is based on the Hydrologic Soil Group(s) (HSG) of the site and is defined as Specific Reduction Factor (S) and is defined as the following list.

HSG A = 0.55 (55%)
HSG B = 0.40 (40%)
HSG C = 0.30 (30%)
HSG D = 0.20 (20%)

The required RRv for the watershed areas is computed using the minimum runoff reduction volume equation presented below.

$$RRv = \{(P)\ (Rv)\ (Ai)\} / 12$$

Where:

RRv = runoff reduction volume (acre-feet)
P = 90 % rainfall event (inches)
Rv = 0.05 + 0.009 (I), where I is 100% impervious cover
Ai = impervious cover targeted for runoff reduction = (S)(Aic)
Aic = total area of new impervious cover
S = Hydrologic Soil Group (HSG) Specific Reduction Factor

For the Town of Amherst, the 90% of the annual runoff is generated by storms of 1.0 inches of rainfall. Detailed computations are included in Appendix F.

5.4.2 Green Infrastructure Techniques

Runoff reduction was achieved for the proposed project with the proposed dry swale. A summary of the practice used in the project for runoff reduction is provided in Table 5.

Table 5 - Summary of Required Runoff Reduction Volumes

Drainage Area	Min. RRv Required (ac-ft)	RRv Provided (ac-ft)	Runoff Reduction Techniques
DA-1A	0.006	0.007	Dry Swale
DA-1B	0.003	0.015	Sheet Flow to Grass Filter Strip
Total	0.009	0.022	

5.4.3 Water Quality

To meet the full stormwater quality (WQv) criteria, dry swale and sheet flow to grass filter strip were employed to provide water quality treatment for stormwater runoff from the proposed project site. Both the dry swale and sheet flow to grass filter strip are all standard SMPs with runoff reduction capacity. Therefore, a percentage of the WQv (provided) is allocated for the RRv provided by the practices based on the Hydraulic Soil Groups (HSG) which the SMP is located. The remaining WQv provided by the SMP is calculated by the following.

WQv(Required) = RRv(Provided) + WQv(Provided)

The total Water Quality Volume (WQv) required for the project is 0.049 acre-feet. Because the dry swale and grass filter strip will provide 0.022 acre-feet of RRv, the remaining WQv required will be 0.027 acre-feet. The dry swale is designed to provide the remaining 0.027 acre-feet of WQv. Therefore, the project complies with the requirements of the Stormwater Management Design Manual. A summary of the required and provided water quality volumes is presented in Table 6 and 7, with detailed calculations provided in Appendix F.

Table 6 - Summary of Water Quality Volumes

Design Points	Total Area (ac)	Percent Impervious Cover	Required WQv (ac-ft)	Provided WQv (ac-ft)	Treatment Practice
1	1.56	23%	0.027	0.027	Dry Swale

Table 7 – Required and Provided Water Quality and Runoff Reduction Volumes

Required Water Quality Volume; WQv(Required)	0.049 acre-feet
Minimum Runoff Reduction Volume Required; RRv (Min)	0.009 acre-feet
Provided Runoff Reduction Volume; RRv (Provided)	0.022 acre-feet
Provided Water Quality Volume; WQv(Provided)	0.027 acre-feet
Sum of Total RRv Provided and WQv Provided	0.049 acre-feet

5.4.4 Peak Flow Attenuation

Based on a comparison between the existing conditions and the proposed peak flow rates, the proposed development will not increase peak rates of runoff at DP-1. A summary of the existing conditions and post-development peak flow comparison is shown in Table 8.

Table 8 – Existing Condition & Post-Development Peak Flow Comparison

Design Point	Peak Flow Rate (cfs)								
	1-Year Storm			10-Year Storm			100-Year Storm		
	Exist (cfs)	Post Dev. (cfs)	Δ (cfs)	Exist (cfs)	Post Dev. (cfs)	Δ (cfs)	Exist (cfs)	Post Dev. (cfs)	Δ (cfs)
DP-1	1.57	0.09	-1.48	5.46	2.82	-2.64	10.81	8.38	-2.43

In accordance with the governing regulations, the post-development peak runoff rates shall be no greater than the existing condition rates for the 1-, 10-, and 100-year 24-hour storm events.

In accordance with the Town of Amherst requirements, the 25-year post-development peak flow (5.29 cfs) is lower than the 10-year existing peak flow (5.46 cfs).

5.5 Floodplains

Based on a review of the FEMA Flood Insurance Rate Map for the Town of Amherst, Erie County, NY (dated June 7, 2019); the entire project site is not located in the 100-year floodplain (see Figure 3 – FEMA FIRM in Appendix A).

6.0 MAINTENANCE/INSPECTION PROCEDURES

6.1 Erosion and Sediment Control Inspection and Maintenance Practices

These are the minimum required inspection and maintenance practices that shall be used to maintain erosion and sediment controls:

6.1.1 Owner/Operator Inspection Requirements

- Prior to construction activity the owner/operator shall have contractors and sub-contractors identify a trained individual responsible for the implementation of the SWPPP. The trained individual must be on-site on a daily basis when soil disturbing activities are occurring.

- The owner/operator shall inspect the erosion and sediment control measures as identified in the SWPPP to ensure that they are being maintained in effective operating conditions at all times. Where soil disturbing activities temporarily cease (e.g. winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the owner/operator can reduce frequency of inspections, but shall maintain a minimum of monthly inspections, and after significant rainstorms and snow thaws. The owner/operator shall resume inspections when soil disturbing activities begin again.

- Where soil disturbing activities have ceased with partial project completion, the owner/operator can stop conducting inspections when disturbed areas have reached final stabilization. The qualified inspector shall coordinate and obtain approval from the Owner and Engineer that final stabilization has been achieved. All post construction stormwater management practices required for the completed areas shall have been constructed in

conformance with the SWPPP and be fully operational. Final stabilization means that all soil disturbance activities have ceased and a uniform, perennial vegetative cover with a density of eighty (80) percent over the entire pervious surface has been established; or other equivalent stabilization measures, such as permanent landscape mulches, rock rip-rap or washed/crushed stone have been applied on all disturbed areas that are not covered by permanent structures, concrete or pavement.

- The owner/operator shall notify the DEC Regional Office's stormwater contact person prior to any reduction in the frequency of site inspections.

- The owner/operator shall retain copies of the NOI, NOI acknowledgment letter, SWPPP, MS4 SWPPP acceptance form and any inspection reports submitted in conjunction with this permit and records, or all data used to complete the NOI to be covered by this permit for a period of at least five (5) years from the date that the site is finally stabilized.

6.1.2 Qualified Inspector Inspection Requirements

- The qualified inspector is defined as a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), licensed Landscape Architect, or other Department endorsed individual(s). It may also mean someone working under the direct supervision of the licensed Professional Engineer or licensed Landscape Architect, provided that person has training in the principles and practices of erosion and sediment control. Training in the principles and practices of erosion and sediment control means the person has received four (4) hours of training endorsed by the Department and shall receive four (4) hours of training every three (3) years after the initial training.

- A site inspection shall be performed at least twice per week, with a minimum interval of two days between inspections by the qualified inspector when soil disturbing activities are occurring. A copy of the "Construction Duration Inspection Form" is included in the Appendix H section of this plan.

- All measures shall be maintained in good working order; if any repairs or corrective actions are necessary, it is the responsibility of the qualified inspector to notify the owner/operator and appropriate contractor within one business day. The contactor shall begin implementing the corrective action within one business day of being notified.

- All inspection forms must be signed by a qualified inspector.

- For construction sites where soil disturbing activities are temporarily suspended, temporary stabilization measures shall be applied, and the qualified inspector shall conduct a site inspection at least once every thirty (30) calendar days.

- Where soil disturbing activities have ceased with partial project completion the qualified inspector can stop conducting inspections when disturbed areas have reached final stabilization and all post construction stormwater management practices required for the completed areas have been constructed in conformance with the SWPPP and are fully operational.

- Where soil disturbing activities are not resumed within two (2) years, from the date of shut down of partial project completion, the qualified inspector shall perform a final inspection and certify that all disturbed areas have achieved final stabilization, all temporary and permanent erosion control measures have been removed, and post-construction stormwater management practices have been constructed in conformance with the SWPPP. Qualified inspector shall sign the “Final Stabilization” and “Post-Construction Stormwater Management Practice” certification statements on the Notice of Termination (NOT).

6.1.3 General Requirements

- A copy of the SPDES General Permit (GP-0-25-001), the signed Notice of Intent (NOI), NOI acknowledgement letter, SWPPP, and inspection reports shall be maintained onsite until the site has achieved final stabilization.

- Built up sediment shall be removed from any silt fence when it has reached one-third the height of the fence / dike.

- Sediment fencing and wetland protection barrier shall be inspected for depth of sediment, and tears, to see if fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.

- The construction entrance shall be cleaned of sediment and redressed when voids in the crushed stone become filled and vehicular tracking of sediment is occurring.

- Dust shall be controlled on access points and other disturbed areas subject to surface dust movement and blowing.

- Inspection must verify that all practices are adequately operational, maintained properly and that sediment is removed from all control structures.

- Inspection must look for evidence of soil erosion on the site, potential of pollutants entering drainage systems, problems at the discharge points, and signs of soil and mud transport from the site to the public road.

6.1.4 Dewatering Methods

Dewatering is not anticipated during construction. If localized dewatering becomes necessary to conduct the planned construction activities, the water will be evaluated for evidence of potential contamination.

Water that exhibits no visual (e.g. free product/sheens) or olfactory evidence of contamination will be directed to a discharge area established within a vegetated portion of the site and will be pumped through filter bags or socks for removal of sediment prior to discharge. The water will be discharged to the ground at a controlled rate in a manner that will prevent significant runoff. Discharge of dewatering effluent into the storm sewer system is not permitted under any circumstance.

6.1.5 Dust Control

Dust control shall be used through dry weather periods until all disturbed areas are stabilized and will be controlled as needed based on site conditions. Only plain water will be used for dust suppression. Stabilized construction entrances for dust control will be consistent with NYSDEC stabilized construction entrance requirements. All applicable regulations and standards related to dust control will be followed including the New York State Standards and Specifications for Erosion and Sediment Control ("Blue Book") for dust control.

7.0 INVENTORY FOR POLLUTION PREVENTION PLAN

The materials or substances listed below are expected to be within the project area during construction:

- Portland cement concrete.
- Fertilizers / seeding materials.
- Stone.
- Petroleum based products.
- Silt fence fabric.
- Lumber.

8.0 SPILL PREVENTION

The following are the material management practices that shall be used to reduce the risk of spills or other accidental exposure of materials and substances to stormwater runoff.

8.1 Good Housekeeping

The following good housekeeping practices shall be followed within project areas during construction:

- An effort shall be made to store only enough products required to do the job.
- All materials stored within project areas shall be stored in a neat, orderly manner in their appropriate containers and, if possible, under a roof or other enclosure.
- Products shall be kept in their original containers with the original manufacturer's label.
- Substances shall not be mixed with one another unless recommended by the manufacturer.
- Whenever possible, all of a product shall be used up before disposing of the container.
- Manufacturers' recommendations for proper use and disposal shall be followed.
- The project superintendent shall inspect daily to ensure proper use and disposal of materials.

8.2 Hazardous Products

These practices are used to reduce the risks associated with hazardous materials:

- Products shall be kept in original containers unless they are not resealable.
- Original labels and material safety data shall be retained.
- If surplus product must be disposed of, manufacturers' or local and state recommended methods of proper disposal shall be followed.
- Material Safety Data Sheets for all hazardous products shall be within the project area for the duration of construction.

8.3 Product Specific Practices

The following product-specific practices shall be followed within the project areas:

Petroleum Products

All project related vehicles shall be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products shall be stored in tightly sealed containers which are clearly labeled. Any asphalt substances used during construction shall be applied according to the manufacturer's recommendations.

Paints

All containers shall be tightly sealed and stored when not required for use. Excess paint shall not be discharged to the storm sewer system but shall be properly disposed of according to manufacturer's instructions or State regulations.

Concrete Trucks

Concrete trucks shall be allowed to wash out within project areas provided that the contractor provides an area which collects and contains any concrete / slurry material washed from trucks for recovery and disposal at a later time. No concrete / slurry shall be discharged from the property at any time of construction. If such washing is anticipated, the contractor shall submit a plan detailing the control of concrete / slurry to the engineer for approval.

Watercourse Protection

Construction operations shall be conducted in such a manner as to prevent damage to watercourses from pollution of debris, sediment, or other foreign material, or from manipulation, from equipment and/or materials in or near the watercourse. The contractor shall not return directly to the watercourse any water used for wash purposes or other similar operations which may cause the water to become polluted with sand, silt, cement, oil or other impurities. If the contractor uses water from the water course, the contractor shall construct an intake or temporary dam to protect and maintain watercourse water quality.

8.4 Spill Control Practices

The contractor will be responsible for preparing a project area specific spill control plan in accordance with local and NYS DEC regulations. At a minimum this plan should:

- Reduce stormwater contact if there is a spill.
- Contain the spill.
- Stop the source of the spill.

- Dispose of contaminated material in accordance with manufactures procedures, and NYS DEC regulations.
- Identify responsible and trained personnel.
- Ensure spill area is well ventilated.

9.0 UPDATING THE SWPPP

The SWPPP shall be updated/revised as conditions merit or as directed by the regulating authority. The attached inspection forms included with this document allow for the certification of any updates/revisions.

10.0 SWPPP CERTIFICATION

Contracting Firm Information:

Contracting Firm
Address
City/Town ***State*** ***Zip***

Site Location:

Carson Power Renaissance BESS Project
370 Youngs Road, Amherst, New York 14221

Contractor's Certification

I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the New York State Pollutant Discharge Elimination System (SPDES) general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

Signature (Contractor/Subcontractor)	***Date***
For	
Responsible For	
Signature (Trained Individual)	***Date***
For	
Responsible For	
Signature (Contractor/Subcontractor)	***Date***
For	
Responsible For	
Signature (Trained Individual)	***Date***
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