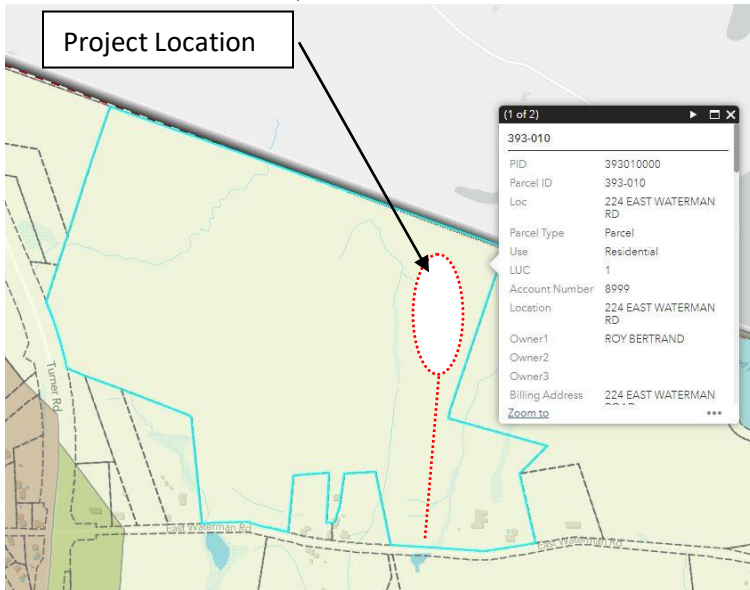


To: Auburn Planning Board
From: John Blais, Deputy Director of Planning & Permitting
Re: Proposed 9.4-acre development, with a 1.83 MW-DC solar array and associated battery energy storage at 224 East Waterman Road (PID 393-010), BWC Gulf Island Pond, LLC a subsidiary of Blue Wave Solar on a 121.57-acre parcel located in the Agriculture and Resource Protection Zoning District.
Date: December 6th, 2022



1. PROPOSAL: Flycatcher, LLC on behalf of BWC Gulf Island Pond, LLC is seeking approvals pursuant to Article IV Division 2- Agriculture and Resource Protection District, Article XVIII-Solar Energy Generating Systems, and Article XVI Division 2 and 3- Site Plan Review and Special Exception of the Auburn Code of Ordinances to construct a 1.83 MW solar array and a DC-Coupled Battery Energy Storage System (BESS) consisting of one (1) 1, 020kW Samsung SDI Battery on approximately 121.57 acres on one parcel located at 224 East Waterman Road. The parcel is located in the Agriculture and Resource Protection District.

Below are the standards the Planning Board created for Solar Energy Generating Systems in the Agriculture and Resource Protection District and the information the Applicant provided on each.

Chapter 60, Article XVIII. – Solar Energy Generating Systems. Section 60-1506 (Approval):

- I. *Yard Requirements.* The requirements in this section are not applicable to solar arrays in the Ag-Zone, they have their own set of requirements for setbacks (see below). **Setbacks are to exceed 50 feet.**
- II. *Lot Coverage.* The standards apply to the paved, mounting block, or otherwise impervious areas of the site. Photovoltaic cells, panels, arrays, and inverters are not considered impervious areas provided the soil underneath the collector is not compacted and remains vegetated in accordance with the permanent stabilization standards in Chapter 500 (see below) for the 30% lot coverage requirement specific to solar arrays in the Ag-Zone. **The Anticipated lot coverage will not exceed 1% of the lot for permanent impacts total land disturbance is 8%.**
- III. *Height Regulations.* The total height of solar arrays including accessory structures cannot exceed 30 feet. **The maximum height of the proposed solar array is 12 feet.**
- IV. *Technical and Safety.* A copy of the as-built site plan for the solar array is required to be provided to the Fire Prevention Officer with all means of shutting down the solar array clearly marked. **This will happen after the solar array has been constructed, the Applicant has been in contact with the Fire Prevention Officer (FPO). As built will be provided to the FPO as well as procedure to shutting down the system if required. Knox box will be provided for 24hr access to the site.**
- V. *Maintenance.* The facility is required to be maintained in good condition throughout the life of the project, this includes both infrastructure and access ways. **This is something the City will monitor**

- after the solar array has been constructed, if there are issues, the City will cite this provision and request the issues be resolved. An Operation and Maintenance Plan has been provided.**
- VI. *Glare.* This section requires solar arrays to minimize or negate solar glare that could impact nearby properties or roadways, it also has specific requirements for solar arrays in the Airport Overlay. **This parcel is not located within a 2 nautical mile radius of the Auburn Lewiston Municipal Airport, so a glare study is not required.**
- VII. *Visual Impact.* This section requires the applicant to make a reasonable effort (determined by the Planning Board) to minimize any visual impacts associated with the solar project. In making this determination, the board shall consider the size, location and topography of the site, characteristics of the surrounding property and the amount of type of development on the properties in determining how much screening and buffering is appropriate. **The site is screened from public view by natural topography and will be at least 1000 Feet away from the nearest roadway .**
- VIII. *Lighting.* This section requires that lighting be limited to that required for safety and operation and that it be shielded from abutting properties and directed downward. **No lighting being proposed.**
- IX. *Clearing.* When possible, in unbuilt areas, requires that Solar Energy Generating Systems maintain the permeability of the ground and that clearing of natural vegetation be limited to what is necessary for the construction, operation and maintenance of the Solar Energy Generating System. **The site is all cleared open areas. Impervious surfaces have been limited to the access road equipment pads and utility poles.**
- X. *Operation and Maintenance Plan.* Requires the submission of an Operation and Maintenance Plan for the Solar Energy Generating System. **An Operations and Maintenance Plan has been provided on Attachment 10 of the submission materials. The plan has proper measures to ensure the facility and site will be maintained and kept in safe working order (see below for O&M Plan requirements specific to the Ag-Zone).**
- XI. *Fire & Electrical Codes.* Requires all Solar Energy Generating Systems to be installed in compliance with the photovoltaic systems standards of the National Fire Protection Association and National Electrical Code. **The applicant agrees to adhere to all codes associated with NFPA and NEC. Detailed construction drawing by Maine State Professional Engineer will be required for pads, electrical connections, and layout prior to issuing building and electrical permit for this project.**

Sec. 60-1507. Abandonment or Decommissioning standards, including the requirement of a financial surety to cover the cost of facility removal in the future.

The Applicant has provided a decommissioning estimate (\$85,670.00) and plan that appropriately describes how the project will be removed and the site restored at the end of the project. It is important to note that the ordinance has requirements for decommissioning of solar arrays specific to projects in the Ag-Zone. In addition, the financial surety will need to be secured and provided to the City prior to construction starting a bond may have co-Obligation of both the City of Auburn and SOM/MaineDEP.

Chapter 60, Article IV, Division 2, Agriculture and Resource Protection District, Sec. 60-145. – Use Regulations.

(B), (19) Special Exception Uses. Ground-Mounted and Dual-Use Solar Energy Generating Systems greater than one acre in total land area as defined in Sec. 60-1501, subject to the following conditions:

- a) Must comply with all of the standards in the Solar Energy Generating Systems ordinance (see above).
- b) *Setback Requirements.* Solar arrays are required to comply with the same setback requirements for buildings in the Agriculture/Resource Protection District, which are Front/Rear: 25 Feet and Side 15 Feet. **The project meets the setback requirements with 50-feet provided for the front/rear and side setbacks.**

- c) *Lot Coverage* cannot exceed 30% as defined above (the standards apply to the paved, mounting block, or otherwise impervious areas of the site. Photovoltaic cells, panels, arrays, and inverters are not considered impervious areas provided the soil underneath the collector is not compacted and remains vegetated in accordance with the permanent stabilization standards in Chapter 500). **The area of the site is considered less than 30% of the total lot. The lot area is about 121 acres. The total Limit of Disturbance is 9.4 acres or about 8% of the lot area.**
- d) *Total Land Area.* This standard requires the Planning Board look at the total amount of land area in the Ag-Zone that is proposed and currently used for solar and recommend that a new solar array will not materially alter the stability of the overall land use pattern of the Ag-Zone. In making this determination, the Planning Board will also consult with the Ag-Committee and Conservation Commission. **This provision will become applicable once 1% of the Ag-Zone is consumed by solar which would be about 200 acres. It does not apply to this project . 1040 Perkins Ridge (978 Solar Development LLC/Borrego Solar) which included 18.9 Acres of solar development 1115 Riverside (Auburn Renewables/NexAmp) which included 35 Acres of solar development. 1054 North River Road (Auburn Solar, LLC/Hexagon Solar) which included 18 acres of solar development. Penley Corner Solar 14.6 acres of solar development 2440 Washington Street (ME Washington HS CSG LLC Solar) which included 5.26 acres of solar development 224 East Waterman Road (BWC Gulf Island Pond Solar) is proposing 9.4 acres of solar development *not yet approved* **TOTAL: 101.16 / 200 Acres.****
- e) *Existing Grid Infrastructure.* This provision considers the location of existing grid infrastructure and limits the need to extend additional infrastructure in the Ag-Zone. **The Applicant chose this site based on the existing capacity of the grid in consultation with the utility representative at Central Maine Power.**
- f) *Clearing.* These standards allow clearing for solar arrays under certain conditions:
1. The presence of the Solar Energy Generating System will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property or abutting properties. **Hydro CAD calculations have been prepared (attachment 8) to show that pre runoff will be decreased after post construction due to the implemented permanent Best Management Practices. In addition, the city has requested an updated site plan the will include the permanent and temporary BMP's locations.**
 2. At the time of decommissioning of any Solar Energy Generating System approved by the Planning Board, the current sitting Planning Board shall review the site and proposed decommissioning plan for the conversion of the parcel into prime farmland or forestland, as applicable under the current ordinance standards. **A decommissioning estimate has been provided in the packet (see discussion above).**
 3. A survey of critical wildlife habitat is provided at the time of application, if a project is located in an area determined to be essential habitat, as defined by the Maine Department of Inland Fisheries and Wildlife, an IF&W recommendation shall be secured before a Planning Board ruling. **The applicant reached out to the Natural Areas program and concluded that there is no critical habitat based on the available data.**
 4. A Vegetative Cover Plan is provided that demonstrates, where feasible, the replanting of forested areas disturbed during construction and preservation of prime soils throughout the life of the project. **A Vegetative Cover Plan was not specifically provided; however, the Applicant has indicated the areas will be re-seeded with a pollinator friendly fescue grass mix of local native plants. As well as clear inspection sequence for sediment and erosion control and revegetation of disturbed areas.**
- g) *Prime Soils.* These standards are considerations for prime soils and a soil analysis requirement. It stipulates that the least productive ag soils be considered first for development unless there is non-prime farmland available on the site. **The applicant has provided information on the**

soils at the site (included in the fenced in area proposed for the site). About 5.59 acres is considered prime farmland and 2.16 acres is considered farmland of Statewide Importance, the remaining 1.75 acres are non-prime farmland soils of the Limit of Disturbance. The analysis of using other portions of the site would have impacted up to 1 acre more of farmland soils. The site is composed 67 % or 84.54 Acres of Prime Farmland and Soils of Statewide Significance. This project will impact 9% or 7.65 of the farm soils on the site. (See exhibit A)

Difference between Prime Farmland and Soils of Statewide Significance:

Prime Farmland: Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses (the land could be in cropland, pastureland, rangeland, forest land, or other land, but not urban built-up land or water). It has the soil quality, growing season and moisture supply needed to economically produce sustained high yields of crops when treated and managed, including water management, according to acceptable farming methods.

Soils of Statewide Significance: Additional farmlands of statewide importance include those that are nearly prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods.

- h) Additional requirements that ensure the following:
 - 1. Siting of the overall facility and individual panels shall keep with the existing contours of the land, and
 - 2. Only pile driven, or ballast block footing shall be used so as to minimize the disturbance of soils during installation, and
 - 3. To the extent possible, infrastructure shall not be located on steep slopes and
 - 4. A plan for topsoil maintenance shall be provided at the time of application to the planning board.
- 1.) **Siting of the overall facility and individual panels shall be kept within existing contours of the land. 2.) Only pile driven footings will be used 3.) step slopes will be avoided 4.) a topsoil maintenance plan was included in the materials and identified in the Vegetation section of the management plan. Sections 10.1.1 to 10.2 identifies strategies to save prime/farm soils from permanent impacts.**
- i) Operations and Maintenance Plan. There are also two additional requirements to be included in the Operations and Maintenance Plan including:
 - 1. A plan prioritizing the ability to co-mingle agricultural and energy generation land uses including but not limited to apiaries, grazing or handpicked crops. **As part of the Operations and Maintenance Plan includes an Agri-voltaic project; essentially a where the co-mingle agriculture and energy generation occurs at the same time on the land. They mention integrating blueberry crops among the solar panels.**
 - 2. A plan that provides habitat for native plants and animals and native pollinators. **The applicant has committed to the use of native plants and pollinators.**

I. DEPARTMENT REVIEW:

- a. *Police* – No comments received.
- b. *Auburn Water and Sewer* – No comments received.
- c. *Fire Department* – Comments were not provided specifically for this project, below are comments that were provided for previous solar projects listing the NFPA requirements for the Applicant to address.

NFPA 1, Edition 2018, adopted by the city on 01/01/2018

- 1. A vegetation Management Plan or noncombustible base needs to be added. Has a vegetation management plan been submitted? If not, what will the surface be finished with? This is to prevent forest fires from damaging the system, or the system causing a forest fire. Damage from

weeds and plants can also cause damage to the photovoltaic system, which in turn could create a fire.

11.12.3.2* Vegetation Management Plan. A vegetation management plan or noncombustible base acceptable to the AHJ shall be approved and maintained under and around the installation where required by the AHJ (Authority having Jurisdiction).

2. Clearance around the installation shall be 10 ft.

11.12.3.1* Clearances. A clear area of 10 ft (3048 mm) around ground-mounted photovoltaic installations shall be provided.

3. Road access meet the required 20 ft. If there was a forest fire, we would not be able to gain access to the site. Also, the road would need to support or vehicles.

18.2.3.5.1.1* Fire department access roads shall have an unobstructed width of not less than 20 ft (6.1 m).

4. A turnaround or hammerhead would be required that meets the following:

18.2.3.5.4 Dead Ends. Dead-end fire department access roads in excess of 150 ft (46 m) in length shall be provided with approved provisions for the fire apparatus to turn around.

d. *Code Enforcement (Electrical)* – Comments were not provided specifically for this project, below are comments that were provided for previous solar projects addressing the electrical code.

1. Large-Scale (PV) Power Production Facilities is covered under the National Electrical Code Article 691 and requires an engineered designed. Will the project have plans submitted by an electrical PE?
2. Who is the PE/ firm providing the electrical drawings?
3. All applicable sections of the NEC shall be followed including listing/marketing of all solar equipment Nationally Recognized Testing Laboratory (NRTL).
4. Who is the installing electrical contractor?

The state will most likely adopt the 2020 NEC on Jan. 1, 2021. The city would require drawings and installation reflecting the 2020 NEC when Maine finally adopts the new code. I will send out a notice once the state has adopted the 2020 NEC. If permits are obtained prior to the state's adoption I will allow the use of the 2017 NEC for this project.

e. *Engineering* – Requires a performance bond for erosion controls and site access (see condition below).

f. *Addressing* –Addressing Officer, will need to create an E-911 plan with you for the solar project to differentiate that portion of the parcel from the residence and fruit barn.

II. **PLANNING BOARD ACTION** – Sec. 60-1277. – Objective. In considering a site plan, the Planning Board shall make findings that the development has made provisions for:

- (1) Protection of adjacent areas against detrimental or offensive uses on the site by provision of adequate surface water drainage, buffers against artificial and reflected light, sight, sound, dust, and vibration; and preservation of light and air;
- (2) Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent areas;
- (3) Adequacy of the methods of disposal for wastes; and
- (4) Protection of environment features on the site and in adjacent areas.

Sec. 60-1336. – As conditions prerequisite to the granting of any special exceptions, the board shall require evidence of the following:

That the special exception sought fulfills the specific requirements, if any, set forth in the zoning ordinance relative to such exception.

That the special exception sought will neither create nor aggravate a traffic hazard, a fire hazard, or any other safety hazard.

That the special exception sought will not block or hamper the master development plan pattern of highway circulation or of planned major public or semipublic land acquisition.

That the exception sought will not alter the essential characteristics of the neighborhood and will not tend to depreciate the value of property adjoining and neighboring the property under application.

That reasonable provisions have been made for adequate land space, lot width, lot area, stormwater management in accordance with section 60-1301(14), green space, driveway layout, road access, off-street parking, landscaping, building separation, sewage disposal, water supply, fire safety, and where applicable, a plan or contract for perpetual maintenance of all the common green space and clustered off-street parking areas to ensure all such areas will be maintained in a satisfactory manner.

That the standards imposed are, in all cases, at least as stringent as those elsewhere imposed by the city building code and by the provisions of this chapter.

That essential city services which will be required for the project are presently available or can be made available without disrupting the city's master development plan.

III. STAFF RECOMMENDATIONS – The Staff Report discusses the standards required by the Site Plan, Solar Energy Generating Systems ordinance, and the Special Exception requirements for solar installations in the Ag-Zone. Staff recommends the if the questions have been answered to the satisfaction of the Planning Board, Planning Staff recommends the Planning Board find that the application meets the requirements of Article IV Division 2- Agriculture and Resource Protection District, Article XVIII-Solar Energy Generating Systems, and Article XVI Division 2 and 3- Site Plan Review and Special Exception of the Auburn Code of Ordinances with the following conditions:

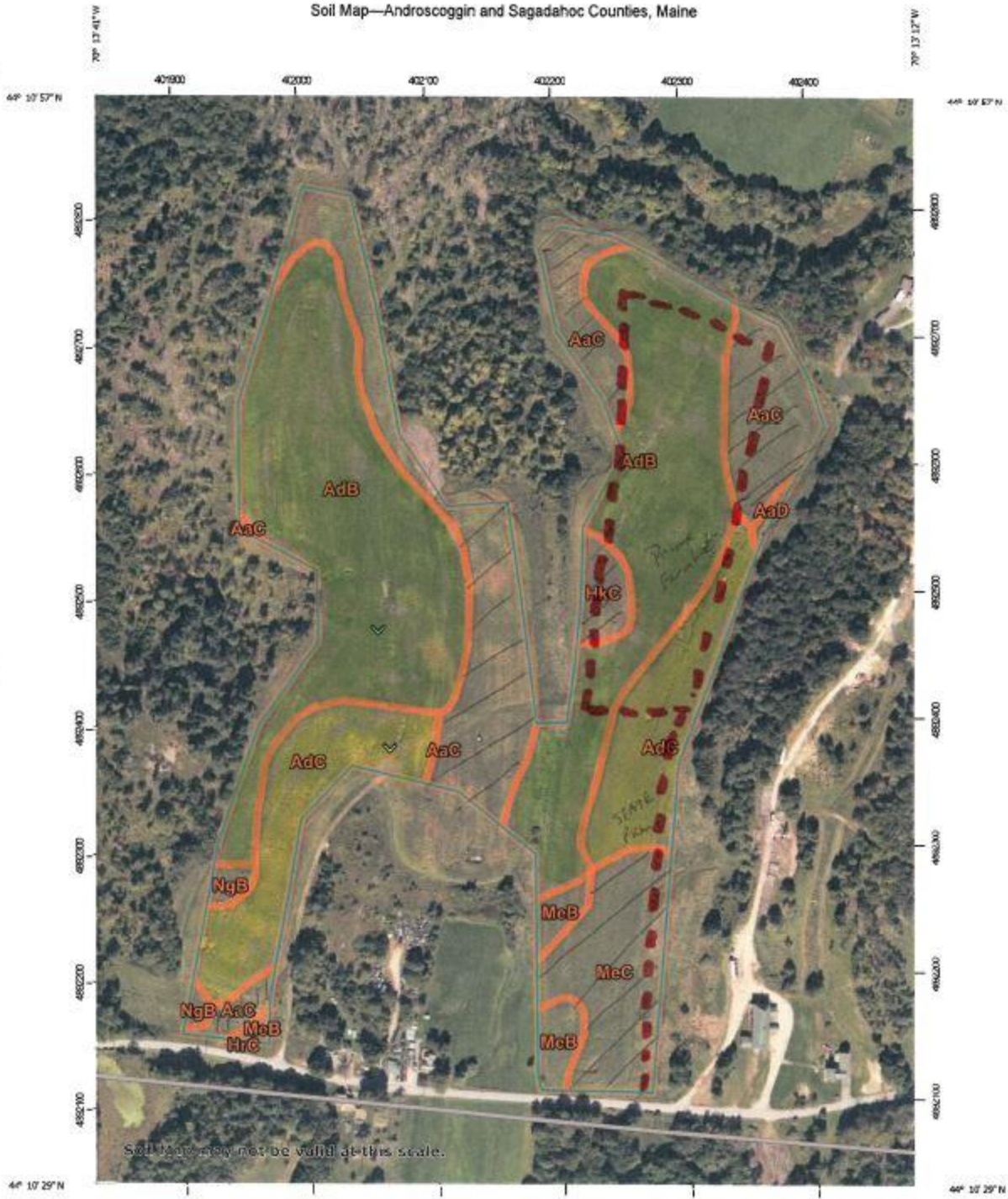
1. All bonding and inspection fees shall be paid and a notice to proceed issued by the Engineering Department before the start of construction.
2. An Addressing Plan shall be provided for the area of the property that will be used for the solar project. On the site plan please locate temporary and permanent BMPS.
3. Maine General Construction Permit
4. Updated detail on entrance pad to include 3' paved apron.
5. Interservice agreement with CMP.
6. Surety for Decommissioning (Bond) Co-naming with SOM/MaineDEP.
7. Updated electrical and building plans by a PE for electrical & building permits.
8. As-builts with shutting down procedures for public safety officer.
9. Certificate of Completion prior to energizing the site.
10. Customer Net Energy Billing Agreement (CNEBA)
11. Solar Decommissioning Permit by MaineDEP.

Suggested Motion: *I make a motion to approve the Solar Generating Systems/Site Plan/Special Exception pursuant to Article IV Division 2- Agriculture and Resource Protection District, Article XVIII-Solar Energy*

Generating Systems, and Article XVI Division 2 and 3- Site Plan Review and Special Exception of the Auburn Code of Ordinances to construct a 1.83 MW solar array and a DC-Coupled Battery Energy Storage System (BESS) consisting of one (1) 1, 020kW Samsung SDI Battery on approximately 121.57 acres on one parcel (PID 393-010) located at 224 East Waterman Road. Located in the Agriculture and Resource Protection Zoning District, with the following conditions:

- 1. All bonding and inspection fees shall be paid and a notice to proceed issued by the Engineering Department before the start of construction.*
- 2. An Addressing Plan shall be provided for the area of the property that will be used for the solar project.*
- 3. Maine General Construction Permit*
- 4. Updated detail on entrance pad to include 3' paved apron.*
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- 6. Surety for Decommissioning (Bond) Co-naming with SOM/MaineDEP .*
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- 8. As-builts with shutting down procedures for public safety officer.*
- 9. Certificate of Completion prior to energizing the site.*
- 10. Customer Net Energy Billing Agreement (CNEBA).*
- 11. Solar Decommissioning Permit by MaineDEP.*

Soil Map—Androscoggin and Sagadahoc Counties, Maine



Map Scale: 1:4,170 if printed on A portrait (8.5" x 11") sheet.

0 50 100 200 300 Meters

0 200 400 800 1200 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge ticks: UTM Zone 19N WGS84

--- Project Area

/// : Not Prime/State Prime