

TOWN OF RAYMOND MAINE

Minor Site Plan Application

Allen Solar

SUBMITTED BY:

Allen Solar Power, LLC
143 Highland Shores Road
Casco, Maine 04015

WITH ASSISTANCE BY:

Acheron Engineering, LLC
Engineering, & Environmental Consultants
www.AcheronEngineering.com
153 Main Street 113 Winter East
Newport, Maine 04953 Williamsburg, VA 21388
(207) 341-2590 (207) 341- 2590

SUBMITTAL DATE:

SEPTEMBER, 2023

Table of Contents

Letter to Code Enforcement Officer

Site Plan Review Application, Checklist & Abutters

Site Plan Review Criteria and Standards Statements

Performance Standards Statements

Exhibit A: Title, Right or Interest

Exhibit B: Site Location & Zoning Maps

Exhibit C: Protected Natural Resources Report

Exhibit D: FIRM Map

Exhibit E: Stormwater Management Plan

Exhibit F: Decommissioning Plan

Exhibit G: MHPC Request for Comments

Exhibit H: Solar Equipment Manufacturer Specifications

Design Plans and Boundary Survey Plan, Appended

Acheron Engineering, LLC

Engineering & Environmental & Consultants
www.AcheronEngineering.com

September 8, 2023

Alex Sirois, Code Enforcement Officer
Town of Raymond
401 Webbs Mills Road
Raymond, Maine 04071

RE: Allen Solar, LLC - Preliminary Minor Site Plan Review Application

Dear Alex,

On behalf of our client Allen Solar, LLC attached is a Preliminary Minor Site Plan Review application for a proposed 996 kWac ground mounted solar power generation facility.

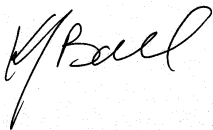
The proposed facility is located on Roosevelt Trail on a lot owned by Scott and Aimme Allen and is identified by the town as Map 4, Lot 68. Access to the project area will be through a lot owned by Scott Allen (Map 4, Lot 68A) and will utilize the existing Raymond Marine entrance to Roosevelt Trail.

The project lots are located within the Rural Residential District (RR) and portions are within the Shoreland Zone, Limited Residential/Recreation District (LRR1). As proposed, the additional or altered impervious area totals 17,817 square feet and will occupy approximately 6.8 acres of area.

As proposed the project will trigger the requirement for Maine Department of Environmental Protection (MDEP), approval per MDEP Stormwater Law and the Natural Resource Protection Act (NRPA). Additionally, the project will require approval from the U.S. Army Corps of Engineers (ACOE) in the form of Self Verification Notification (SVN) approval for filling a small 325 square foot wetland to support project access. Applications for State and Federal approval will be filed in conjunction with this application.

We look forward to presenting the project to the Planning Board and working with the Town staff. If you have any questions or concerns, please contact me.

Respectfully Submitted,
Acheron Engineering



Kirk Ball, PE 11681

Cc: David Fowler
Lucy Fowler

Town of Raymond Planning Board

Application for Subdivision and Site Review

rev 1-25-17

INSTRUCTIONS

Please read these instructions carefully. If you are uncertain about a requirement please contact the Town Planner through the Town Offices at 655- 4742 x 134. Failure to submit a complete application as indicated below will delay your application. Deadlines: Complete applications must be submitted by the deadline to be considered for the next meeting. If you are unsure of whether or not an item is required, request a waiver. Ideally you have met with staff and are informed regarding the applicability of items.

Application packets:

For projects requiring Planning Board Review - 15 copies all documents & copies of plans shall be submitted as: 8- Full sized, & 7 reduced plans to fit on 11"x17" plan sheets.

For projects requiring Staff Review -5 copies of all documents, and plan copies shall be all full sized.

Regardless of review authority all multiple sheet plan sets must be bound. Plan sets of less than 10 pages must be folded accordion style so that the title block is visible on the front of the plan. Plan sets of more than 10 pages may be submitted rolled. Application fees and escrow checks are part of a complete application.

Applicant: The applicant must have documentation with owner(s) signature if the owner does not sign the application.

Owner: If the owner is a non-person, documentation from the Secretary of the Association or Corporation must be submitted certifying that the person signing has authority to act for the entity.

Correspondence: Correspondence will be mailed to one person other than the applicant. Please indicate whether or not the Agent or the Owner will be notified. Condominium Development: All condominium development is subject to both subdivision and site review unless it is a single-family development.

Project Review: All projects are required to go to pre-app conference at the Board level. The applicant may opt for a staff review by the Plan Review Committee prior to submittal to the Board. This is highly encouraged for complex development proposals and for applicants that do not hire a professional consultant to represent them or are unfamiliar with the Planning Board regulations and approval process.

Other Approvals: A complete copy of any other agency application reviews or approvals must be noted at the time the application is submitted. Town approvals are not granted until all other required agency(s) associated with aspects of the project, but not limited to State, Federal, or other Authority is approved and copies delivered with the Final Plan submittal or application. The Planning Board may issue a condition of approval if it has written evidence that the outside agency has completed the review of an application for the project and is processing the project for approval.

Fees: Application fees are non-refundable except in cases where applications are withdrawn within two business days of the deadline. Escrow fees are utilized for plan review including Planner's time in reviewing submissions, drafting materials for the Planning Board, and attending meetings related to the application. Any remaining amount after the review of the plan will be returned to the party which submitted the escrow. If the property is transferred to another party it is important to address the escrow account to assure it is returned to the appropriate party.

Town of Raymond Planning Board Application for Subdivision and Site Review

rev 1-25-17

Office Use Only

Filing Fee\$ _____ Abutter notices \$ _____

Legal ad fee\$ _____ Fire Department\$ _____

Escrow \$ _____ Total fees \$ _____
Fees will be calculated after application is submitted prior to being scheduled for hearing.

Property Information

Map _____ Lot _____

Zoning District _____

Street Address: _____

Deed Reference

Book _____ Page _____

Parcel Size _____

Applicant Information

Name: _____

Telephone: _____

Address: _____

Fax: _____

email: _____

Note: Attach permission from owner if application not signed by owner.

Agent Information

_____ check here if correspondence should be directed to agent

Name: _____

Telephone: _____

Address: _____

Fax: _____

email: _____

Owner Information:

Name: _____

Telephone: _____

Address: _____

Fax: _____

email: _____

Proposed Development (check all that apply)

_____ Subdivision _____ Site Plan

_____ Pre-Application Conference

_____ Preliminary Plan Review

_____ Final Plan Review

_____ Other: _____

Project Type:

_____ Single Family Subdivision

_____ Multi-family Development

_____ Commercial

_____ Industrial

_____ Other: _____

Town of Raymond Planning Board Application for Subdivision and Site Review

rev 1-25-17

Proposed Development Name: Allen Solar

N/A Number of Lots

N/A Number of Units

0 Total Square Footage of Comm./Ind. Bldgs.

Proposed Road Name(s):

N/A - No roads are proposed to support the project.

Other Approvals Required:

Zoning Board of Appeals: Variance Special Exception
 ME Dept. of Environmental Protection

The undersigned, being the applicant, owner or legal representative of the property, hereby certifies that all information contained in this application is true and correct to the best of his/her knowledge and submits such information for review by the Town for conformance with all applicable regulations, ordinances, and codes of the town, state and federal government.

The undersigned, by their signature below authorizes any member of or authorized agent of the Town of Raymond or other review agency to enter the property for the purposes of review of this application.

Kirk Ball Son DAVID FOWLER

Print Name of Property Owner ~~Owner~~ Applicant

Ky Reel 9/12/2023
Signature of Property Owner ~~Owner~~ Applicant Date

Kirk Ball

Print Name of Owner's Agent

Ky Reel 9/11/2023
Signature of Owner's Agent Date

ALLEN SOLAR, LLC
143 Highland Shores Road
Casco, Maine 04015

September 5, 2023

RE: Agent Authorization for Application Submission(s)

To Whom it May Concern:

The undersigned, being a duly authorized Manager of Allen Solar, LLC (the “Company” or the “Applicant”), do hereby appoint and name Kirk Ball of Acheron Engineering Services to act as an Agent of the Company and to represent and bind the Company before the following agencies/authorities concerning the proposed solar development project located on Roosevelt Trail (Route 302) in the Town of Raymond, Maine (hereinafter, the “Allen Solar Project”);

1. Before all departments, agencies, and bureaus of the State of Maine, including without limitation, the Department of Environmental Protection for matters related to the application and approval of the Allen Solar Project;
2. Before the United State Army Corps of Engineers for matters related to the application and approval of the Allen Solar Project; and
3. Before all departments of the Town of Raymond, including without limitation, the Town of Raymond Planning Board for matters related to the application and approval of the Allen Solar Project.

Thank you.

Allen Solar, LLC

By: 

Name: David Fowler

Title: Manager



Town Of Raymond Maine
Submissions Checklist and Requirements for
Major, Minor and Staff Review Site

Applicant and Project Name:

Street Address of Proposed Project:

INTENT OF SUBMISSIONS CHECKLIST:

The purpose of this checklist is to provide applicants a reminder checklist of the common elements typically required by Land Use Ordinance, and to assist the Planning Staff or Planning Board. This does not replace the requirements and responsibilities of the applicant to follow the Land Use Ordinance. This is meant to be used as a tool and as guidance to help the applicant with preparing a complete document. Please note that the Planning Staff and/or Code Enforcement Officer may determine that any project may be elevated to Planning Board Review if determined there are items of the proposed project that promote substantial concerns, public opposition/concern, or could require a waiver of the Performance Standards.

Please check off appropriate box, fill in spaces provided, or attach separate documents to support the application requirements and checklist items. If the item is not applicable to the proposed project, please label N/A or leave the associated box or space blank. Thank you.

BASIC APPLICATION INFORMATION:

- Read, fill out required application form, and comply with all the submission requirements of the Site Plan Ordinance. See Raymond Land Use Ordinance, Article 10 – Site Plan Review, D. Submissions.
- Name, address, phone # for record owner **and** applicant.
- Names and addresses of all consultants working on the project
- Appropriate application fees and/or review escrow fees included
- Provide necessary copies of application documents and plans per the level of review authority:
- Planning Board Review – 15 copies of all documents & copies of plans shall be submitted as 8 full sized and 7 reduced plans to fit on 11” x 17” plan sheet**
- Staff Review – 5 copies of all documents and plan copies shall be all full sized**

Type of Proposed Land Use:

- a. Residential _____
- b. Commercial _____
- c. Industrial _____
- d. Recreational _____
- e. Other _____

Is the Project Site part of a Subdivision? Yes _____ No _____

If yes, what size or class of Subdivision? Major ___ Minor ___ Amended ___

If yes, Subdivision name and date of Raymond Planning Board approval _____

Registry Plan Book _____, Page _____, Date recorded _____

Site Plan Classification: Refer to Raymond Land Use Ordinance, Article 10 – Site Plan Review, B. Authority and classification of Site Plan

- N/A Staff Review**
 - New Building 500 SF to 2,400 SF
 - Any Exterior renovation that does not exceed 2,400 SF
 - Additional or altered impervious surface that does not exceed 10,000 SF
 - All Backlot and Backlot Driveways

- **Minor**
 - New Building that does not exceed 4,800 SF
 - Any Exterior renovation that does not exceed 4,800 SF
 - Additional or altered impervious surface that does not exceed 20,000 SF

- N/A ○ **Major**
 - New Building that exceeds 4,800 SF
 - Any Exterior renovation that exceeds 4,800 SF
 - Additional or altered impervious surface that exceeds 20,000 SF

N/A **Amended Plans:** Refer to Raymond Land Use Ordinance, Article 10, B.3 for descriptions

- De Minimus Revisions
- Staff Review Revisions
- Minor Site Plan Revisions
- Major Site Plan Amendments

Road Development: Refer to Raymond Street Ordinance for Design Standards

- Private
- Backlot Driveway
- Amended/Road Extension

Shoreland Zoning: Refer to Raymond Shoreland Zoning Provisions

The project falls within the Shoreland Zone ____ Yes ____ No

Please note that Raymond's Shoreland Zone setback is 600 feet from a great pond/lake exceeding State requirement. See the official Shoreland Zoning Map for official determination.

If yes, name of protected waterbody/resource and distance from resource edge

Conditional Rezoning: See Raymond Land Use Ordinance, Article 7 – Amendments, D. Conditional Rezoning

Has Conditional Rezoning been granted? ____ Yes ____ No

If yes, date of approval and recorded deed/document information

Site Plan Application: Refer to Raymond Land Use Ordinance, Article 10, Site Plan Review, D. Submissions

- Name of proposed Project _____
- Project Narrative – describe project location, existing conditions of the site and proposed improvements
 - Evidence of right, title or interest in the property (i.e., deed, purchase agreement)
- Proposed Use – Structure size, added net impervious area
- Land Setback Constraints – Zoning yard setbacks, ZBA approval if required
- Land Use Restrictions – Easements, Buffers, Deeded limitations
- Opportunities of Site – Open Space, Trails, Public Connectivity or Land Preservation
- Estimated Timetable of the Project – Permit approvals, Construction Phases and Project Completion

N/A

Identify the following requirements as part of the Final Plan: Refer to Raymond Land Use Ordinance, Article 9, Minimum Standards

- Survey Services required** – Boundary by licensed Maine Surveyor, topography (datum) information with 2-foot intervals; metes and bounds description; ROW delineation; benchmark elevation

N/A

- Parking Provisions** – Required parking to floor area use ratio, number of proposed, number required, number handicap accessibility spaces, space dimensions, entrance locations, loading docks, green space/islands. Refer to Raymond Land Use Ordinance, Article 9, Minimum Standards, C. Off-Street Parking, D. Off-Street Loading and Article 10, Site Plan Review, F. Performance Standards 1-15

N/A

- Traffic Study** – Trip generation; peak usage; driveway access/entrance permit; local intersection impacts

- N/A ○ **Utility Service** – Points of origination; location; above or underground install, Letter of capacity to serve
- N/A ○ **Building Design** – Proposed building footprint plan; side and front elevation views; locations of access
- **Site Lighting** – Cut-off light fixture detail; pole height; locations; photometrics/lighting intensity plan
- N/A ○ **Septic Design** – Daily flow; subsurface wastewater layout size, location, test pit logs, HHE-200
- N/A ○ **Solid Waste Removal** – Estimated solid waste generated by proposed use; removal process/hauler; dumpster location; recycling efforts; needs for special waste
- N/A ○ **Groundwater Protection** – Aquifer protection; well location; hazardous materials contain/storage; SSPP
- **Stormwater Management** – Refer to Article 10, Site Plan Review, D. Submission Requirements, 14 – watershed analysis; peak runoff calculations; pipe sizing; runoff quantity and quality
- **Stormwater Design Requirements** – Refer to Article 9, Minimum Standards, X. Stormwater Quality and Phosphorus Control – phosphorus export treatment calculations or Point System computations
- **Erosion and Sedimentation Control Design** - silt fencing locations; sediment barriers; slope protection geotextile fabric/stone sizing, channel protection
- **Landscaping** – Buffers, plantings, plant species size and locations
- N/A ○ **Soils Mapping** – medium/high intensity soils maps, test pit logs, geotechnical reports
- **Fire Prevention** – nearest hydrant identified, sprinkler/suppression requirements, fire lane/site access, Department review sign-off
- **Signs** – Proposed site signs, location, height, size, illumination, wayfinding signs, traffic controls
- N/A ○ **Design Guidelines for Commercial Zoned Properties** – Recommend to address the Raymond Design Guidelines. A separate document is available online or at the Town Office. Prepare a narrative addressing each component of design as outlined in the Guidelines
- N/A ○ **Waiver Requests** – Any waiver request must be submitted in writing with the application. ***Only the Planning Board can approve a waiver request.***

Other State/Federal Agency permits/review (if required)

Federal - Army Corp ____ Yes ____ No

Other - _____

State DEP – Site Location Application

Stormwater Management ____ Yes ____ No

Permit by Rule ____ Yes ____ No

NRPA Permit ____ Yes ____ No

Wetland Alteration ____ Yes ____ No

VRAP or ESA Approval ____ Yes ____ No

Other (specify) ____ Yes ____ No

N/A

State – MDOT Traffic Movement Permit-TMP ____ Yes ____ No

Entrance Permit ____ Yes ____ No

DHHS Wastewater design approval

Engineered system > 2000 gal/day ____ Yes ____ No

Road Development – Refer to Raymond Street Ordinance for Design Standards and refer to Article 10, Site Plan Review, T. Back Lots and Back Lot Driveways

Backlot Driveway ____ Yes ____ No

Private Road ____ Yes ____ No

Public Street ____ Yes ____ No

Proposed Access originates from (name of road/street/lane/way)

Proposed road/backlot driveway name to be confirmed by E-911

Proposed length (LF) _____

Proposed travel width _____

Total impervious area of travel surface (SF) _____

Proposed # of lots/units accessing proposed road/backlot driveway _____

- Road Terminus selected
 - Hammerhead Turnaround _____ Yes _____ No
 - Cul-de-Sac/terminus circle _____ Yes _____ No
 - Loop _____ Yes _____ No
- Draft deed of new access/private road or backlot driveway
- Current Road Frontage
 - Original Lot _____ SF Proposed Lot(s) _____ SF
- Closest driveway to proposed access/road/backlot driveway (provide map with distance)
- Proposed Private Road ownership
 - One Owner _____ Yes _____ No
 - Shared Ownership _____ Yes _____ No
 - Homeowner Association _____ Yes _____ No
 - Other (describe) _____
- Waterbody/Wetland Impacts (on-site flagging/mapping, type of resource, crossing/filling location and estimated fill volume (CY), minimization and avoidance)
- Engineering/Professional Design required (culvert sizing, stormwater calculations, phosphorus export, treatment computations, erosion and sedimentation control plan)
- Survey Services required (boundary, topography information with 2-foot contour intervals, metes and bounds description, ROW monumentation)

Road Plan Requirements

- Road cross section of materials (surface and base materials and depths)
- Plan and profile view of proposed road/access (stationing, vertical curve/slope data)
- Proposed drainage measures
- Erosion control measures locations
- Tree clearing limits
- Road curve data (Pt & Pc stationing, radius, length)
- Proposed utility locations (catch basins, storm drains, water, electrical, gas, cable, etc.)
- Zoning Space and Bulk requirements

- Stormwater phosphorus export treatment calculations or Point System computations
- Is the proposed property and access or private road/backlot driveway part of a previously approved plan? ____ Yes ____ No
If yes, indicate:
Project name _____
Date approved _____
Recorded Deed information (date, book & page) _____

Shoreland Zoning (SZ) - Refer to Raymond Shoreland Zoning provisions

- Proposed Use(s) _____
- Type of Shoreland Zone** LRR1 ____ LRR2 ____ SP ____ RP ____
- Existing Lot Size _____ SF/AC Percent of Lot in SZ ____
- Existing Impervious Area on Lot ____ SF
 - Percent of impervious area on existing lot ____
- Proposed Impervious Area on Lot ____ SF
 - Percent of impervious area on existing lot ____
- Closest horizontal distance of structure development and soil disturbance to waterbody or protected resource _____ LF
- Mapping of Floodplains – include FEMA or FIRM maps, indicate 100-year flood elevation
- Label Proposed Structure Footprint size (SF) and height (LF)
- Is tree clearing within 100 feet of waterbody or resource required?
____ Yes ____ No
- Acquisition of State Department sign offs
 - Protected/Endangered species ____ Yes ____ No
 - Historical ____ Yes ____ No
 - Essential Habitats ____ Yes ____ No
 - Aquatic Wildlife ____ Yes ____ No
 - Wading Birds ____ Yes ____ No
 - Other (specify) _____

Final Site Plan Necessities

- N/A Provide a signature and date block on the final plan for Planning Board or Planning Authority Signatures

- All Planning Board waivers shall be noted on the Final Plan prior to signing of the approval
- All conditions of approval shall be noted on the Final Plan prior to the signing by the Planning Board or Planning Authority
- Development requiring Subdivision review or Road Development Plans, shall provide a recording block and be recorded in the Cumberland County Registry of Deeds within 60 days of the Planning Board signing the approved plan
- The applicant is requested to provide a final pdf electronic version of the Final Plans upon approval
- All Planning Board of Staff approvals are accompanied by a formal Finding of Fact document or letter
- All application fees, escrows or applicable performance bonds or estimated inspection fee escrow accounts are to be reviewed and approved by the Town and PAID IN FULL. The applicant cannot commence construction until such fees are paid in full
- For diligent processing of Final Site Plans the applicant should reply in writing to the Criteria and Site Plan Standards that the Planning Board shall consider for determining approval for Site Plan Review. That criteria is located in Article 10, Site Plan Review, E. Criteria and Standards, a-k
- For diligent processing of Final Shoreland Zoning Applications, the applicant should reply in writing to the required findings that the project meets the criteria as located in the Shoreland Zoning Provisions, Section 16, D. Procedure for Administering Permits, 1-9

NOTE: FEES WILL BE CALCULATED AFTER RECEIPT OF APPLICATION AND PRIOR TO BEING PLACED FOR HEARING.

**ABUTTERS LIST
RAYMOND, MAINE**

Hilltop Land, LLC
PO Box 625
Raymond, ME 04071
Maplot 004069000000

Ryan Young
Breanna Young
PO Box 153
Raymond, ME 04071
Maplot 004071000000

Harold Blaney
Wendy Blaney
10 Pulpit Rock Road
Raymond, ME 04071
Maplot 076002000000

William Nehez, Jr.
Megan Juhase Nehez
16 Pulpit Rock Road
Raymond, ME 04071
Maplot 076003000000

Gilbert Richard
Geraldine Richard
5 Baldwin Terrace
Groveland, MA 01834
Maplot 076004000000

Elizabeth Somers
28 Pulpit Rock Road
Raymond, ME 04071
Maplot 076005000000

David Hall
32 Pulpit Rock Road
Raymond, ME 04071
Maplot 004075000000

Robert Wallace
Lauren Wallace
36 Pulpit Rock Road
Raymond, ME 04071
Maplot 004076000000

Jennifer Danzig
Steven Danzig
38 Pulpit Rock Road
Raymond, ME 04071
Maplot 004077000000

Patrick Young
Catherine Young
33 Twin Pines Road
Raymond, ME 04071
Maplot 004066000000
Maplot 004067000000

Richard Cabana
Deborah Cabana
18 Twin Pines Road
Raymond, ME 04071
Maplot 004055A00000

Benjamin James Dufour
Jessica Michelle Dufour
1569 Roosevelt Trail
Raymond, ME 04071
Maplot 004068C00000

Raymond Marine and Recreation, LLC
1551 Roosevelt Trail
Raymond, ME 04071
Maplot 004068B00000

Sabre Corp
PO Box 134
So. Casco, ME 04077
Maplot 004020000000

Town of Raymond, § 300-10.5, Site Plan Review, Criteria and Standards:

- A. **Preservation of landscape:** The project has been designed to minimize the amount of tree removal, soil removal and maintaining existing vegetation. The design includes the requirement to maintain 75% canopy cover within the critical terrestrial habitat of the significant vernal pools identified; clearing within the LLRI shoreland zone will be limited to 25% of the area within the shoreland zone and grading has been limited to construction of the access drive and minor grading within the array field to accommodate installation of the solar equipment. The site does not include a ridge or ridges that are elevated above the surrounding area.
- B. **Relation of proposed buildings to the environment:** There are no buildings proposed to support the project. The project has been designed with adequate buffers so that the solar array will have little to no visual impact. Existing stormwater drainage courses will match existing.
- C. **Vehicular access:** The project will utilize the existing entrance to Roosevelt Trail for the access driveway and access will be gated to prevent public access. It is anticipated that after construction, operations and maintenance personnel will visit the site once per month on average.
- D. **Parking and circulation:** Access will be private and will be limited to operations and maintenance only. Parking can be accommodated by using the access road, the hammerhead turnaround and/or the solar field.
- E. **Surface water drainage:** The attached stormwater management plan includes stormwater BMPs so that the peak runoff post construction is equal to or less than the current peak runoff for the 2yr, 10yr, and 25yr storms. It also includes BMP to treat stormwater in accordance with Maine DEP chapter 500 General Standards.
- F. **Utilities:** Water supply, wastewater disposal or telephone utilities are not required for the project. Power generation lines will be installed below grade adjacent to the access drive until the point of interconnect along Roosevelt Trail.
- G. **Special Features:** The array has been designed to meet all setbacks and includes a wooded buffer that surrounds the project.
- H. **Exterior Lighting:** A single full cutoff light is proposed at the equipment pad and will be wired with a motion detecting switch.
- I. **Emergency vehicle access:** Design for access to the project is based on the Raymond backlot driveway standard and NFPA 1141, Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas.
- J. **Landscaping:** Existing wooded buffers will be maintained so that the visual encroachment of neighboring uses is minimized.

Town of Raymond, § 300-10.6, Performance Standards:

- A. **Parking area design standards:** Not applicable, a parking area is not required for the operation and maintenance of the project.
- B. **Entrance location and design:** The project will utilize the existing entrance to Roosevelt Trail.
- C. **Road Standards:** Design for access to the project is based on the Raymond backlot driveway standard and NFPA 1141, Standard for Fire Protection Infrastructure for Land Development in Wildland, Rural, and Suburban Areas.
- D. **Lighting:** A single full cutoff light is proposed at the equipment pad. The light will be mounted at ten feet above grade and will be wired with a motion detecting switch. See exhibit X for specifications.
- E. **Buffers:** Buffering will be accomplished by maintaining existing features, such as topography and forested areas.
- F. **Site Conditions:** The applicant agrees to construct the project in accordance with the site conditions standards as written. In addition, the design plans include additional specific housekeeping requirements during construction.
- G. **Environmental considerations:** The design plans and erosion, sedimentation control plan (ESCP) includes direction for the contractor, inspection requirements, spill prevention, groundwater protection, authorized non-stormwater discharges, and unauthorized stormwater discharges.
- H. Not applicable firefighting water supply or hydrants are not required.

Town of Raymond, § 300-9.27, Solar energy systems (SES):

- A. **Submission requirements:** All submission requirements can be found in the application Exhibits or the appended design plans.
- B. **Required notification:** Based on discussion with Town staff, a public or private aircraft launch location is not within two miles of the project. All abutters will be notified by Town staff.
- C. **Dimensional standards:** As designed all solar equipment will maintain a setback of 30 feet from all parcel boundaries.
- D. **Other Standards:** Design plans require that a licensed electrician connect the SES to the grid. All on-site electrical wires are specified to be below grade.
- E. **Decommissioning and abandonment:** Exhibit F includes a Solar Decommissioning Plan that has been developed in accordance with the Maine Solar Decommissioning Law. Maine law requires developers of solar power projects that occupy 3 or more acres to have an approved decommissioning plan by the MDEP and accompanying financial

assurance sufficient to cover the cost of decommissioning as outlined in the plan. It is requested that the Planning Board review for compliance with § 300-9.27.G(4)(c).

Exhibit A
Title, Right or Interest



MAINE

Department of the Secretary of State
Bureau of Corporations, Elections and Commissions

Corporate Name Search

Information Summary

[Subscriber activity report](#)

This record contains information from the CEC database and is accurate as of: Mon Aug 28 2023 08:39:36. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
ALLEN SOLAR, LLC	20219308DC	LIMITED LIABILITY COMPANY (DOMESTIC)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
04/15/2021	N/A	MAINE

Other Names (A=Assumed ; F=Former)

NONE

Clerk/Registered Agent

LUCY FOWLER
143 HIGHLAND SHORES ROAD
CASCO, ME 04015

[New Search](#)

Click on a link to obtain additional information.

List of Filings

[View list of filings](#)

Obtain additional information:

Certificate of Existence ([more info](#))

[Short Form without amendments \(\\$30.00\)](#) [Long Form with amendments \(\\$30.00\)](#)

You will need Adobe Acrobat version 3.0 or higher in order to view PDF files.
If you encounter problems, visit the [troubleshooting page](#).

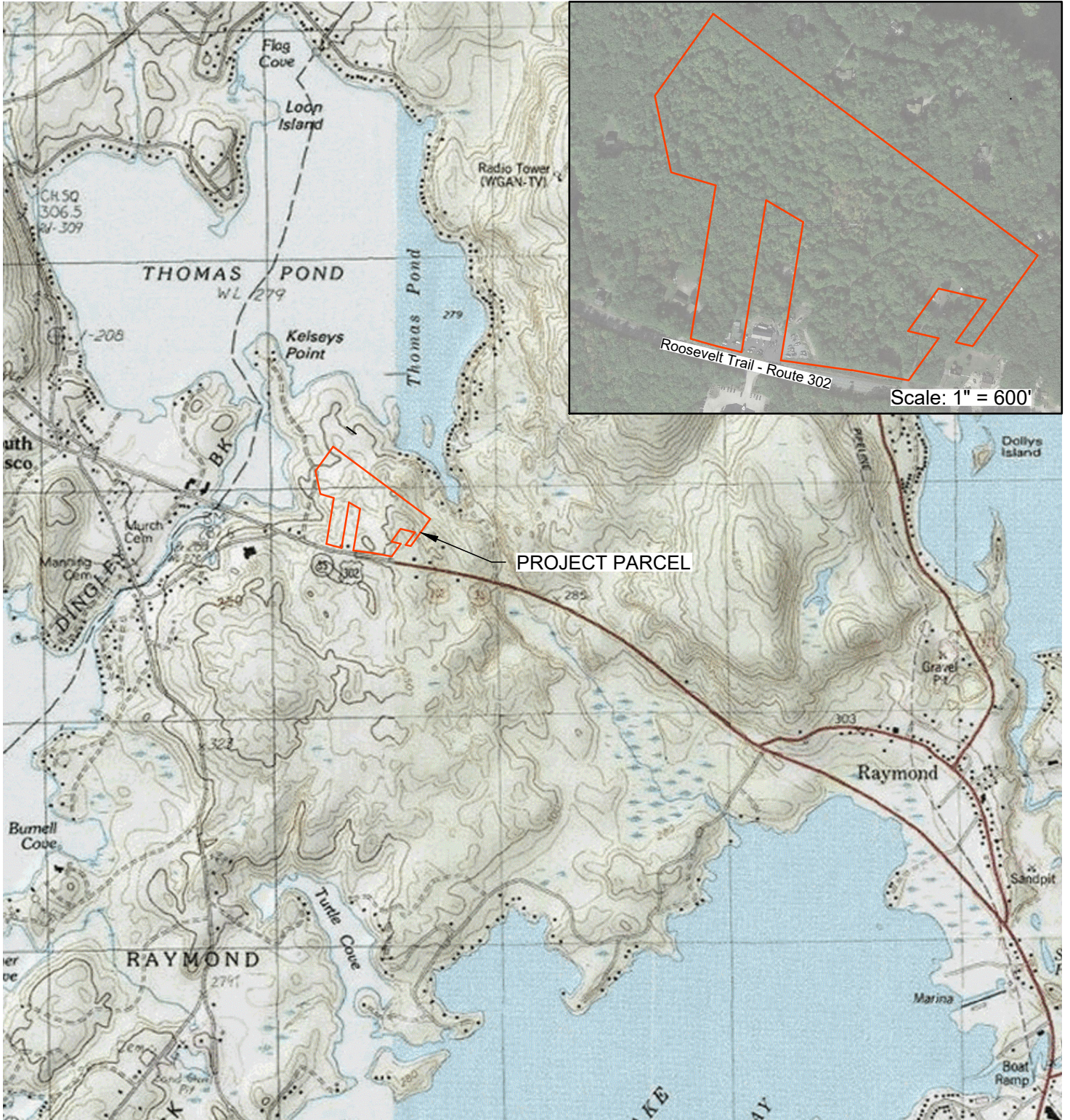


If you encounter technical difficulties while using these services, please contact the [Webmaster](#). If you are unable to find the information you need through the resources provided on this web site, please contact the Division of Corporations, UCC & Commissions Reporting and Information

Section at 207-624-7752 or [e-mail](#).

© Department of the Secretary of State

Exhibit B
Site Location & Zoning Maps



Do Not Use for Construction
For Regulatory Review Only

Site Location Map	
Mainely Solar, LLC. 143 Highland Shores Road Casco, Maine	
Job No.: MS001	Scale: As Noted
Date: 8/24/2023	Sheet: 1

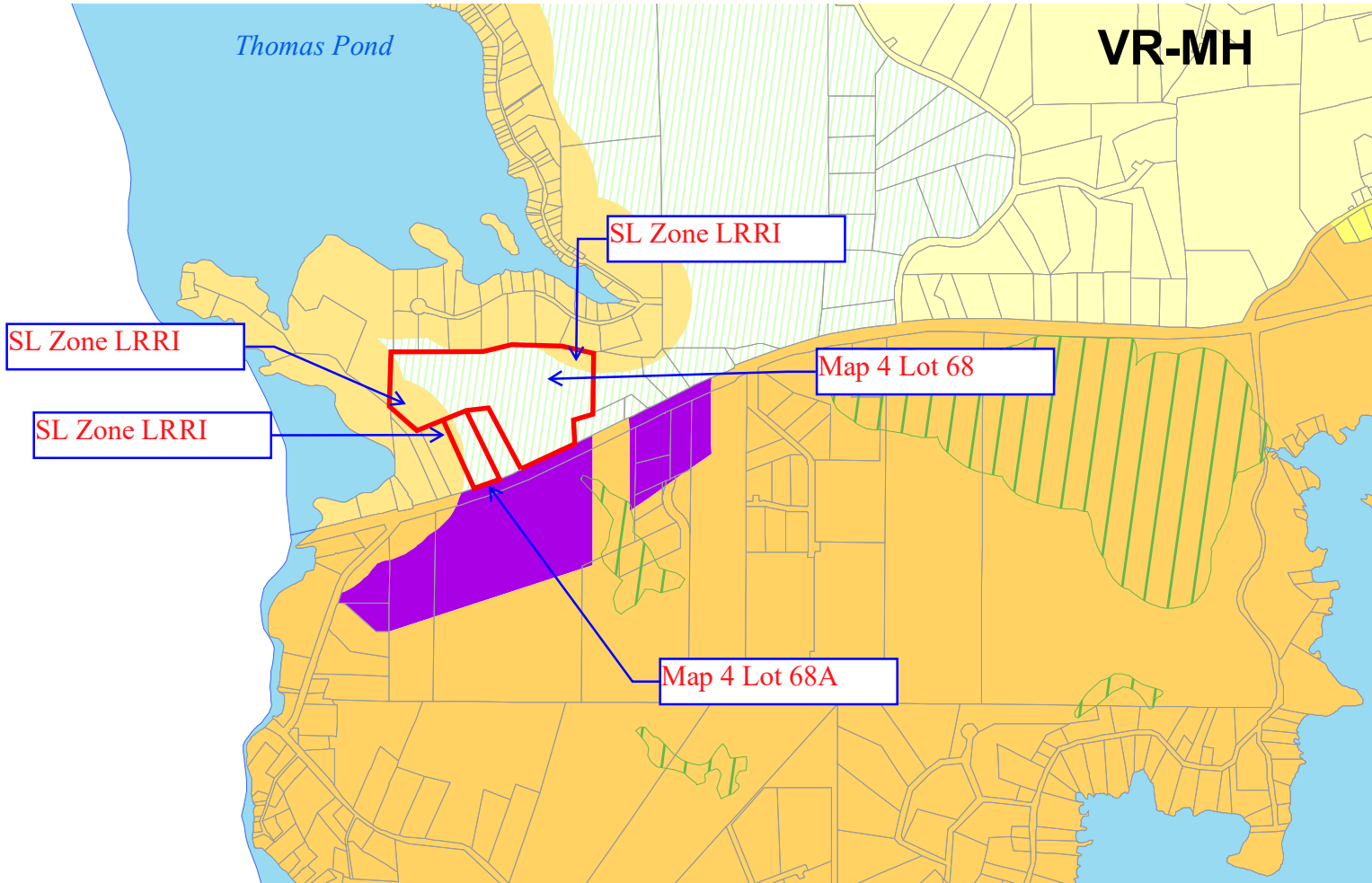


Exhibit C
Protected Natural Resources Report



WATERSHED RESOURCE CONSULTANTS, LLC
NATURAL RESOURCE AND SOIL SCIENCE CONSULTING

Protected Natural Resources Report

Proposed Allen Solar Project

Roosevelt Trail

Raymond, Maine

August 31, 2023



Prepared For:

Mainly Solar, LLC
143 Highland Shore Road
Casco, ME 04015

Prepared By:

Watershed Resource Consultants, LLC
1366 State Highway 102, #6
Bar Harbor, ME 04609

WRC #22207

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 METHODOLOGY..... 1

2.1 Resource Identification and Delineation 1

2.2 Resource Location 2

3.0 PROTECTED NATURAL RESOURCES ASSESSMENT 2

3.1 Site Overview 2

3.2 Topography and Soils 2

3.3 Wetlands..... 2

3.4 Streams..... 3

3.5 Vernal Pools..... 3

3.6 Resource Agency Mapped Resources..... 3

3.7 Classification..... 4

4.0 GENERAL PERMITTING INFORMATION 5

5.0 SUMMARY AND RECOMMENDATIONS 5

6.0 CLOSING..... 7

Appendix A Limitations

Appendix B Site Location Map/Protected Natural Resource Plan

Appendix C Natural Resource Summary Tables

Appendix D Color Photographs of Wetlands and Streams

Appendix E Resource Agency Responses and Published Mapping

Appendix F Maine State Vernal Pool Assessment Forms and Photographs



1.0 INTRODUCTION

This Report presents the findings of protected natural resource services conducted by Watershed Resource Consultants, LLC¹ (WRC) in support of a proposed commercial solar development within an approximately 30-acre property on Roosevelt Trail (Route 302) in Raymond, Maine (i.e., the “site”). The purpose of the services was to identify and delineate Maine Department of Environmental Protection (MDEP) and U.S. Army Corps of Engineers (Corps) defined Protected Natural Resources on the site.

2.0 METHODOLOGY

2.1 Resource Identification and Delineation: WRC conducted Protected Natural Resources identification and delineation within the site as outlined in the Scope of Work provided by Mainely Solar Energy. Field work for the assessment was conducted in April and May of 2022 and April, May, June, and July of 2023.

Protected Natural Resources were identified as defined by the Maine Department of Environmental Protection² (MDEP) and U.S. Army Corps of Engineers³ (Corps). Wetland delineation was conducted using the 1987 Corps Wetland Delineation Manual⁴ and Northeast Regional Supplement⁵. Stream identification was conducted using the MDEP Natural Resources Protection Act Statute and the Corps General Permit. Vernal pool identification was conducted using MDEP Chapter 335⁶, the 2014 Maine Association of Wetlands Scientists (MAWS) Vernal Pool Survey Protocol, and the Corps General Permit.

Wetland boundaries were flagged with pink flagging, stream centerlines/banks were flagged with blue flagging, and vernal pools were flagged with green flagging. Flagging was numbered according to the Resource ID.

Wetland and waterbody resources were characterized using the Cowardin Classification system⁷.

¹ Watershed Resource Consultants, LLC (WRC) is the result of a consolidation of the natural resource service areas of Burman Land & Tree, LLC (Aleita Burman) and Atlantic Resource Co, LLC (Roger St.Amand). The official start of business date for WRC was April 17, 2022. The fieldwork and some of the reporting work for these services was conducted by Burman Land & Tree, LLC or Atlantic Resource Co, LLC prior to April 17, 2022. Reference to WRC in this report includes information gathered prior to April 17, 2022 by Burman Land & Tree, LLC or Atlantic Resource Co, LLC.

² State of Maine, Department of Environmental Protection, Natural Resources Protection Act Statute, 38 M.R.S.A. §480-A to 480-HH, DEPLW284-W2010, Revised August 12, 2011.

³ United States Department of the Army, General Permit, State of Maine, Effective: October 14, 2020 to October 14, 2025.

⁴ Environmental Laboratory. 1987. “Corps of Engineers Wetland Delineation Manual”, Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, Miss.

⁵ U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

⁶ State of Maine, Department of Environmental Protection, Chapter 335 Significant Wildlife Habitat, amended January 7, 2014.

⁷ Cowardin, et al. 1979. United States, Fish and Wildlife Service, “Classification of Wetlands and Deepwater Habitats of the United States”. Biological services program; FWS/OBS-79/31) FWS/OBS-79/31. QH76.U54a 79/31 [QH104] 574.5'0973s [574.5'2632] 79-607795



2.2 Resource Location: Resource boundaries were located with a sub-meter GPS and the GPS data, a survey plan by Plisga & Day Land Surveyors, and publicly available information (MeGIS) was used to make the Protected Natural Resources Plan attached in Appendix B.

3.0 PROTECTED NATURAL RESOURCES ASSESSMENT

3.1 Site Overview: The approximately 30-acre property (Tax Map 4, Lots 68 and 68A) is located on Roosevelt Trail in Raymond, Maine. The property is mostly wooded with a network of logging trails. The site was selectively harvested in the winter or spring of 2023.

3.2 Topography and Soils: The property is located on rolling topography dominated by glacial till sediments (NRCS mapping), which generally slopes to the north towards Thomas Pond. Site slopes are generally 0-20%, with locally steeper areas.

The property extends from approximately 290 feet above sea level on the western side to approximately 470 feet above sea level on the eastern side, with gently to steeply sloping terrain. The western side of the property is predominantly a steep linear slope, while the eastern side is characterized by gently rolling hills with locally steeper terrain.

The USDA NRCS Soil Survey for Cumberland County maps Hermon soil series within the site. Hermon are deep, somewhat excessively drained glacial till sediments.

3.3 Wetlands: Twelve wetlands were identified within the site. Of the wetlands identified, forested and scrub-shrub wetlands dominated by deciduous tree and shrub vegetation in organic soils were the most common. A summary table of the wetlands is attached in Appendix C. A typical forested wetland and typical scrub-shrub wetland are described below.

Wetland JL6 was a seasonally-saturated forested wetland with deciduous and evergreen tree and shrub species. Wetland JL6 is classified under the Cowardin Classification System as palustrine forested wetland with broad-leaved deciduous tree and shrub species (PFO1). Wetland hydrology indicators included High Water Table (A2), Saturation (A3), Water-Stained Leaves (B9), and Geomorphic Position (D2). Dominant hydrophytic vegetation included red maple (*Acer rubrum*), yellow birch (*Betula alleghaniensis*), highbush blueberry (*Vaccinium corymbosum*), winterberry (*Ilex verticillata*), mountain holly (*Ilex mucronata*), cinnamon fern (*Osmundastrum cinnamomea*), and sensitive fern (*Onoclea sensibilis*). Hydric soil indicators observed included Histosol (A1).

Wetland JL4 was a seasonally-flooded scrub-shrub wetland with deciduous shrub species. Wetland JL4 is classified under the Cowardin Classification System as palustrine scrub-shrub wetland with broad-leaved deciduous shrub species (PSS1). Wetland hydrology indicators included Surface Water (A1), High Water Table (A2), Saturation (A3), and Drainage Patterns (B10). Dominant hydrophytic vegetation included red maple, yellow birch, winterberry, maleberry (*Lyonia ligustrina*), highbush blueberry, and dwarf raspberry (*Rubus pubescens*). Hydric soil indicators observed included Histosol (A1).



3.4 Streams: No streams were identified on the site.

3.5 Vernal Pools: Three significant vernal pools (SVPs) and six non-significant vernal pools (NSVPs) were identified on the site. SVPs JL2, JL5, and JL7 meet MDEP criteria to be classified as Significant Vernal Pools. NSVPs JL1, JL3, JL4, JL8, JL9, and JL10 do not meet the MDEP criteria to be classified as Significant Vernal Pools. All of the vernal pools are likely jurisdictional to the Corps as vernal pools. A Corps permit would be required for direct alterations to these vernal pools. Maine State Vernal Pool Assessment Forms and photographs of the pools are included in Appendix F.

3.6 Resource Agency Mapped Resources: Watershed Resource Consultants, LLC (WRC) contacted and/or accessed the databases of natural resource agencies to identify if there are Threatened, Endangered, Significant or Essential species and/or habitats mapped on the site. Agencies contacted included the U.S. Fish and Wildlife Service (US FWS), Maine Department of Inland Fisheries and Wildlife (IF&W), and Maine Natural Areas Program (MNAP). Copies of response letters/database search are included in Appendix E.

According to the IF&W response letter and map, dated November 16, 2021, IF&W maps the site as within the habitat range of three species of bats that are protected under the Maine Endangered Species Act, and within the habitat range of five species of bats that are listed as species of Special Concern in Maine. According to the letter *“While a comprehensive statewide inventory for bats has not been completed, based on historical evidence it is likely that several of these species occur within the project area during the fall/spring migration, the summer breeding season, and/or for overwintering.”* The letter recommends contacting US FWS for further guidance and requests that *“all areas of talus and rocky features of approximately 1,000 square feet or greater in size be documented.”* The letter also states that *“If these features are not present in the project area, our Agency does not anticipate significant impacts to any of the bat species as a result of this project based on currently best available science.”*

IF&W recommends that vernal pools be documented, and documentation sent to IF&W for review. Vernal pools were documented in the spring of 2022 and MSVPA Forms are included in Appendix F.

IF&W also recommends *“maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands.”* IF&W recommends that stream crossings be designed for full fish passage and any in-stream work be conducted between July 15 and October 1. In the response letter, IF&W makes recommendations for stream crossing design.

Finally, to enhance the use of the project area by smaller animals, and in consideration of the need for site safety and security, IF&W recommends the use of wildlife-permeable fencing. Options for wildlife-permeable fencing includes the use of larger mesh fencing, similar to typical highway right-of-way fencing, with large (12-in. x 12-in.) holes along the bottom of the fence, spaced evenly along the entire perimeter of the fence line every 20-25 feet. Alternatively, the fence can be installed so that there is at least 12 inches of clearance along the entire perimeter bottom.



22207
August 31, 2023

The MNAP response letter dated August 17, 2023 states that *“According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area.”* The MNAP database is not a site-specific field survey.

The US FWS database, accessed on August 1, 2023, indicates that two federally listed species should be considered as part of an effect analysis for the project: the Threatened northern long-eared bat and the Threatened small whorled pogonia. The database also lists the monarch butterfly as a Candidate Species. If the project will require a federal permit or will use federal funding, the federal action agency will determine if there are concerns regarding the project affecting this mapped habitat. Generally, bats are a concern if the site is near a known hibernacula or brooding tree, or if trees will be cut between about April 1 to October 31. Generally, small whorled pogonia is an issue if suitable second or third generation stands of hardwood with open understories will be disturbed. Generally, monarch butterflies are a concern if there is milkweed (obligate host plant) growing on a site. The US FWS database result, attached in Appendix D, is valid for 90 days. WRC can provide an updated USFWS database result upon request.

WRC also reviewed available published mapping for the site including USGS topographic mapping, U.S. Fish and Wildlife National Wetland Inventory (NWI), U.S. Natural Resources Conservation Service (NRCS) soil mapping, and FEMA flood maps, as available, to provide an indication of potential areas of protected natural resources on the property and for wetland classification purposes. Copies of these maps are included in Appendix E.

3.7 Classification: WRC classified wetlands based on the Cowardin Classification System, the wetlands based on MDEP rules which define “Wetlands of Special Significance” (WOSS) and “Wetlands Not of Special Significance” (WNSS), and vernal pools based on MDEP rules which define “Significant Vernal Pools” (SVP’s). Wetland, stream, and vernal pool classifications are included in the Tables attached in Appendix C.

Based on MDEP Natural Resources Protection Act definitions, the wetlands and Significant Vernal Pool are Protected Natural Resources. Wetlands that contain an SVP or intersect the 250 foot Critical Terrestrial Habitat of an SVP MDEP criteria to be classified as “Wetlands of Special Significance” (WOSS). The remainder of wetlands on the site meet MDEP classification as “Wetlands Not of Special Significance”.

Significant vernal pools SVP-JL2, SVP-JL5, and SVP-JL7 meet the MDEP criteria to be classified as a Significant Vernal Pool. A Significant Vernal Pool (SVP) and the area within a 250-foot radius of the SVP, called a “Critical Terrestrial Habitat”, is regulated by MDEP as a Significant Wildlife Habitat. Vernal pools NSVP-JL1, NSVP-JL3, NSVP-JL4, NSVP-JL8, NSVP-JL9, and NSVP-JL9 do not meet the MDEP criteria for Significant Vernal Pools and are therefore not jurisdictional to the MDEP. All of the pools are jurisdictional to the Corps as vernal pools. Please note that when MSVPA Forms (Appendix F) are sent in to IF&W for review, classifications may be revised.



4.0 GENERAL PERMITTING INFORMATION

Alterations to jurisdictional wetlands, streams and/or vernal pools require a permit from the MDEP and the Corps, the type of permit dependent on the amount and type of alteration. General permitting information included pertains to resources observed on the site.

In general, wetland alterations of between 1 and 4,300 square feet of “Wetlands Not of Special Significance” require filing of a Corps Self-Verification Form to the Corps. Wetland alterations of between 4,300 and 15,000 square feet of “Wetlands Not of Special Significance” require filing of a MDEP Natural Resources Protection Act (NRPA) Tier 1 Permit Application to the MDEP and the Corps. Wetland alterations of greater than 15,000 square feet of “Wetlands Not of Special Significance”, or of any alteration of “Wetlands of Special Significance” require filing of a MDEP NRPA Tier 2, Tier 3, or Individual Permit Application to the Corps and MDEP, depending on the amount and type of alteration. These higher threshold permits generally require further submissions such as wetland data forms and a functional assessment and generally include a wetland compensation component.

A MDEP NRPA Permit-By-Rule Notification is required for alterations of less than 25% of the forested habitat within 250-feet of a Significant Vernal Pool (not inclusive). A MDEP NRPA Individual Permit is required for direct Significant Vernal Pool alterations or alterations that do not meet Permit-By-Rule standards. The Individual permit application generally requires further submissions such as a functional assessment and a wetland compensation plan. A Corps permit is generally required for alterations to vernal pools if Corps jurisdiction is triggered by wetland alteration.

A MDEP NRPA Permit-By-Rule (PBR) Notification is required for soil/vegetation disturbance at between 25 feet and 75 feet of a Significant Wildlife Habitat (SVP on this site) where it is within a wetland. A MDEP NRPA Individual Permit is required for soil/vegetation disturbance within 25 feet of a Significant Wildlife Habitat where it is within a wetland. The Individual permit application generally requires further submissions such as a functional assessment and a wetland compensation plan.

If wetland alteration occurs for the project, the Corps licensing process includes review for impacts to wetlands, streams, vernal pools, northern long-eared bat habitat and small whorled pogonia habitat.

If the project will trigger MDEP Site Location of Development Act (SLODA) permitting, other setbacks may apply to wetlands, streams, and/or vernal pools; and further botanical and/or wildlife studies may be required. In general, IF&W requests a 100-foot buffer be maintained from streams for SLODA permitting.

5.0 SUMMARY AND RECOMMENDATIONS

Watershed Resource Consultants, LLC (WRC) conducted Protected Natural Resources identification and delineation services for a proposed solar development within an approximately 30-acre property on Roosevelt Trail in Raymond, Maine.



22207
August 31, 2023

Twelve freshwater wetland areas, three significant vernal pools, and six non-significant vernal pools were delineated on the site. The wetlands were forested and scrub-shrub and the vernal pools were natural. Wetlands that contain a Significant Wildlife Habitat (the SVPs and their 250-foot Critical Terrestrial Habitat) meet MDEP criteria to be classified as “Wetlands of Special Significance” (WOSS). The remainder of wetlands on the site meet MDEP classification as “Wetlands Not of Special Significance”.

IF&W maps the site as within the habitat range of three species of bats that are protected under the Maine Endangered Species Act, and within the habitat range of five species of bats that are listed as species of Special Concern in Maine. IF&W recommends contacting US FWS for further guidance on bats and requests that *“all areas of talus and rocky features of approximately 1,000 square feet or greater in size be documented.”* IF&W states that *“If these features are not present in the project area, our Agency does not anticipate significant impacts to any of the bat species as a result of this project based on currently best available science.”*

IF&W recommends that vernal pools be documented, and documentation sent to IF&W for review. Vernal pools were documented in the spring of 2022 and 2023.

IF&W also recommends *“maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands.”* IF&W recommends that stream crossings be designed for full fish passage and any in-stream work be conducted between July 15 and October 1. In the response letter, IF&W makes recommendations for stream crossing design.

IF&W recommends the use of wildlife-permeable fencing and gives details in the response letter.

The US FWS database indicates that two federally listed species should be considered as part of an effect analysis for the project: the Threatened northern long-eared bat (now Endangered) and the Threatened small whorled pogonia. The database also lists the monarch butterfly as a Candidate Species. If the project requires a federal permit or will use federal funding, the federal action agency will determine if there are concerns regarding the project affecting this mapped habitat.

WRC recommends that the MSVPA Forms attached in Appendix F be sent to IF&W for review and inclusion on state maps. WRC also recommends that alterations to Protected Natural Resources be avoided and minimized to the greatest extent practicable. If alterations to Protected Natural Resources are proposed, we recommend a pre-application meeting with the MDEP and Corps to discuss permitting requirements.

WRC did not review Town of Raymond ordinances regarding alterations to natural resources. WRC recommends that the Town of Raymond be contacted during the planning process for the project if natural resources are proposed to be altered.



22207
August 31, 2023

6.0 CLOSING

We appreciate the opportunity to assist you during this phase of the project. If you have any questions, please contact us.

Sincerely,

Jeanna Leclerc
Project Scientist | Watershed Resource Consultants, LLC
jleclerc@wrcmaine.com

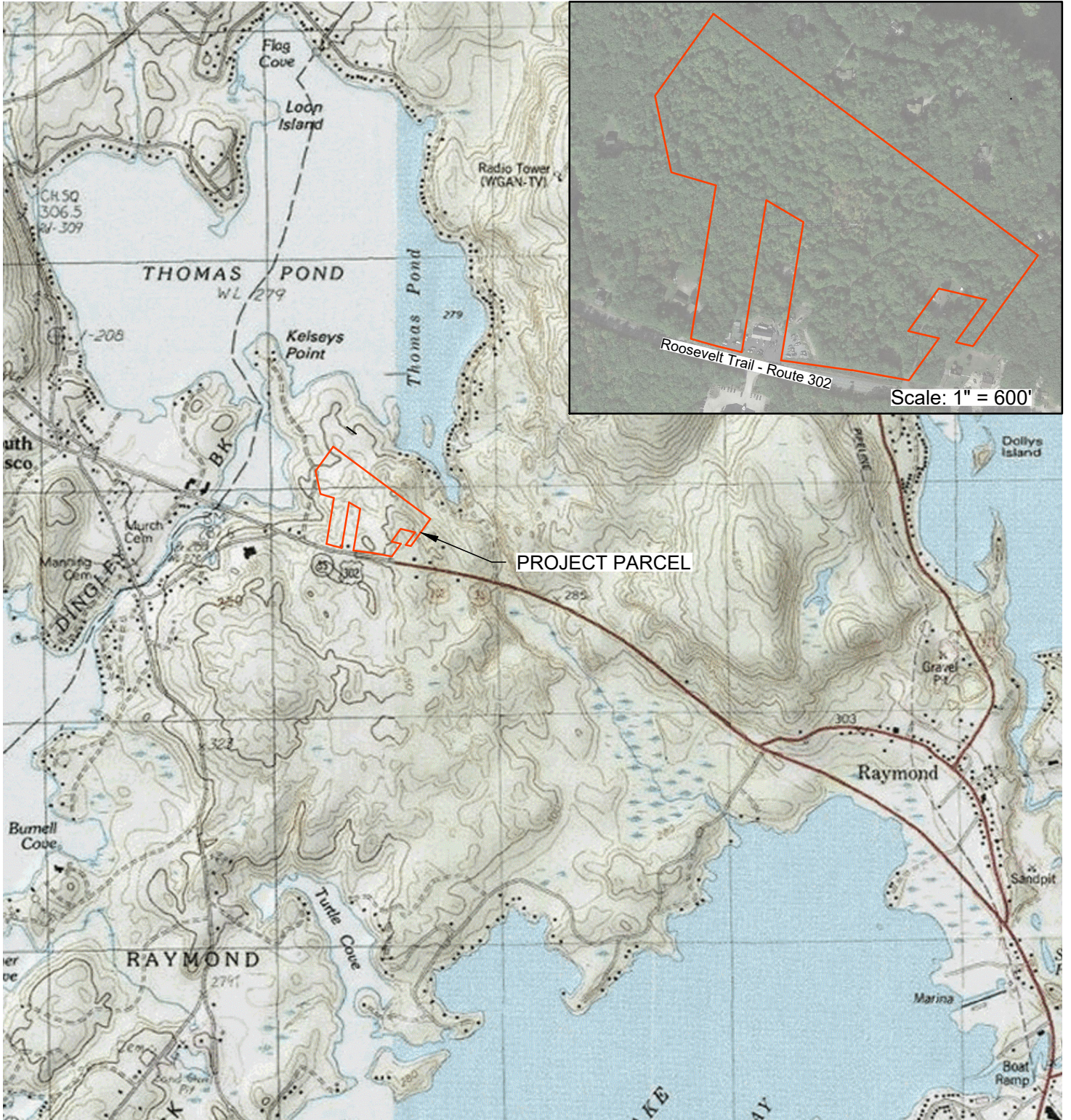
Roger St. Amand, CSS, LSE, LPF, PWS, CPESC
Principal | Watershed Resource Consultants, LLC
rstamand@wrcmaine.com

APPENDIX A
Limitations

Appendix A – Limitations

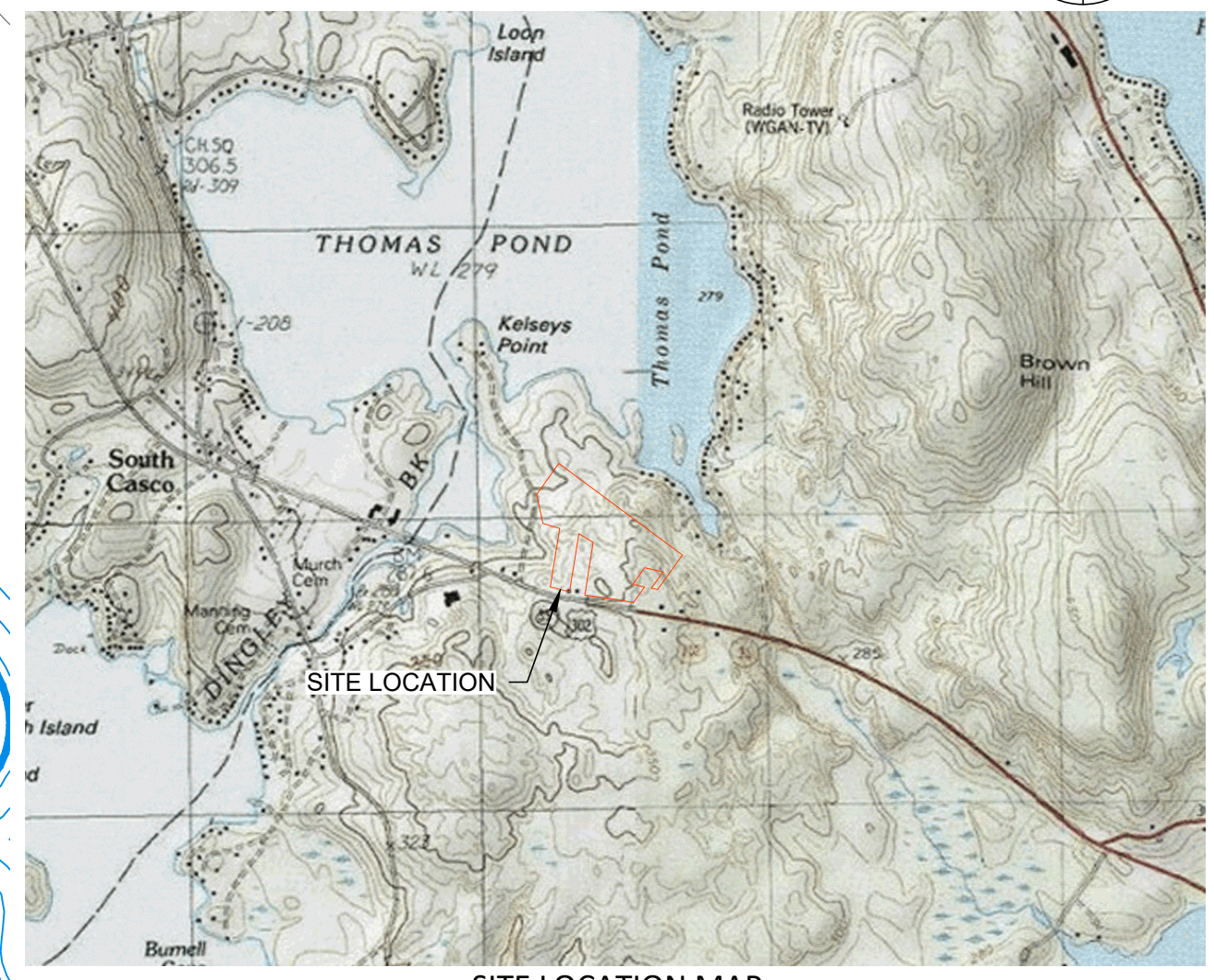
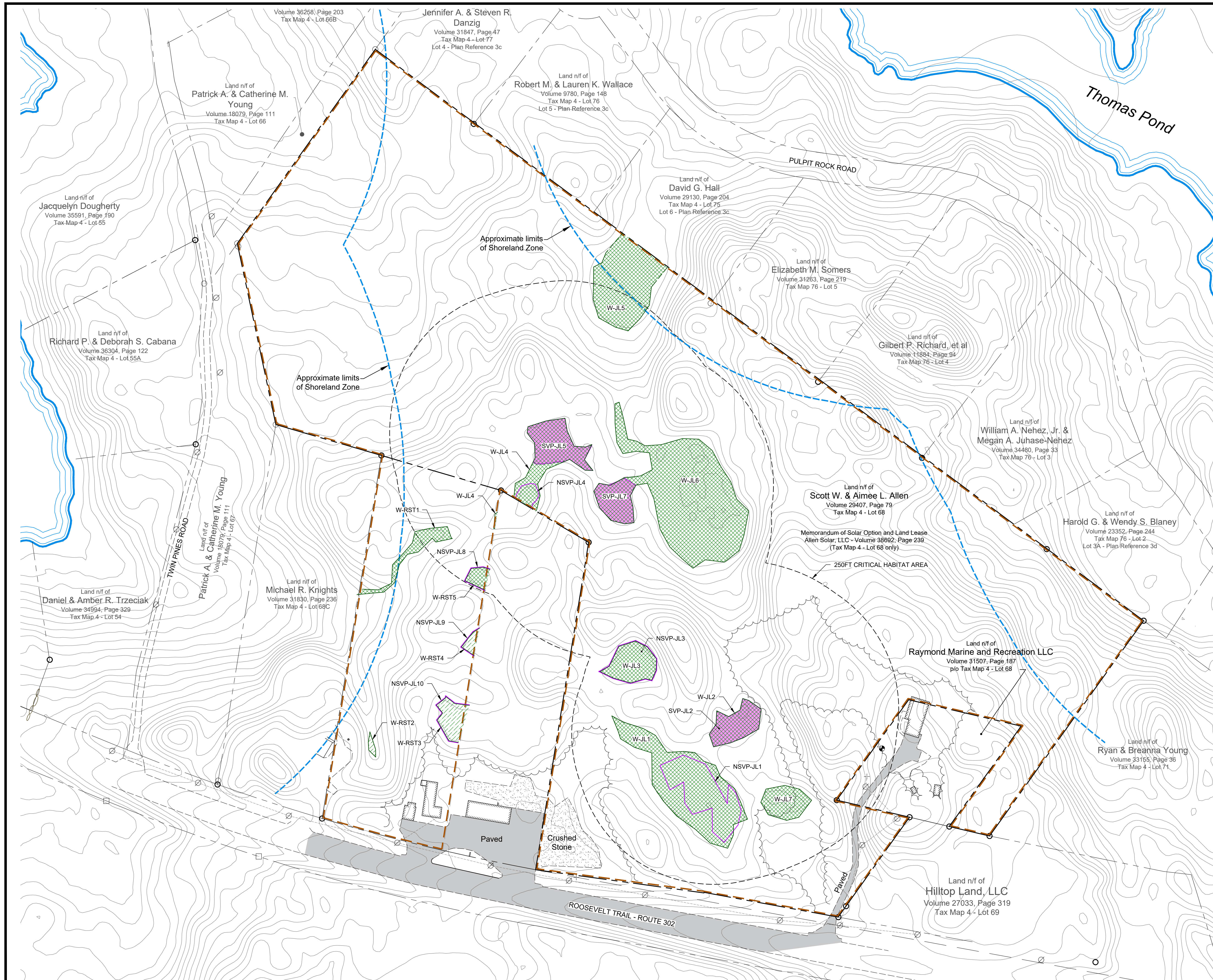
The scope of Watershed Resource Consultants, LLC services has been limited to Protected Natural Resources identification and delineation services on an approximately 30-acre property on Roosevelt Trail in Raymond, Maine. This Report has been prepared for the exclusive use of Mainely Solar, LLC and Allen Solar, LLC. No warranty, expressed or implied, is made. The conclusions made in this report are based on the data obtained from the areas explored at the time of services.

APPENDIX B
Site Location Map
Protected Natural Resources Plan



Do Not Use for Construction
For Regulatory Review Only

Site Location Map	
Mainely Solar, LLC. 143 Highland Shores Road Casco, Maine	
Job No.: MS001	Scale: As Noted
Date: 8/24/2023	Sheet: 1



SITE LOCATION MAP
SCALE: 1" = 2000'

- NOTES**
1. THIS PROTECTED NATURAL RESOURCES FIELD DELINEATION PLAN DETAILS THE FINDINGS OF PROTECTED NATURAL RESOURCES FIELD DELINEATION SERVICES CONDUCTED BY WATERSHED RESOURCE CONSULTANTS, LLC ON AN APPROXIMATELY 30-ACRE PROPERTY (TAX MAP 4, LOT 68) AT ROUTE 302, RAYMOND, MAINE. PROTECTED NATURAL RESOURCES FIELD DELINEATION SERVICES WERE CONDUCTED ON MAY 2022, AND APRIL & MAY 2023.
 2. PROTECTED NATURAL RESOURCES WERE FIELD DELINEATED IN GENERAL ACCORDANCE WITH THE MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION NATURAL RESOURCES PROTECTION ACT DEFINITIONS; THE UNITED STATES DEPARTMENT OF THE ARMY STATE OF MAINE GENERAL PERMIT (OCTOBER 2020-2025), THE U.S. ARMY CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987), THE U.S. ARMY CORPS OF ENGINEERS REGIONAL SUPPLEMENT TO THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL: NORTHCENTRAL AND NORTHEAST REGION (2012), AND THE MDEP CHAPTER 335: SIGNIFICANT WILDLIFE HABITAT RULES.
 3. RESOURCE FEATURES WERE LOCATED BY WATERSHED RESOURCE CONSULTANTS, LLC USING A MAPPING GRADE GPS RECEIVER (SUBMETER ACCURACY AS PER MANUFACTURER). THE GPS DATA AND PLISGA & DAY PLAN WERE USED TO MAKE THIS PLAN.
 4. THIS PLAN IS FOR PLANNING AND RESOURCE ALTERATION PERMITTING PURPOSES ONLY, IT IS NOT A SURVEY. THIS PLAN IS TO BE USED IN CONJUNCTION WITH THE ACCOMPANYING SUMMARY REPORT OF PROTECTED NATURAL RESOURCES SERVICES.
 5. PLAN REFERENCE: "SURVEY PLAN PROPERTY OF SCOTT ALLEN" DATED MAY 8, 2023, PROVIDED BY PLISGA & DAY LAND SURVEYORS. CAD FILE: 23084 to Acheron 20230508.dwg.

LEGEND

	PROJECT PARCEL
	LIMIT OF SERVICES
	MDEP CLASSIFIED "WETLANDS OF SPECIAL SIGNIFICANCE"
	MDEP CLASSIFIED "WETLANDS NOT OF SPECIAL SIGNIFICANCE" (PRELIMINARY CLASSIFICATION)
	SIGNIFICANT VERNAL POOL (SVP)
	NON-SIGNIFICANT VERNAL POOL (NSVP)

Watershed Resource Consultants, LLC.
 1366 State Hwy 102 PO Box 145
 #6 Bar Harbor, ME 04609 Orrington, ME 04474
 (207) 944-7288 (207) 385-6056
 rstamand@wrcmaine.com tburman@wrcmaine.com

Protected Natural Resources Plan	
Scott Allen - Allen Solar Route 302 Raymond, Maine	
Job No.: 22207	Scale: 1" = 80'
Date: 5/25/2023	Sheet: 1

Do Not Use for Construction
For Regulatory Review Only



No.	Revision Description	Drwn.	Chk'd	Date
1	Revise Limit of Services line.	BG	RS	8/01/2023

APPENDIX C

Natural Resource Summary Tables

TABLE 1 - WETLANDS

Resource ID	Photograph Number	Cowardin Classification ¹	Dominant Vegetation	Hydric Soil Indicator ²	Hydrology Indicators ²	Preliminary MDEP Classification ³
W-JL1	Photo 1	PFO1	red maple (<i>Acer rubrum</i>), gray birch (<i>Betula populifolia</i>), white pine (<i>Pinus strobus</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), sheep laurel (<i>Kalmia angustifolia</i>), winterberry (<i>Ilex verticillata</i>), royal fern (<i>Osmunda regalis</i>), interrupted fern (<i>Osmunda claytoniana</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves; D2 - Geomorphic Position	WOSS
W-JL2	Photo 2	PFO1 & PSS1	red maple (<i>Acer rubrum</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), sheep laurel (<i>Kalmia angustifolia</i>), leatherleaf (<i>Chamaedaphne calyculata</i>), royal fern (<i>Osmunda regalis</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B10 - Drainage Patterns; D2 - Geomorphic Position	WOSS
W-JL3	Photo 3	PSS1	highbush blueberry (<i>Vaccinium corymbosum</i>), winterberry (<i>Ilex verticillata</i>), leatherleaf (<i>Chamaedaphne calyculata</i>), interrupted fern (<i>Osmunda claytoniana</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B10 - Drainage Patterns; D2 - Geomorphic Position	WOSS
W-JL4	Photo 4	PFO1 & PSS1	red maple (<i>Acer rubrum</i>), yellow birch (<i>Betula alleghaniensis</i>), winterberry (<i>Ilex verticillata</i>), maleberry (<i>Lyonia ligustrina</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), dwarf raspberry (<i>Rubus pubescens</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves; D2 - Geomorphic Position	WOSS
W-JL5	Photo 5	PFO1/4	red maple (<i>Acer rubrum</i>), yellow birch (<i>Betula alleghaniensis</i>), eastern hemlock (<i>Tsuga canadensis</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), winterberry (<i>Ilex verticillata</i>), royal fern (<i>Osmunda regalis</i>), interrupted fern (<i>Osmunda claytoniana</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves; D2 - Geomorphic Position	WOSS
W-JL6	Photo 6	PFO1 & PSS1	red maple (<i>Acer rubrum</i>), yellow birch (<i>Betula alleghaniensis</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), mountain holly (<i>Ilex mucronata</i>), winterberry (<i>Ilex verticillata</i>), sensitive fern (<i>Onoclea sensibilis</i>), cinnamon fern (<i>Osmundastrum cinnamomea</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves; D2 - Geomorphic Position	WOSS
W-JL7	Photo 7	PFO1	red maple (<i>Acer rubrum</i>), yellow birch (<i>Betula alleghaniensis</i>), eastern hemlock (<i>Tsuga canadensis</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), interrupted fern (<i>Osmunda claytoniana</i>)	A1 - Histosol	A3 - Saturation; B9 - Water-Stained Leaves; D2 - Geomorphic Position	WOSS
W-RST1	Photo 8	PFO1	red maple (<i>Acer rubrum</i>), American beech (<i>Fagus grandifolia</i>), royal fern (<i>Osmunda regalis</i>), interrupted fern (<i>Osmunda claytoniana</i>)	F3 - Depleted Matrix	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves; D2 - Geomorphic Position	WOSS
W-RST2	Photo 9	PFO1	red maple (<i>Acer rubrum</i>), American beech (<i>Fagus grandifolia</i>), green ash (<i>Fraxinus pennsylvanica</i>), spinulous wood fern (<i>Dryopteris carthusiana</i>)	A2 - Histic Epidpedon; A12 - Thick Dark Surface	A1 - Surface Water; A3 - Saturation; B9 - Water-Stained Leaves	WNSS
W-RST3	Photo 10	PFO1 & PSS1	red maple (<i>Acer rubrum</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), cinnamon fern (<i>Osmundastrum cinnamomea</i>) royal fern (<i>Osmunda regalis</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves	WNSS
W-RST4	Photo 11	PFO1 & PSS1	red maple (<i>Acer rubrum</i>), highbush blueberry (<i>Vaccinium corymbosum</i>), cinnamon fern (<i>Osmundastrum cinnamomea</i>) royal fern (<i>Osmunda regalis</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves	WNSS
W-RST5	Photo 12	PSS1	red maple (<i>Acer rubrum</i>), highbush blueberry (<i>Vaccinium corymbosum</i>)	A1 - Histosol	A2 - High Water Table; A3 - Saturation; B9 - Water-Stained Leaves	WOSS

1 - Cowardin, et al. 1979. United States, Fish and Wildlife Service, evaluated during winter conditions. PFO1/4 = Palustrine, Forested, Broad-Leaved Deciduous and Needle-Leaved Evergreen; PFO1 = Palustrine, Forested, Broad-Leaved Deciduous; PSS1 = Palustrine, Scrub-Shrub, Broad-Leaved Deciduous

2 - U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)

3 - State of Maine, Department of Environmental Protection, Natural Resources Protection Act Statute; WOSS = Wetlands of Special Significance; WNSS = Wetlands Not of Special Significance

APPENDIX D

Color Photographs of Wetlands and Streams



Photo 1: Wetland JL1, looking northwest. Photograph taken September 29, 2021.



Photo 2: Wetland JL2, looking south. Photograph taken September 29, 2021



Photo 3: Wetland JL3, looking northwest. Photograph taken September 29, 2022.



Photo 4: Wetland JL4, looking east. Photograph taken September 29, 2022.



Photo 5: Wetland JL5, looking north. Photograph taken September 29, 2022.



Photo 6: Wetland JL6 looking north. Photograph taken September 29, 2022.



Photo 7: Wetland JL7 looking north. Photograph taken September 29, 2022.



Photo 8: Wetland RST1, looking northwest. Photograph taken June 12, 2023.



Photo 9: Wetland RST2, looking south. Photograph taken June 12, 2023.



Photo 10: Wetland RST3, looking west. Photograph taken June 12, 2023.



Photo 11: Wetland RST4, looking northwest. Photograph taken June 12, 2023.



Photo 12: Wetland RST5, looking northeast. Photograph taken June 12, 2023.

APPENDIX E

Agency Letters and Published Mapping



STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
353 WATER STREET
41 STATE HOUSE STATION
AUGUSTA ME 04333-0041



November 16, 2021

Roger St. Amand
Atlantic Resource Consultants
Bass Harbor, ME 04653

RE: Information Request – Solar Development Project, Raymond

Dear Roger:

Per your request received on October 15, 2021, we have reviewed current Maine Department of Inland Fisheries and Wildlife (MDIFW) information for known locations of Endangered, Threatened, and Special Concern species; designated Essential and Significant Wildlife Habitats; and inland fisheries habitat concerns within the vicinity of the *Solar Development* project in Raymond. Note that as project details are lacking, our comments are non-specific and should be considered preliminary.

Our Department has not mapped any Essential Habitats that would be directly affected by your project.

Endangered, Threatened, and Special Concern Species

Bats - Of the eight species of bats that occur in Maine, the three *Myotis* species are afforded special protection under Maine's Endangered Species Act (MESA, 12 M.R.S §12801 et. seq.): little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are designated as Species of Special Concern: big brown bat, red bat, hoary bat, silver-haired bat, and tri-colored bat. While a comprehensive statewide inventory for bats has not been completed, based on historical evidence, it is likely that several of these species occur within the project area during the fall/spring migration, the summer breeding season, and/or for overwintering. If the proposed project has a Federal nexus, either via funding or permitting, or if the project is not consistent with the USFWS "4(d) Rule", we recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, Wende_Mahaney@fws.gov, 207-902-1569) for further guidance on their perspective, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. The USFWS "4(d) Rule" provides guidance for protection of bat winter hibernacula and maternity roost trees for northern long-eared bats (see <https://www.fws.gov/midwest/endangered/mammals/nleb/4drule.html>). MDIFW Endangered Species Rules for bats (Chapter 8.06; see link at <http://www.maine.gov/sos/cec/rules/09/137/137c008.docx>) provide equivalent seasonal protection of maternity roost trees for any of the three state-listed bats, seasonally prohibits entry into subsurface winter hibernacula, and has additional protections for tree removal within ¼ mile of subsurface winter hibernacula. At present, no maternity roost trees have been designated for protection.

In addition to traditional hibernacula like caves and old mines, recent findings indicate that *Myotis* and big brown bats may also overwinter in exposed rocky features. To date, Maine talus and rocky outcrop studies have focused on relatively exposed slopes with minimal canopy cover, although ongoing research has shown that bats use rocky areas under the forest canopy. Occupied talus slopes in Maine have consisted of variable rock sizes, ranging in size from softball-sized to car-sized boulders. Rock piles, rock

ledges, and small vertical cracks in rocks (>1/2-inch-wide) create crevices that allow bats to access deeper cavities that provide protection for predators and suitable temperature and humidity conditions. Some species of bat, like the eastern small-footed bat, use rocky features year-round. A desktop GIS analysis does not indicate the presence of these features in your project area; however, not all talus and rocky features have been mapped statewide. Therefore, we advise that all areas of talus and rocky features of approximately 1,000 square feet or greater in size be documented on and within 250 feet of your project area, including smaller areas of rock piles and tailings (i.e., quarry spoils). See attached photographs for representative features—these photographs are not all-inclusive and should be used for guidance purposes only. Detailed photographs and coordinates should be submitted to MDIFW for review, and acoustic monitoring may be recommended to document occupancy. Alternatively, these features should be appropriately buffered commensurate with the size and layout of the project. If these features are not present in the project area, our Agency does not anticipate significant impacts to any of the bat species as a result of this project based on currently best available science.

Significant Wildlife Habitat

Significant Vernal Pools - At this time MDIFW Significant Wildlife Habitat (SWH) maps indicate no known presence of SWHs subject to protection under the Natural Resources Protection Act (NRPA) within the project area, which include Waterfowl and Wading Bird Habitats, Seabird Nesting Islands, Shorebird Areas, and Significant Vernal Pools. However, a comprehensive statewide inventory for Significant Vernal Pools has not been completed. Therefore, we recommend that surveys for vernal pools be conducted within the project boundary by qualified wetland scientists prior to final project design to determine whether there are Significant Vernal Pools present in the area. These surveys should extend up to 250 feet beyond the anticipated project footprint because of potential performance standard requirements for off-site Significant Vernal Pools, assuming such pools are located on land owned or controlled by the applicant. Once surveys are completed, survey forms should be submitted to our Agency for review well before the submission of any necessary permits. Our Department will need to review and verify any vernal pool data prior to final determination of significance.

Fisheries Habitat

We generally recommend maintaining 100-foot undisturbed vegetated buffers from the upland edge of all intermittent and perennial streams and any contiguous wetlands. Maintaining and enhancing buffers along these resources is critical to the protection of water temperatures, water quality, natural inputs of coarse woody debris, and various forms of aquatic life necessary to support fish and other aquatic species. Riparian buffers also provide critical habitat and important travel corridors for a variety of wildlife species. Stream crossings should be avoided, but if a stream crossing is necessary, or an existing crossing needs to be modified, it should be designed to provide for full aquatic passage. Small streams, including intermittent streams, can provide crucial rearing habitat, cold water for thermal refugia, and abundant food for juvenile salmonids on a seasonal basis. Undersized crossings may inhibit these functions and become a frequent maintenance problem that causes reoccurring damage to the resource. Generally, MDIFW recommends that all new, modified, and replacement stream crossings be sized to span at least 1.2 times the bankfull width of the stream. In addition, we generally recommend that stream crossings be open bottomed (i.e. natural bottom), although embedded structures which are backfilled with representative streambed material have been shown to be effective in providing habitat connectivity for fish and other aquatic organisms. Construction Best Management Practices should be closely followed to avoid erosion, sedimentation, alteration of stream flow, and other impacts as eroding soils can travel significant distances as well as transport other pollutants resulting in direct impacts to fish, other aquatic

life, and their habitats. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

Wildlife Permeable Fencing

To enhance the use of the project area by smaller animals, and in consideration of the need for site safety and security, we recommend the use of wildlife-permeable fencing. Options for wildlife-permeable fencing includes the use of larger mesh fencing, similar to typical highway right-of-way fencing, with large (12-in. x 12-in.) holes along the bottom of the fence, spaced evenly along the entire perimeter of the fence line every 20-25 feet. Alternatively, the fence can be installed so that there is at least 12 inches of clearance along the entire perimeter bottom.

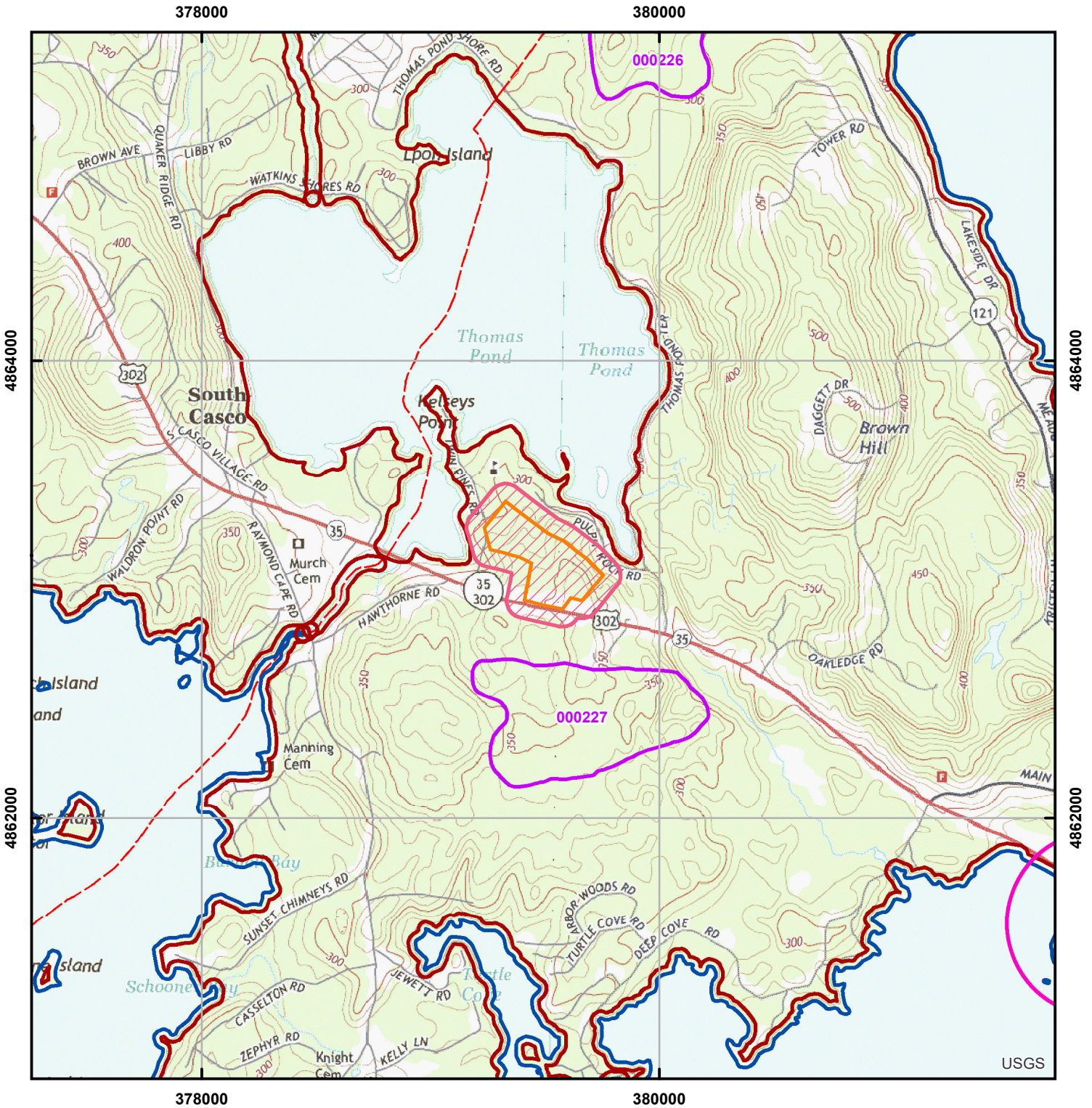
This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional consultation with the municipality, and other state resource agencies including the Maine Natural Areas Program, Maine Department of Marine Resources, and Maine Department of Environmental Protection in order to avoid unintended protected resource disturbance.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,



Becca Settele
Wildlife Biologist

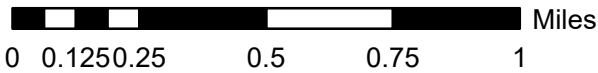


Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Solar Dev, Raymond (Version 1)



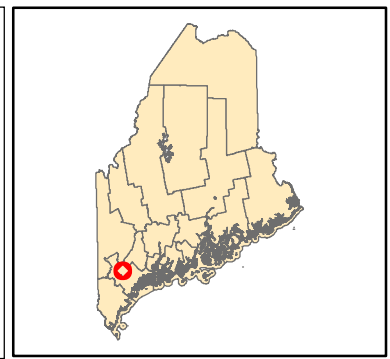
Maine Department of Inland Fisheries and Wildlife



Projection: UTM, NAD83, Zone 19N

Date: 10/15/2021

ProjectSearchAreas - All Versions	Deer Winter Area	Roseate Tern
Maine Cliff and Talus Areas	LUPC p-fw	Piping Plover and Least Tern
	Cooperative DWAs	Aquatic ETSc - 2.5 mi review
	Seabird Nesting Islands	Rare Mussels - 5 mi review
	Shorebird Areas	Maine Heritage Fish Waters
	Inland Waterfowl and Wading Bird	Arctic Charr Habitat
	2008 lwwh - Shoreland Zoning	Redfin Pickerel and Swamp Darter Habitats - buffer100ft
	Tidal Waterfowl and Wading Bird	Special Concern occupied habitats - 100ft buffer
	Significant Vernal Pools	Wild Lake Trout Habitats
	Environmental Review Polygons	





STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY

177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

October 20, 2021

Roger St. Amand
Atlantic Resource Co, LLC
PO Box 76
Bass Harbor, ME 04653

Via email: roger@arc-env.com

Re: Rare and exemplary botanical features in proximity to: #21112, Solar Development, Route 302, Raymond, Maine

Dear Mr. St. Amand:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received October 15, 2021 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Raymond, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MOLLY DOCHERTY, DIRECTOR
MAINE NATURAL AREAS PROGRAM
BLOSSOM LANE, DEERING BUILDING



PHONE: (207) 287-804490
WWW.MAINE.GOV/DACF/MNAP

The Maine Natural Areas Program (MNAP) is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. MNAP welcomes coordination with individuals or organizations proposing environmental alteration or conducting environmental assessments. If, however, data provided by MNAP are to be published in any form, the Program should be informed at the outset and credited as the source.

The Maine Natural Areas Program has instituted a fee structure of \$75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for \$150.00 for two hours of our services.

Thank you for using MNAP in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

A handwritten signature in cursive script, appearing to read "Kristen Puryear".

Kristen Puryear | Ecologist | Maine Natural Areas Program
207-287-8043 | kristen.puryear@maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #21112, Solar Development, Route 302, Raymond, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Dry Land Sedge						
	SC	S2	G5	2001-06-08	8	Old field/roadside (non-forested, wetland or upland)
Enriched Northern Hardwoods Forest						
	<null>	S3	GNR	2001-06-08	33	Hardwood to mixed forest (forest, upland)
Fern-leaved False Foxglove						
	SC	S3	G5	2001-06-08	25	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Oak - Pine Woodland						
	<null>	S4	G3G5	2001-06-08	10	Dry barrens (partly forested, upland),Rocky summits and outcrops (non-forested, upland)
Purple Clematis						
	SC	S3	G5T5	2001-06-08	26	Non-tidal rivershore (non-forested, seasonally wet),Hardwood to mixed forest (forest, upland)
Scarlet Oak						
	E	S1	G5	1916-08	2	Hardwood to mixed forest (forest, upland)
Summer Grape						
	T	S2	G5T5	2001-06-08	8	Hardwood to mixed forest (forest, upland),Rocky summits and outcrops (non-forested, upland)
Wild Coffee						
	E	S1	G5	1933-08-17	4	Non-tidal rivershore (non-forested, seasonally wet),Hardwood to mixed forest (forest, upland)

Conservation Status Ranks

State and Global Ranks: This ranking system facilitates a quick assessment of a species' or habitat type's rarity and is the primary tool used to develop conservation, protection, and restoration priorities for individual species and natural habitat types. Each species or habitat is assigned both a state (S) and global (G) rank on a scale of 1 to 5. Factors such as range extent, the number of occurrences, intensity of threats, etc., contribute to the assignment of state and global ranks. The definitions for state and global ranks are comparable but applied at different geographic scales; something that is state imperiled may be globally secure.

The information supporting these ranks is developed and maintained by the Maine Natural Areas Program (state ranks) and NatureServe (global ranks).

Rank	Definition
S1 G1	Critically Imperiled – At very high risk of extinction or elimination due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
S2 G2	Imperiled – At high risk of extinction or elimination due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
S3 G3	Vulnerable – At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
S4 G4	Apparently Secure – At fairly low risk of extinction or elimination due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of local recent declines, threats, or other factors.
S5 G5	Secure – At very low risk of extinction or elimination due to a very extensive range, abundant populations or occurrences, and little to no concern from declines or threats.
SX GX	Presumed Extinct – Not located despite intensive searches and virtually no likelihood of rediscovery.
SH GH	Possibly Extinct – Known from only historical occurrences but still some hope of rediscovery.
S#S# G#G#	Range Rank – A numeric range rank (e.g., S2S3 or S1S3) is used to indicate any range of uncertainty about the status of the species or ecosystem.
SU GU	Unrankable – Currently unrankable due to lack of information or due to substantially conflicting information about status or trends.
GNR SNR	Unranked – Global or subnational conservation status not yet assessed.
SNA GNA	Not Applicable – A conservation status rank is not applicable because the species or ecosystem is not a suitable target for conservation activities (e.g., non-native species or ecosystems).
Qualifier	Definition
S#? G#?	Inexact Numeric Rank – Denotes inexact numeric rank.
Q	Questionable taxonomy that may reduce conservation priority – Distinctiveness of this entity as a taxon or ecosystem type at the current level is questionable. The “Q” modifier is only used at a global level.
T#	Intraspecific Taxon (trinomial) – The status of intraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank.

State Status: Endangered and Threatened are legal status designations authorized by statute. Please refer to MRSA Title 12, §544 and §544-B.

Status	Definition
E	Endangered – Any native plant species in danger of extinction throughout all or a significant portion of its range within the State or Federally listed as Endangered.
T	Threatened – Any native plant species likely to become endangered within the foreseeable future throughout all or a significant portion of its range in the State or Federally listed as Threatened.
SC	Special Concern – A native plant species that is rare in the State, but not rare enough to be considered Threatened or Endangered.
PE	Potentially Extirpated – A native plant species that has not been documented in the State in over 20 years, or loss of the last known occurrence.

Element Occurrence (EO) Ranks: Quality assessments that designate viability of a population or integrity of habitat. These ranks are based on size, condition, and landscape context. Range ranks (e.g., AB, BC) and uncertainty ranks (e.g., B?) are allowed. The Maine Natural Areas Program tracks all occurrences of rare plants and natural communities/ecosystems (S1-S3) as well as exemplary common natural community types (S4-S5 with EO ranks A/B).

Rank	Definition
A	Excellent – Excellent estimated viability/ecological integrity.
B	Good – Good estimated viability/ecological integrity.
C	Fair – Fair estimated viability/ecological integrity.
D	Poor – Poor estimated viability/ecological integrity.
E	Extant – Verified extant, but viability/ecological integrity not assessed.
H	Historical – Lack of field information within past 20 years verifying continued existence of the occurrence, but not enough to document extirpation.
X	Extirpated – Documented loss of population/destruction of habitat.
U	Unrankable – Occurrence unable to be ranked due to lack of sufficient information (e.g., possible mistaken identification).
NR	Not Ranked – An occurrence rank has not been assigned.

Visit the Maine Natural Areas Program website for more information
<http://www.maine.gov/dacf/mnap>





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Maine Ecological Services Field Office
P. O. Box A
East Orland, ME 04431
Phone: (207) 469-7300 Fax: (207) 902-1588

In Reply Refer To:
Project Code: 2023-0111605
Project Name: MCE - Allen Solar Project, Raymond, Maine

August 01, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Maine Ecological Services Field Office

P. O. Box A

East Orland, ME 04431

(207) 469-7300

PROJECT SUMMARY

Project Code: 2023-0111605
Project Name: MCE - Allen Solar Project, Raymond, Maine
Project Type: Power Gen - Solar
Project Description: Mainely Solar Energy, Allen Solar Project. Approximately 30 acre development off of Roosevelt Trail Road in Raymond, Maine.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@43.9114625,-70.50092338998843,14z>



Counties: Cumberland County, Maine

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Small Whorled Pogonia <i>Isotria medeoloides</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1890	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Watershed Resource Consultants, LLC

Name: Jeanna Leclerc

Address: 1366 State Highway 102, #6

City: Bar Harbor

State: ME

Zip: 04609

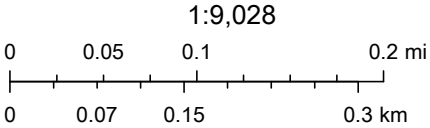
Email: jleclerc@arc-env.com

Phone: 2079447288

Allen Solar - Aerial Topo Map - USGS Map Viewer



8/1/2023, 10:42:30 AM



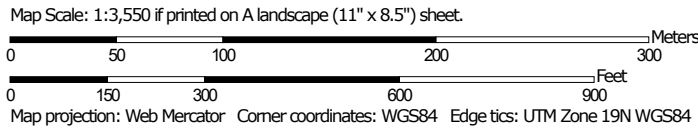
1:9,028

USGS The National Map: Orthoimagery and US Topo. Data refreshed December, 2022.

Soil Map—Cumberland County and Part of Oxford County, Maine
(Allen Solar Soil Map)



Soil Map may not be valid at this scale.



Soil Map—Cumberland County and Part of Oxford County, Maine
(Allen Solar Soil Map)


MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils







 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

Water Features

 Streams and Canals

Transportation

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.
Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cumberland County and Part of Oxford County, Maine
Survey Area Data: Version 19, Aug 30, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 19, 2020—Sep 20, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
HhB	Hermon sandy loam, 0 to 8 percent slopes, very stony	5.7	21.7%
HhC	Hermon sandy loam, 8 to 15 percent slopes, very stony	20.3	78.2%
WsB	Woodbridge very stony fine sandy loam, 0 to 8 percent slopes	0.0	0.1%
Totals for Area of Interest		26.0	100.0%

APPENDIX F

Maine State Vernal Pool Assessment Forms and Color Photographs

Table 1 - Vernal Pools

Resource ID	Pool Origin	Wood Frog Egg Masses		Spotted Salamander Egg Masses		Blue Spotted Salamander Egg Masses		Fairy Shrimp		Vegetation Classification	Pool Hydroperiod (Estimated)	Soils	Corps Jurisdictional	MDEP Jurisdictional **
		V #1	V #2	V #1	V #2	V #1	V #2	V #1	V #2					
SVP-JL2	Natural	31	37	1	20	0	0	0	0	PSS	Ephemeral	Deep Organic	Yes	Yes - SVP
SVP-JL5	Natural	31	1	9	39	0	0	0	0	PSS	Ephemeral	Deep Organic	Yes	Yes - SVP
SVP-JL7	Natural	8	Ha	13	57	0	0	0	0	PSS	Ephemeral	Deep Organic	Yes	Yes - SVP
NSVP-JL1	Natural	0	2	0	2	0	0	0	0	PFO	Ephemeral	Deep Organic	Yes	No
NSVP-JL3	Natural	8	Ha	6	11	0	0	0	0	PSS	Ephemeral	Deep Organic	Yes	No
NSVP-JL4	Natural	17	1	0	9	0	0	0	0	PSS	Ephemeral	Deep Organic	Yes	No
NSVP-JL8	Natural	13	4	0	18	0	0	0	0	PSS	Ephemeral	Deep Organic	Yes	No
NSVP-JL9	Natural	3	3	3	7	0	0	0	0	PFO	Ephemeral	Deep Organic	Yes	No
NSVP-JL10	Natural	0	0	3	7	0	0	0	0	PFO	Ephemeral	Deep Organic	Yes	No

*Ha = Hatched egg masses

V#1 Visit Dates: April 12, 2022, April 14, 2023

V#2 Visit Dates: May 3, 2022, May 5, 2023

**** Pending IF&W review of MSVPA Forms**



Photo 1: Vernal Pool NSVP-JL1, looking southwest. Photograph taken April 12, 2022.



Photo 2: Spotted salamander egg mass in NSVP-JL1. Photograph taken May 3, 2022.



Photo 3: Hatched wood frog egg mass in NSVP-JL1. Photograph taken May 3, 2022.



Photo 4: Significant vernal pool SVP-JL2, looking south. Photograph taken May 3, 2022.



Photo 5: Spotted salamander egg mass in SVP-JL2. Photograph taken April 12, 2022.



Photo 6: Wood frog egg masses in SVP-JL2. Photograph taken April 12, 2022.



Photo 7: Vernal pool NSVP-JL3, looking northwest. Photograph taken April 12, 2022.



Photo 8: Wood frog egg mass in NSVP-JL3. Photograph taken April 12, 2022.



Photo 9: Spotted salamander egg mass in NSVP-JL3. Photograph taken May, 2022.



Photo 10: Vernal Pool NSVP-JL4, looking northwest. Photograph taken May 3, 2022.



Photo 11: Spotted salamander egg mass in NSVP-JL4. Photograph taken May 3, 2022.



Photo 12: Hatched wood frog egg mass in NSVP-JL4. Photograph taken May 3, 2022.



Photo 13: Significant vernal pool SVP-JL5, looking north. Photograph taken May 3, 2022.



Photo 12: Spotted salamander egg mass in SVP-JL5. Photograph taken May 3, 2022.



Photo 13: Wood frog egg mass in SVP-JL5. Photograph taken April 12, 2022.



Photo 14: Significant vernal pool SVP-JL7, looking east. Photograph taken April 12, 2022.



Photo 15: Spotted salamander egg mass in SVP-JL7. Photograph taken April 12, 2022.



Photo 16: Wood frog egg mass in SVP-JL7. Photograph taken April 12, 2022.



Photo 17: Vernal Pool NSVP-JL8, looking west. Photograph taken May 5, 2023.



Photo 18: Spotted salamander egg mass in NSVP-JL8. Photograph taken May 5, 2023.



Photo 19: Wood frog egg masses in NSVP-JL8. Photograph taken April 14, 2023.



Photo 20: Vernal pool NSVP-JL9, looking west. Photograph taken May 5, 2023.



Photo 21: Spotted salamander egg mass in NSVP-JL9. Photograph taken May 5, 2023.



Photo 22: Wood frog egg mass in NSVP-JL9. Photograph taken May 5, 2023.



Photo 23: Vernal pool NSVP-JL10, looking southeast. Photograph taken May 5, 2023.



Photo 24: Spotted salamander egg mass in NSVP-JL10. Photograph taken May 5, 2023.



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: SVP-JL2

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

from parking area at edge of driveway at 1551 Roosevelt Trail, walk 375' NW along skid trails to pool

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.500389 Latitude/Northing: 43.910560

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Empty text box for describing human impacts.

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown with sub-descriptions for each.

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: 40 m ft Length: 90 m ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Dry site ferns, Moist site ferns, Moist site vasculars, Sphagnum moss, Wet site ferns, Wet site shrubs, Wet site graminoids, Aquatic vascular spp., Floating or submerged aquatics, No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet, Intermittent inlet or outlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog	31	37		3	3	F	A		x		3
Spotted Salamander	1	20		3	3	F	M				
Blue-spotted Salamander	0	0									
Fairy Shrimp ³	0	0									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
 Attn: Vernal Pools
 106 Hogan Road, Suite 1
 Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: SVP-JL5

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

From marina, walk 580 feet north to the pool.

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.501714 Latitude/Northing: 43.911907

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Empty text box for describing human impacts.

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown with descriptions of each.

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12", 12-36", 36-60", >60"

Approximate size of pool (at spring highwater): Width: 85 m ft Length: 95 m ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Dry site ferns, Moist site ferns, Moist site vasculars, Sphagnum moss, Wet site ferns, Wet site shrubs, Wet site graminoids, Aquatic vascular spp., Floating or submerged aquatics, No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet, Intermittent inlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? 85
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog	31	1		3	3	F	H		x		3
Spotted Salamander	9	39		3	3	F	M				
Blue-spotted Salamander	0	0									
Fairy Shrimp ³	0	0									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

pool was too deep to explore very center, and was very dark with tannins.

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments: _____



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: SVP-JL7

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

Park at marina and walk 540 feet NNE to pool.

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.501285 Latitude/Northing: 43.911603

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Empty box for describing human impacts to the pool.

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown with descriptions of each.

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: _____ m ft Length: _____ m ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.), Wet site ferns (e.g. royal fern, marsh fern), Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern), Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly), Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern), Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes), Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle), Aquatic vascular spp. (e.g. pickerelweed, arrowhead), Sphagnum moss (anchored or suspended), Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort), No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet (channel with well-defined banks and permanent flow), Intermittent inlet or outlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog	8	0		3	3		M	H		x		3
Spotted Salamander	13	57		3	3		F	M				
Blue-spotted Salamander	0	0										
Fairy Shrimp ³	0	0										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
 Attn: Vernal Pools
 106 Hogan Road, Suite 1
 Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: NSVP-JL1

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

From parking area just off driveway of 1551 Roosevelt Trail, walk NW 230 feet to pool.

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.500585 Latitude/Northing: 43.910073

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

Empty box for describing human impacts to the pool.

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: 92 m, ft Length: 165 m, ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.), Wet site ferns (e.g. royal fern, marsh fern), Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern), Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly), Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern), Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes), Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle), Aquatic vascular spp. (e.g. pickerelweed, arrowhead), Sphagnum moss (anchored or suspended), Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort), No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet (channel with well-defined banks and permanent flow), Intermittent inlet or outlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog	0	2		3	3		M				
Spotted Salamander	0	2		3	3		F				
Blue-spotted Salamander	0	0									
Fairy Shrimp ³	0	0									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
 Attn: Vernal Pools
 106 Hogan Road, Suite 1
 Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: SVP-JL3

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

From marina yard, walk NNE 250 feet to pool.

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.501167 Latitude/Northing: 43.910792

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

[Empty box for describing human impacts]

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: 70 m, ft Length: 75 m, ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Wet site ferns, Dry site ferns, Wet site shrubs, Moist site ferns, Wet site graminoids, Moist site vasculars, Aquatic vascular spp., Floating or submerged aquatics, Sphagnum moss, No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet, Intermittent inlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? 80
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog	8	0		3		M	H				
Spotted Salamander	6	11		3	3	F	M				
Blue-spotted Salamander	0	0									
Fairy Shrimp ³	0	0									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
 Attn: Vernal Pools
 106 Hogan Road, Suite 1
 Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: NSVP-JL4

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

From marina, walk north 540 feet to pool

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.501859 Latitude/Northing: 43.911644

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

[Empty box for describing human impacts]

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: 40 m, ft Length: 85 m, ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Dry site ferns, Moist site ferns, Moist site vasculars, Sphagnum moss, Wet site ferns, Wet site shrubs, Wet site graminoids, Aquatic vascular spp., Floating or submerged aquatics, No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet, Intermittent inlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? _____
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴					
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹		
Wood Frog	17	1		3	3		M	H				
Spotted Salamander	0	9			3			F				
Blue-spotted Salamander	0	0										
Fairy Shrimp ³	0	0										

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
 Attn: Vernal Pools
 106 Hogan Road, Suite 1
 Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: NSVP-JL8

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

Park at marina and walk NW 400' to pool.

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.502233 Latitude/Northing: 43.911288

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

[Empty box for describing human impacts]

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown

Explain:

Pool was observed dry in early fall by wetland scientists.

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: 40 m, ft Length: 55 m, ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Dry site ferns, Moist site ferns, Moist site vasculars, Sphagnum moss, Wet site ferns, Wet site shrubs, Wet site graminoids, Aquatic vascular spp., Floating or submerged aquatics, No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet, Intermittent inlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/14/2023, 5/5/2023

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? 80
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog	13	4		3	3	F	A				
Spotted Salamander	0	18		3	3		M				
Blue-spotted Salamander	0	0									
Fairy Shrimp ³	0	0									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool is very deep and dark with tannins. Could not investigate very center of pool or below 3' down except with net/stick.

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments: _____



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID:

MDIFW Pool ID:

1. PRIMARY OBSERVER INFORMATION

a. Observer name:

b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

a. Contact name: same as observer other

b. Contact and credentials previously provided? No (submit Addendum 1) Yes

c. Project Name:

3. LANDOWNER CONTACT INFORMATION

a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No

b. Landowner's contact information (required)

Name:

Phone:

E-mail:

Street Address:

City:

State:

Zip:

c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. **Location** Township:

Brief site directions to the pool (using mapped landmarks):

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting:

Latitude/Northing:

Coordinate system:

Check one:

GIS shapefile

- send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy

(Best) The pool perimeter is delineated by multiple GPS points. (Excellent)

- Include map or spreadsheet with coordinates.

The above GPS point is at the center of the pool. (Good)



Maine State Vernal Pool Assessment Form



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3):

b. Wetland habitat characterization

■ Choose the best descriptor for the landscape setting:

- | | |
|-----------------------|---|
| Isolated depression | Pool associated with larger wetland complex |
| Floodplain depression | Other: |

■ Check all wetland types that best apply to this pool:

- | | | | |
|-----------------------|--------------------------|-------------------------|------------------------|
| Forested swamp | Wet meadow | Slow stream | Dug pond or borrow pit |
| Shrub swamp | Lake or pond cove | Floodplain | Roadside ditch |
| Peatland (fen or bog) | Abandoned beaver flowage | Mostly unvegetated pool | Other: |
| Emergent marsh | Active beaver flowage | ATV or skidder rut | |

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural Natural-Modified Unnatural Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (**required**):

ii. Pool Hydrology

■ Select the pool's estimated hydroperiod AND provide rationale in box (**required**):

- | | | | |
|-----------|---|--|---------|
| Permanent | Semi-permanent
(drying partially in all years and completely in drought years) | Ephemeral
(drying out completely in most years) | Unknown |
|-----------|---|--|---------|

Explain:

■ Maximum depth at survey: 0-12" (0-1 ft.) 12-36" (1-3 ft.) 36-60" (3-5 ft.) >60" (>5 ft.)

■ Approximate size of pool (at spring highwater): Width: m ft Length: m ft

■ Predominate substrate in order of increasing hydroperiod:

- | | |
|---|---|
| Mineral soil (bare, leaf-litter bottom, or upland mosses present) | Organic matter (peat/muck) shallow or restricted to deepest portion |
| Mineral soil (sphagnum moss present) | Organic matter (peat/muck) deep and widespread |

■ Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- | | |
|--|--|
| Terrestrial nonvascular spp. (e.g. haircap moss, lycopodium spp.) | Wet site ferns (e.g. royal fern, marsh fern) |
| Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern) | Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly) |
| Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern) | Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes) |
| Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle) | Aquatic vascular spp. (e.g. pickerelweed, arrowhead) |
| Sphagnum moss (anchored or suspended) | Floating or submerged aquatics (e.g. water lily, water shield, pond weed, bladderwort) |
| | No vegetation in pool |

■ Faunal indicators (check all that apply):

- | | | |
|------|---------------------------------|--------|
| Fish | Bullfrog or Green Frog tadpoles | Other: |
|------|---------------------------------|--------|

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- | | |
|------------------------------|--|
| No inlet or outlet | Permanent inlet or outlet (channel with well-defined banks and permanent flow) |
| Intermittent inlet or outlet | Other or Unknown (explain): |



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates:

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed?
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog											
Spotted Salamander											
Blue-spotted Salamander											
Fairy Shrimp ³											

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle					Wood Turtle				
Spotted Turtle					Ribbon Snake				
Ringed Boghaunter					Other:				

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only

Reviewed by MDIFW Date:

Initials:

This pool is: **Significant** **Potentially Significant** but lacking critical data **Not Significant** due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments:



Maine State Vernal Pool Assessment Form



INSTRUCTIONS:

- Complete all 3 pages of form thoroughly. Most fields are required for pool registration.
- Clear photographs of a) the pool AND b) the indicators (one example of each species egg mass) are required for all observers.

Observer's Pool ID: NSVP-JL10

MDIFW Pool ID: _____

1. PRIMARY OBSERVER INFORMATION

- a. Observer name: Jeanna Leclerc
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes

2. PROJECT CONTACT INFORMATION

- a. Contact name: same as observer other _____
- b. Contact and credentials previously provided? No (submit Addendum 1) Yes
- c. Project Name: Allen Solar

3. LANDOWNER CONTACT INFORMATION

- a. Are you the landowner? Yes No If no, was landowner permission obtained for survey? Yes No
- b. Landowner's contact information (required)
- Name: Scott Allen Phone: _____ E-mail: _____
- Street Address: 1551 Roosevelt Trail City: Raymond State: ME Zip: 04071
- c. Large Projects: check if separate project landowner data file submitted

The Maine Department of Environmental Protection will e-mail official status letters to the project contact and landowner. Please check these data for completeness and accuracy to prevent delay in mailings. E-mail is the preferred method of notification; please provide e-mail addresses for the project contact and the landowner when available.

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: Raymond

Brief site directions to the pool (using mapped landmarks):

Park at marina and walk 100 feet WNW to pool.

b. Mapping Requirements

i. USGS topographic map OR aerial photograph with pool clearly marked.

ii. GPS location of vernal pool (use Datum NAD83 / WGS84)

Longitude/Easting: -70.502334 Latitude/Northing: 43.910493

Coordinate system: WGS84

- Check one: GIS shapefile
 - send to VernalPool.MDIFW@maine.gov; observer has reviewed shape accuracy
- (Best) The pool perimeter is delineated by multiple GPS points. (Excellent)
 - Include map or spreadsheet with coordinates.
- The above GPS point is at the center of the pool. (Good)



5. VERNAL POOL HABITAT INFORMATION

a. Habitat survey date (only if different from indicator survey dates on page 3): _____

b. Wetland habitat characterization

Choose the best descriptor for the landscape setting:

- Isolated depression, Pool associated with larger wetland complex, Floodplain depression, Other:

Check all wetland types that best apply to this pool:

- Forested swamp, Wet meadow, Slow stream, Dug pond or borrow pit, Shrub swamp, Lake or pond cove, Floodplain, Peatland (fen or bog), Abandoned beaver flowage, Mostly unvegetated pool, Roadside ditch, Emergent marsh, Active beaver flowage, ATV or skidder rut, Other:

c. Vernal pool status under the Natural Resources Protection Act (NRPA)

i. Pool Origin: Natural, Natural-Modified, Unnatural, Unknown

If modified, unnatural or unknown, describe any modern or historic human impacts to the pool (required):

possibly natural-modified by development on adjacent parcel.

ii. Pool Hydrology

Select the pool's estimated hydroperiod AND provide rationale in box (required):

- Permanent, Semi-permanent, Ephemeral, Unknown

Explain:

Deepest areas of pool may have water all year (off-site and unable to verify depths)

Maximum depth at survey: 0-12" (0-1 ft.), 12-36" (1-3 ft.), 36-60" (3-5 ft.), >60" (>5 ft.)

Approximate size of pool (at spring highwater): Width: 65 m, ft, Length: 190 m, ft

Predominate substrate in order of increasing hydroperiod:

- Mineral soil (bare, leaf-litter bottom, or upland mosses present), Organic matter (peat/muck) shallow or restricted to deepest portion, Mineral soil (sphagnum moss present), Organic matter (peat/muck) deep and widespread

Pool vegetation indicators in order of increasing hydroperiod (check all that apply):

- Terrestrial nonvascular spp., Wet site ferns, Dry site ferns, Wet site shrubs, Moist site ferns, Wet site graminoids, Moist site vasculars, Aquatic vascular spp., Sphagnum moss, Floating or submerged aquatics, No vegetation in pool

Faunal indicators (check all that apply):

- Fish, Bullfrog or Green Frog tadpoles, Other:

iii. Inlet/Outlet Flow Permanency

Type of inlet or outlet (a seasonal or permanent channel providing water flowing into or out of the pool):

- No inlet or outlet, Permanent inlet or outlet, Intermittent inlet, Other or Unknown (explain):



Maine State Vernal Pool Assessment Form



6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/12/2022, 5/3/2022

b. Indicator abundance criteria and pool survey effort

- Is pool depression bisected by 2 ownerships (straddler pool)? Yes No
- Was the entire pool surveyed for egg masses? Yes No; what % of entire pool surveyed? 30
- For each indicator species, indicate the exact number of egg masses, confidence level for species determination, and egg mass maturity. Separate cells are provided for separate survey dates.

INDICATOR SPECIES	Egg Masses (or adult Fairy Shrimp)						Tadpoles/Larvae ⁴				
	Visit #1	Visit #2	Visit #3	Confidence Level ¹		Egg Mass Maturity ²		Observed		Confidence Level ¹	
Wood Frog	0	0									
Spotted Salamander	2	7		3	3		M				
Blue-spotted Salamander	0	0									
Fairy Shrimp ³	0	0									

1-Confidence level: 1 = <60%, 2 = 60-95%, 3 = >95%

2-Egg mass maturity: F= Fresh (<24 hrs), M= Mature (round embryos), A= Advanced (loose matrix, curved embryos), H= Hatched or Hatching

3-Fairy shrimp: X = present

4-Tadpoles/larvae: X = present

c. Rarity criteria

- Note any rare species associated with vernal pools. Observations should be accompanied by photographs.

SPECIES	Method of Verification*			CL**	SPECIES	Method of Verification*			CL**
	P	H	S			P	H	S	
Blanding's Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Wood Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Spotted Turtle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Ribbon Snake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ringed Boghaunter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

*Method of verification: P = Photographed, H = Handled, S = Seen

**CL - Confidence level in species determination: 1= <60%, 2= 60-95%, 3= >95%

d. Optional observer recommendation:

- SVP Potential SVP Non Significant VP Indicator Breeding Area

e. General vernal pool comments and/or observations of other wildlife:

Pool continues off-site and appears to have very good habitat east of area surveyed.

Send completed form and supporting documentation to: VernalPool.MDIFW@maine.gov

NOTE: Digital submissions are preferred but if not possible, please mail to: Maine Department of Inland Fisheries and Wildlife
Attn: Vernal Pools
106 Hogan Road, Suite 1
Bangor, ME 04401

For MDIFW use only Reviewed by MDIFW Date: _____ Initials: _____

This pool is: Significant Potentially Significant but lacking critical data Not Significant due to: does not meet biological criteria. does not meet MDEP vernal pool criteria.

Comments: _____

Exhibit D
FIRM Map

Contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620, or (800) 424-8872.



APPROXIMATE SCALE

800 0 800 FEET



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
RAYMOND,
MAINE
CUMBERLAND COUNTY

PANEL 15 OF 20
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
230205 0015 B

EFFECTIVE DATE:
MAY 5, 1981



federal emergency management agency
federal insurance administration

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at <https://msc.fema.gov>.

Exhibit E
Stormwater Management