Maine Department of Environmental Protection
Natural Resources Protection Act
Individual Permit Application

Three Rivers Solar Power Project
T16MD, Hancock County, Maine

Applicant: Three Rivers Solar Power, LLC
Attention: Dave Fowler, Director
89 Main Street
Yarmouth, ME 04096

Agent: Acheron Engineering Services
Attention: Kirk Ball, P.E.
147 Main Street
Newport, Maine 04953

Natural Resources Consultant:
Atlantic Resources Co, LLC
Attention: Aleita M. Burman
P.O. Box 145
Orrington, ME 04474

November 01, 2019

TABLE OF CONTENTS

APPLICATION FOR A NATURAL RESOURCES PROTECTION ACT PERMIT

➔**PLEASE TYPE OR PRINT IN *BLACK INK ONLY***

1. Name of Applicant:	**Three Rivers Solar Power, LLC Attention: Dave Fowler, Director**	**5.Name of Agent:**	**Acheron Engineering Services Attention: Kirk Ball, P.E.**
2. Applicant's Mailing Address:	**89 Main Street Yarmouth, ME 04096**	**6. Agent's Mailing Address:**	**147 Main Street Newport, Maine 04953**
3. Applicant's Daytime Phone #:	**(207) 461-0666**	**7. Agent's Daytime Phone #:**	**(207) 368-5700**
4. Applicant's Email Address:	**dfowler@swiftcurrentenergy.com**	**8. Agent's Email Address:**	**kball@acheronengineering.com**

9. Location of Activity: (Nearest Road, Street, Rt.#)	**75-00-0**	**10. Town:**	**T16MD**	**11. County:**	**Hancock**

12. Type of Resource: (Check all that apply)	❑ River, stream or brook ❑ Great Pond ❑ Coastal Wetland **X** Freshwater Wetland ❑ Wetland Special Significance **X** Significant Wildlife Habitat ❑ Fragile Mountain	**13. Name of Resource:**	**Unnamed**
		14. Amount of Impact: (Sq.Ft.)	**Fill: 0 sq.ft.** **Veg Management: 232,865 sq.ft. (5.35 acres)** **SVP Habitat: 179,141 sq.ft. upld**

15. Type of Wetland: (Check all that apply)	❑ Forested X Scrub Shrub (Logged) X Emergent (Ag Field) ❑ Wet Meadow ❑ Peatland ❑ Open Water ❑ Other_____	**FOR FRESHWATER WETLANDS**		
		Tier 1	*Tier 2*	*Tier 3*
		❑ 0 - 4,999 sq ft. ❑ 5,000-9,999 sq ft ❑ 10,000-14,999 sq ft	❑ 15,000 – 43,560 sq. ft.	**X > 43,560 sq. ft**. ❑ smaller than 43,560 sq. ft., not eligible for Tier 1

16. Brief Activity Description:	**The project is an approximately 465-acre solar installation with substation. For further details, refer to Attachment 1 – Activity Description.**

17. Size of Lot or Parcel & UTM Locations:	❑ _____square feet, or X 1,115+/-acres	UTM Northing: 4952585.97	UTM Easting: 571331.88

18. Title, Right or Interest:	❑ own ❑ lease **X purchase option**

19. Deed Reference Numbers:	Book#: 6020 Page: 38	**20. Map and Lot Numbers:**	Map #: LUPC 01	Lot #: 1.3, 4.1, 13.1	
21. DEP Staff Previously Contacted:	Maria Lentine-Eggett	**22. Part of a larger project:**	❑ Yes **X** No	**After-the-Fact:**	❑ Yes **X** No

23. Resubmission of Application?:	❑ Yes➔ **X** No	**If yes, previous application #**		**Previous project manager:**	
24. Written Notice of Violation?:	❑ Yes ➔ **X** No	**If yes, name of DEP enforcement staff involved:**		**25. Previous Wetland Alteration:**	❑ Yes **X** No

26. Detailed Directions to the Project Site:	From the JCT of Route 179 and 9 in Aurora, continue east on Route 9 ~4 mi. Take a right, then bear left onto Spectacle Pond Rd, continue ~7 miles. Turn right after Spectacle Pond (unnamed road), continue for ~0.3 mi, then bear left and continue for ~3.5 mi. Turn left onto 75-00-0 and go for 2.1 mi to site.

27. TIER 1	**TIER 2/3 AND INDIVIDUAL PERMITS**	
❒ Title, right or interest documentation	X Title, right or interest documentation	X Erosion Control/Construction Plans
❒ Topographic Map	X Topographic Map	❒ Functional Assessment (Not Required)
❒ Narrative Project Description	X Copy of Public Notice/Public Information Meeting Documentation	X Compensation Plan
❒ Plan or Drawing (8 1/2" x 11")	X Wetlands Delineation Report that contains the Information listed under Site Conditions	X Appendix A
❒ Photos of Area	X Alternatives Analysis including description of how wetland impacts were Avoided/Minimized	X Statement/Copy of cover letter to MHPC
❒ Statement of Avoidance & Minimization		❒ Description of Previously Mined Peatland, if required
❒ Statement/Copy of cover letter to MHPC		

28. FEES Amount Enclosed:	$2,305.00

CERTIFICATIONS AND SIGNATURES LOCATED ON PAGE 2

IMPORTANT: IF THE SIGNATURE BELOW IS NOT THE APPLICANT'S SIGNATURE, ATTACH LETTER OF AGENT AUTHORIZATION SIGNED BY THE APPLICANT.

By signing below the applicant (or authorized agent), certifies that he or she has read and understood the following :

DEP SIGNATORY REQUIREMENT

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor a permit be issued.

CORPS SIGNATORY REQUIREMENT

USC Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry shall be fines not more than $10,000 or imprisoned not more than five years or both. I authorize the Corps to enter the property that is subject to this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein.

DEP SIGNATORY REQUIREMENT

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

Further, I hereby authorize the DEP to send me an electronically signed decision on the license I am applying for with this application by emailing the decision to the address located on the front page of this application (see #4 for the applicant and #8 for the agent)."

_____Date:_____

SIGNATURE OF AGENT/APPLICANT

NOTE: Any changes in activity plans must be submitted to the DEP and the Corps in writing and must be approved by both agencies prior to implementation. Failure to do so may result in enforcement action and/or the removal of the unapproved changes to the activity.

ATTACHMENT 1

Project Description

ATTACHMENT 1 - Project Description

1.1 Introduction

This Maine Department of Environmental Protection (MDEP) Natural Resources Protection Act (NRPA) Individual Permit Application is submitted by Three Rivers Solar Power, LLC for Protected Natural Resources alteration during development of the Three Rivers Solar project in T16MD, Hancock County, Maine. Specifically, this Application is for installation of solar panels in upland within 250 feet of a Significant Vernal Pool, and vegetation height management in wetlands within the solar array area.

This Application and Attachments were prepared by Acheron Engineering Services, the project civil engineers; Three Rivers Solar Power, LLC, the project Applicant, and Atlantic Resource Co, LLC, the project natural resource consultants. MDEP Site Location of Development and Stormwater Applications, prepared by Swift Current Energy and Acheron Engineering Services, are submitted concurrently with this NRPA application.

1.2 Project Description

The project is construction of the Three Rivers Solar Power Project, an approximately 465-acre[1] solar panel installation with associated substation in T16MD, Maine, an unorganized township located between Deblois and Eastbrook in Hancock County, Maine. A Site Location Map is included with project plans in Attachment 5.

The project is within an approximately 1,115-acre area of land (area of Title, Right and/or Interest or "TRI Area") within which approximately 696-acres were re-zoned for solar development (to D-CI) in 2018 by the Maine Land Use Planning Commission (LUPC). The TRI Area is located west of the West Branch of the Narraguagus River, north and east of Colson Branch, and south of Mahanon Brook. An Emera owned utility corridor runs roughly northwest/southeast through the southern end of the TRI Area. The TRI Area is mainly accessed by seasonal gravel roads from Eastbrook and Deblois. Construction access will be from the west via Route 9 and Spectacle Pond Road.

[1] Please note that the Protected Natural Resources Report by Atlantic Resource Co, LLC, submitted as the Site Conditions Report in Attachment 9 indicates that the project development area is 520-acres. This is the area that was assessed during those services, but was subsequently revised to 465-acres during the design phase to avoid wetland alteration.

There are six proposed solar array development areas within the TRI area, labeled on project plans as Areas #1, #2, #3, #4, #5 and #6. A proposed substation, to be located in Area #6 adjacent to the Emera utility corridor, will connect power generated at the solar installation to the electrical grid.

The solar installation will include 346,000 linear feet of 12' long by 6' wide solar panels that are tilted and are elevated at between 4' to 8' off the ground. The panels are supported by two (2) 8" X 3" C-channel columns that are driven into the ground. There will be approximately 20' width rows between the panel rows.

The substation will be approximately 480' long by 250' wide, and will include two 16' X 40' buildings and a 85' X 320' parking and equipment area, as well as electrical infrastructure. It will be fenced and labeled to prevent entry by people or wildlife.

1.3 Protected Natural Resource Impacts

Direct Impacts: Significant Wildlife Habitat - Solar panels will be installed on approximately 51% of the upland area within a Significant Vernal Pool Habitat documented within Area #1, requiring a MDEP NRPA Individual Permit. Refer to Plans in Attachment 5.

There are no proposed impacts to the Significant Vernal Pool envelope. The Significant Vernal Pool Habitat (the pool and the area within a 250' radius of the pool) has approximately 14,770 sq. ft. (~4%) of existing alteration from roads. The proposed development is approximately 179,141 sq. ft. (51%) of uplands within the Habitat area, of which approximately 48.5 sq. ft. is direct upland alteration for support posts. The total of existing and proposed alteration to the Significant Vernal Pool Habitat is 193,911 sq. ft. (~55% of 250' radius).

Direct impacts to the Significant Vernal Pool Habitat are for the support posts. Indirect impacts include shading by the solar panels; however, there will be approximately 20' between the panel rows, allowing direct sunlight to the ground. Additional indirect impacts include vegetation height maintenance; the area under the panels will be mowed to approximately 1 foot in height on a yearly or bi-yearly bases.

Compensation for this anticipated loss of Significant Vernal Pool Habitat is payment into the Maine In-Lieu Fee Compensation Program of $40,721.31, as detailed in the Compensation Report in Attachment 13. As per MDEP guidelines, a wetland functional assessment is not required for this activity.

Indirect Impacts: Vegetation Height Management - The proposed project will have no direct wetland impacts. Solar panels will be installed up to the edge of delineated wetlands, but not in, on or over the wetlands. However, vegetation in wetlands that are within the proposed solar array areas will be managed for height so as not to shade the solar panels and to allow for continued panel and component maintenance below the panels.

The proposed development areas that are not already cleared of scrub-shrub woody vegetation will be cleared prior to solar panel installation. After panel installation, vegetation height under the panels, in wetlands and in uplands, will be mowed to approximately 1 foot in height on a yearly or bi-yearly basis.

This Application is for 232,865 sq. ft. (5.35 acre) of indirect wetland impact as vegetation maintenance, requiring a MDEP NRPA Tier 3 Permit. The vegetation maintenance will occur in existing scrub-shrub (PSS1E) wetlands and emergent, persistent (PEM1E) wetlands that were formerly forested (PFO) prior to logging and agricultural field conversion. The wetland vegetation maintenance will occur in MDEP classified "Wetlands Not of Special Significance". As per MDEP guidelines, neither a wetland functional assessment or compensation are required for vegetation maintenance in wetlands.

Trees will not be cut for the project as the site was previously cleared and/or logged.

ATTACHMENT 2

Alternatives Analysis

ATTACHMENT 2 – Alternatives Analysis

2.1 Project Purpose and Need

The purpose of the project is construction of a 100-megawatt solar energy facility and associated substation within the approximately 1,115-acre TRI Area, and within the 696-acre area of land in T16MD, Maine that was re-zoned by the Maine Land Use Planning Commission (LUPC) for this use in 2018. The need for the project is to provide a large-scale renewable energy source to Maine's energy grid.

In June 2019 the Maine Legislature and Governor Janet Mills enacted legislation calling on the state to: 1) reduce its greenhouse gas emissions by 45 percent by 2030 and 80 percent by 2050; and 2) increase the state's Renewable Portfolio Standard from 40 percent today to 80 percent by 2030, with a goal of 100 percent renewable energy by 2050.

2.2 Statement

The least environmentally damaging but practicable alternative that meets the project purpose and need is the current proposal. The alteration of Protected Natural Resources on the project site has been avoided and minimized to the extent feasible considering cost, existing technology and logistics based on the overall purpose of the project.

2.3 Project Site Requirements

When looking for a location to site a large-scale solar energy facility, Swift Current Energy (of which Three Rivers Solar Power, LLC is a subsidiary of), has several site criteria to be met. Requirements for the property on which a solar energy facility can be developed include that it is adjacent to a high voltage utility corridor with the ability to accept the energy made at the facility; is zoned correctly for the proposed development (or is able to be re-zoned); is available at a reasonable price; is located on a road that can be used during the installation and maintenance phases, or on a road that can be easily upgraded; has a lot size of between 200 and 1000 acres configured to accept a solar array producing between 100 and 200 megawatts; has a lack of physical and environmental restrictions such as excessive bedrock, steep slopes, and protected natural resources; and has a favorable ability to be permitted on the property.

2.4 Alternatives Analysis

The Applicant considered the following alternatives to the project:

1. No Action
2. Alternative Site Selection
3. Reducing the Size, Scope, Configuration or Density and Alternative Project Designs

2.4.1 No Action

Swift Current Energy is a large-scale solar energy developer in the United States with current solar facility projects in Maine, Kentucky, Illinois, and Texas. It is the mission of Swift Current Energy to seek locations for and to develop sustainable energy solar projects throughout the United States. This project meets the mission and efforts of Swift Current Energy. Under a no-build option, the outcome does not meet the need for sustainable energy sources in Maine, the United States and the world, and does not meet the business model of Swift Current Energy. More specifically, the no action alternative is wholly inconsistent with Maine's aggressive goals for increased renewable energy generation and decreased greenhouse gas emissions. See 35-A M.R.S. sec. 3210 (100% of electricity sold in Maine to be from renewable sources by 2050); 38 M.R.S. sec. 576-A (80% reduction in Maine greenhouse gas emissions by 2050).

Development of sustainable solar energy projects has a myriad of benefits to human health and the environment by increasing energy source diversity, decreasing reliance on fossil fuels and other non-sustainable or high environmental impact energy options, decreasing reliance on Middle East energy sources and reliance on this politically unstable region, decreasing carbon based emissions and resultant effects on human health, decreasing greenhouse gas emissions and resultant global climate change, and generally contributing to the current global shift from non-sustainable to sustainable energy sources. Solar energy research and development, manufacture, permitting, installation and maintenance is contributing to a significant new employment base in the United States. Solar energy has a low environmental impact throughout manufacture to installation phases; no large-scale mining needs to occur for solar power.

This solar energy installation is compatible with traditional land uses in the Unorganized Townships in Maine. Both passive and active recreational pursuits such as hunting, fishing, snowmobiling, ATV use, hiking, biking, photography, wildlife viewing, etc. are not hindered by installation of this solar array. Logging and forestry are not hindered by installation of this solar array.

2.4.2 Alternative Site Selection

Swift Current Energy is continuously seeking land on which to develop solar energy facilities. Alternative sites that have been identified as potential candidates for solar energy facilities are actively being pursued for such use. The currently proposed site meets all of the project site requirements of Swift Current Energy.

All potential sites contain resources that could be impacted by development. The proposed site is favorable compared to other sites because it provides the quantity land needed for the development of approximately 100MW of solar energy generation with relatively few resource impacts.

2.4.3 Reducing the Size, Scope, Configuration or Density and Alternative Project Designs

Three Rivers Solar Power, LLC needs to produce as much energy at this site as possible, but not exceeding 100-megawatts which is the maximum allowable power into the Emera powerline at the site. Any amount less than 100-megawatts reduces the attractiveness of the project to investors, which are the source of funding for the project, and reduces the efficacy of the overall project considering land, permitting and construction fees.

Three Rivers Solar Power, LLC worked with RBI Solar Inc. to design the proposed solar energy facility for maximum energy output. This project will use the most state-of-the-art solar technology available as of 2019. The solar arrays are configured for maximum solar exposure throughout as much of the daylight hours as possible. The density of the development is the maximum density while achieving maximum solar exposure. Given the output needs, the entire upland land area available will need to be covered by the

array, except for approximately 2-acres where the substation will be located. Given this, the size, scope, configuration and/or density of the project cannot be reduced.

2.5 Avoiding and Minimizing Resource Alteration

Three Rivers Solar Power, LLC gave RBI Solar Inc. their criteria for the layout of the installation, which included avoiding and minimizing alterations to Protected Natural Resources to the greatest extent practicable while maintaining a 100-megawatt output. To this end, RBI Solar Inc. was able to design the facility while avoiding direct impacts to wetlands and to areas adjacent to Wetlands of Special Significance that have adjacency setbacks.

Significant Wildlife Habitat - RBI Solar, Inc. was unable to avoid alterations to the SVP Habitat while maintaining the required 100-megawatt output and while avoiding direct wetland alterations, alterations to areas adjacent to Wetlands of Special Significance, and avoiding other undevelopable areas and areas near shading sources. The solar installation will use state-of-the-art solar technology, the panels having the highest energy output as possible, which minimizes the land area needed for the project.

The SVP Habitat area within the 250-foot setback of the SVP is currently converted agricultural field, with all of the trees and most of the other woody vegetation over about 1-3' in height removed. The SVP itself will not be altered for the development. Direct alteration to the SVP Habitat area will be minimal for support posts. Indirect impacts will be shading below the panel rows; however, there is approximately 20' between the 6' wide panel rows which will allow more sunlight to the ground in the area of development than not. The vegetation beneath the panels will be mowed to approximately 1 foot in height on a yearly or bi-yearly bases.

The proposed mowing is less intensive management than if the conversion to blueberry field were to continue. The combination of little direct impact, minimal indirect impact, and increased shading (the SVP setback was shaded in the forest prior to agricultural conversion), does not preclude on-going SVP habitat within the 250-foot setback from the SVP and may provide better conditions than current conditions (which is full sun, active conversion) or previously proposed blueberry field conditions.

Indirect Impacts: Vegetation Height Management – Vegetation underneath the solar panels, both in uplands and wetlands, needs to be managed to prevent overtopping and shading of the panels, and to allow movement and maintenance of the panels from below. The combination of little direct impact to uplands, minimal indirect impact, and increased shading (the solar development areas were shaded in the forest prior to agricultural conversion), does not preclude on-going functioning of these areas and may provide better conditions than current conditions (full sun, active conversion) or previously proposed blueberry field conditions.

ATTACHMENT 3

Site Location Map

(Blank - Refer to Sheet 1 of Attachment 5 – Plans)

ATTACHMENT 4

Color Photographs

(refer also to Protected Natural Resources Report in Attachment 9)

Photo 1: Looking west at northwest corner of Area #1. Photograph taken 08/06/19.

Photo 2: Looking east at northeast corner of Area #1. Photograph taken 08/06/19.

Photo 3: Looking west at central portion of Area #1. Photograph taken 08/06/19.

Photo 4: Looking south at southern portion of Area #1. Photograph taken 08/06/19.

Photo 5: Looking west Area #2. Photograph taken 08/06/19.

Photo 6: Looking west at Area #3. Photograph taken 08/06/19.

Photo 7: Looking west at Area #4. Photograph taken 08/06/19.

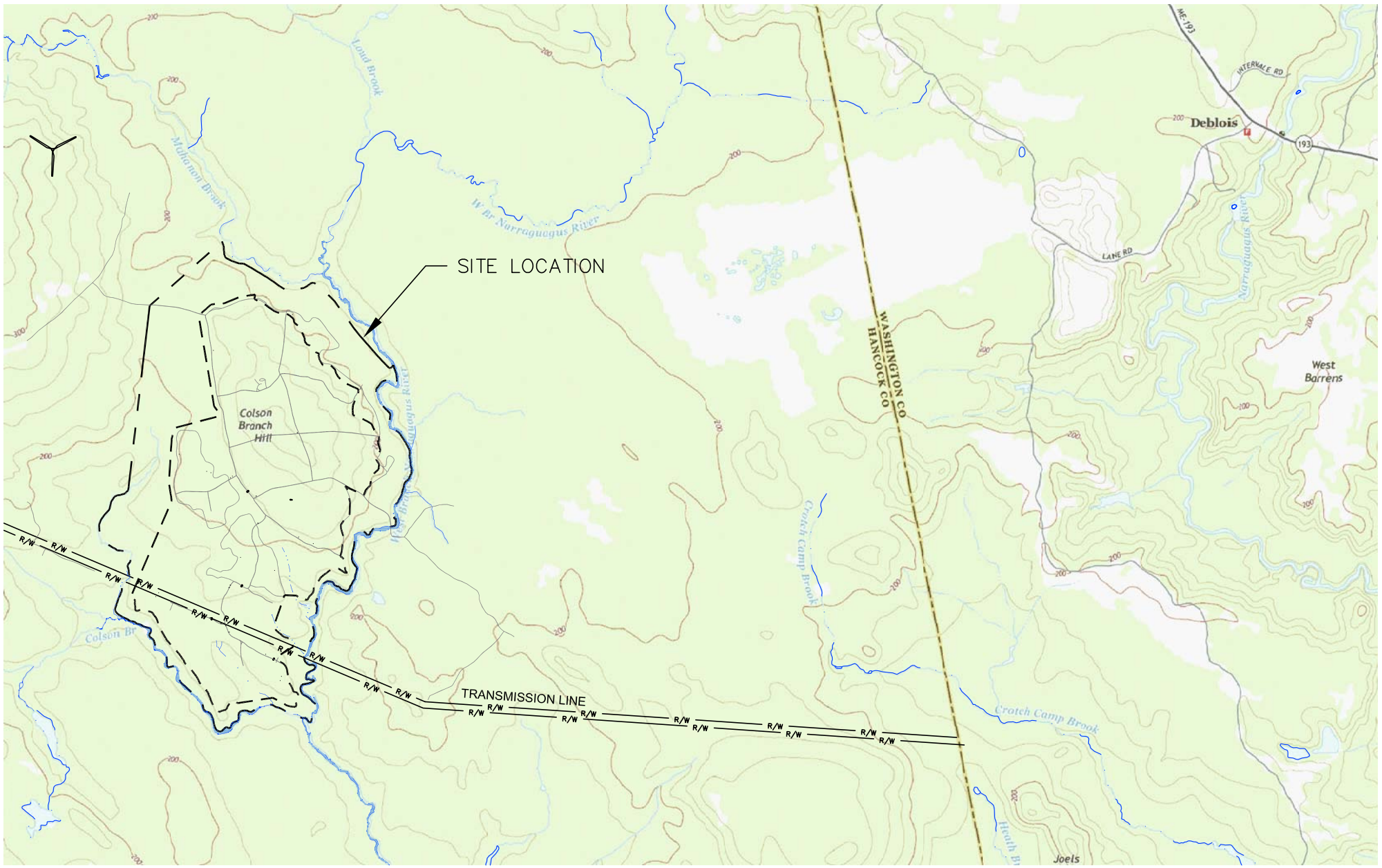
Photo 8: Looking west at northeast corner of Area #5. Photograph taken 08/06/19.

Photo 9: Looking west at Area #6. Substation location in forefront. Photograph taken 08/06/19.

Photo 10: Looking west at potential laydown yard area. Photograph taken 09/18/19.

ATTACHMENT 5

Plans



LEGEND

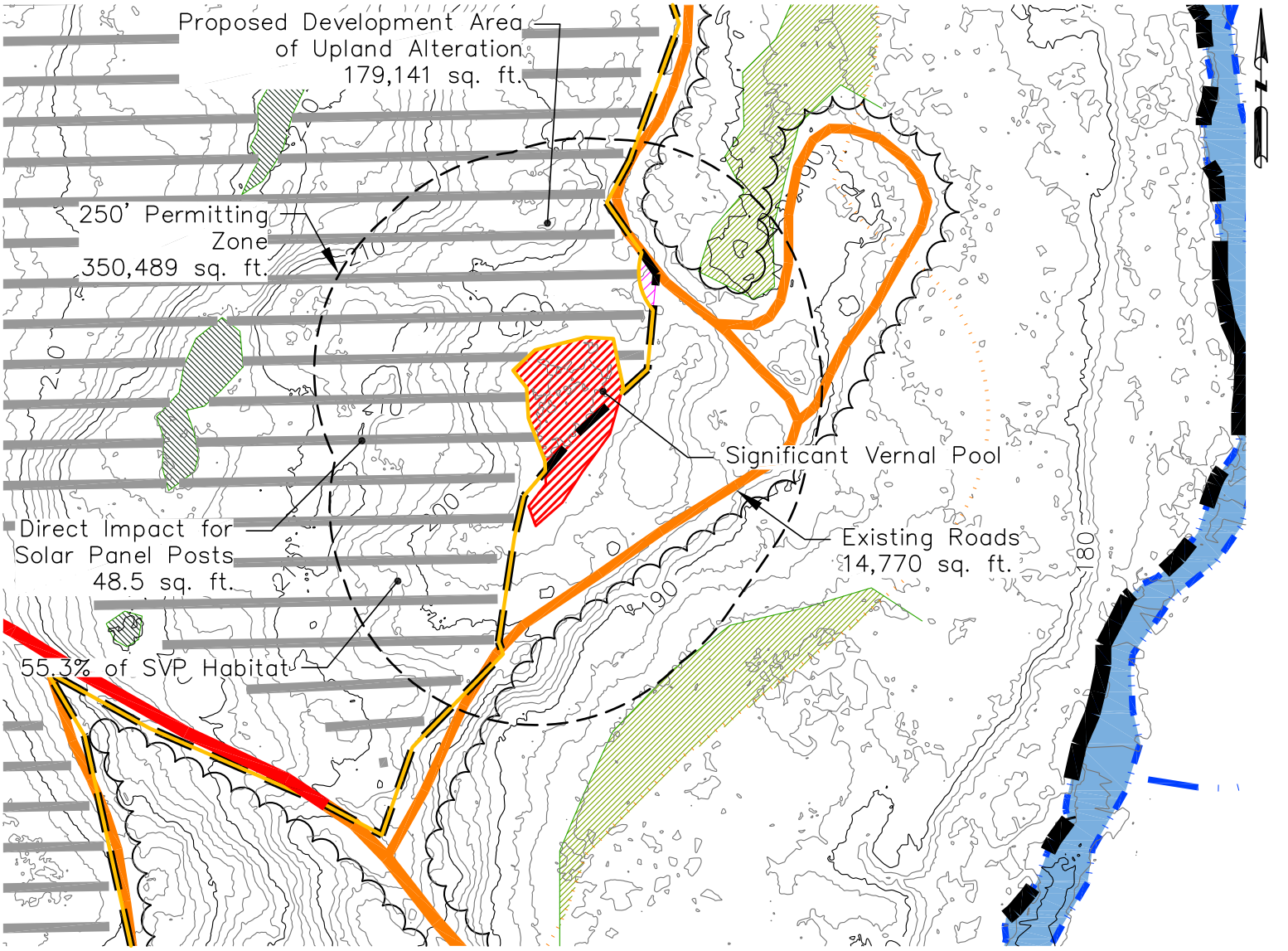
- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- R/W R/W - TRANSMISSION R.O.W. LINE

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

Site Location Map
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 3000'
Date: 10-9-19	Sheet: 5-1



LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS EXEMPT
- EXISTING ROADS OUTSIDE PROJECT AREA
- EXISTING ROADS TO BE REVEGETATED
- TREE LINE
- TRANSMISSION R.O.W. LINE (R/W)
- STREAM
- CONTOURS (600)
- SIGNIFICANT VERNAL POOL (SVP)
- WETLAND (SEE NOTE 5)
- WETLAND AREA FOR PROPOSED VEGETATION HEIGHT MAINTENANCE
- 75' WETLAND OF SPECIAL SIGNIFICANCE SETBACK
- 250' SIGNIFICANT VERNAL POOL SETBACK
- DEVELOPMENT BOUNDARY
- SOLAR PANELS

0 200 400 600

SCALE: 1" = 200'

ARC
Atlantic Resource Co, LLC

Significant Vernal Pool Habitat Alteration Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 200'
Date: 10-9-19	Sheet: 5-2

PROPERTY LINE

ZONED LUPC PROJECT BOUNDARY

MATCH LINE

MATCH LINE

MATCH LINE

MATCH LINE

AREA #1

AREA #2

AREA #3

AREA #4

AREA #5

AREA #6

SIGNIFICANT VERNAL POOL
SEE SHEET 5-2

PROPOSED SUBSTATION

150.0'

100.0'

150.0'

R/W

TRANSMISSION LINE

0 400 800 1200

SCALE: 1" = 400'

NOTES:

1. THE ELLIOT JORDAN BOUNDARY DEPICTED IN THIS DRAWING IS BASED ON A SURVEY DONE BY KEITH BLANCHARD OF PLISGA & DAY LAND SURVEYORS TITLED BOUNDARY SURVEY 1,115 ACRES ±, ELLIOT JORDAN AND SON, INC.
2. THE CONTOURS DEPICTED IN THIS DRAWING WERE PROVIDED TO US BY AMERICAN FOREST MANAGEMENT.
3. PLISGA & DAY LAND SURVEYORS VERIFIED CONTOURS WITH CONTROL SET ON THE NAVD88 DATUM.
4. THIS PROTECTED NATURAL RESOURCES ALTERATION AND OVERVIEW PLAN, AND DETAIL SHEETS ARE TO SHOW THE LOCATION, TYPE, AND EXTENT OF PROPOSED PROTECTED NATURAL RESOURCE ALTERATION FOR THE THREE RIVERS SOLAR POWER, LLC SOLAR ENERGY PROJECT IN T16MD, MAINE.
5. THE "WETLAND" COLOR AND HATCHING SHOWN ON THESE PLANS REPRESENTS IDENTIFICATION AND DELINEATION OF WETLANDS WITHIN THE PROPOSED DEVELOPMENT AREAS (SEE DEVELOPMENT BOUNDARY), AND GROUND-TRUTHING OF WETLANDS IDENTIFIED DURING A DESKTOP REVIEW CONDUCTED WITHIN 250' OF THE PROPOSED DEVELOPMENT AREAS. AREAS OF GREATER THAN 20,000 SQUARE FEET OF EMERGENT MARCH VEGETATION OR OPEN WATER THAT WERE WITHIN 250' OF THE DEVELOPMENT BOUNDARY WERE ALSO DELINEATED AND SETBACKS SHOWN ON THIS PLAN FROM WETLANDS THAT CONTAIN THESE FEATURES ARE BASED ON THIS FIELD DELINEATION.
6. ADDITIONAL INFORMATION ON PROTECTED NATURAL RESOURCES AND A DETAILED PLAN ARE INCLUDED IN ATLANTIC RESOURCE CO, LLC'S PROTECTED NATURAL RESOURCES REPORT, THREE RIVERS SOLAR PROJECT, T16MD, DATED AUGUST 26, 2019.
7. THESE PLANS ARE FOR PLANNING AND PERMITTING PURPOSES.

LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- EXISTING ROADS EXEMPT
- EXISTING ROADS OUTSIDE PROJECT AREA
- EXISTING ROADS TO BE REVEGETATED
- TREE LINE
- TRANSMISSION R.O.W. LINE
- STREAM
- CONTOURS
- SIGNIFICANT VERNAL POOL (SVP)
- WETLAND (SEE NOTE 5)
- WETLAND AREA FOR PROPOSED VEGETATION HEIGHT MAINTENANCE
- 75' WETLAND OF SPECIAL SIGNIFICANCE ADJACENCY SETBACK
- LIMIT OF SERVICES
- SOLAR PANELS
- STAGING AREA

Table 1: Proposed Wetland Vegetation Maintenance Areas

Area #	Wetland Vegetation Maintenance Area	Wetland Classifications (Cowardin)	Wetland Classifications (MDEP)
Area #1	126,691 sq. ft. (2.91 acres)	PSS1E (logged PFO) and PEM1E (partially converted ag field)	WNSS
Area #2	26,853 sq. ft. (0.62 acres)	PEM1E (partially converted ag field)	WNSS
Area #3	6,107 sq. ft. (0.14 acres)	PEM1E (partially converted ag field)	WNSS
Area #4	23,472 sq. ft. (0.54 acres)	PSS1E (logged PFO)	WNSS
Area #5	43,188 sq. ft. (0.99 acres)	PSS1E (logged PFO) and PEM1E (partially converted ag field)	WNSS
Area #6	6,554 sq. ft. (0.15 acres)	PSS1E (logged PFO)	WNSS
232,865 sq. ft. (5.53 acres)	Total Area of Proposed Wetland Vegetation Maintenance		

WNSS - "Wetlands Not of Special Significance"

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

No.	Revision Description	Drwn.	Chk'd	Date
–	–	–	–	–
–	–	–	–	–

Protected Natural Resources Alteration Plan – Overview
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 400'
Date: 10-9-19	Sheet: 5-3

LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- EXISTING ROADS EXEMPT
- EXISTING ROADS OUTSIDE PROJECT AREA
- EXISTING ROADS TO BE REVEGETATED
- TREE LINE
- TRANSMISSION R.O.W. LINE
- STREAM
- CONTOURS
- SIGNIFICANT VERNAL POOL (SVP)
- WETLAND (SEE NOTE 5)
- WETLAND AREA FOR PROPOSED VEGETATION HEIGHT MAINTENANCE
- 75' WETLAND OF SPECIAL SIGNIFICANCE ADJACENCY SETBACK
- DEVELOPMENT BOUNDARY
- SOLAR PANELS
- STAGING AREA

STAGING AREA 2.5 ACRES

PROPERTY LINE

AREA #1

ZONED LUPC PROJECT BOUNDARY

AREA #2

MATCH LINE

MATCH LINE

WETLAND AREA:
13,754 SF

0 200 400 800

SCALE: 1" = 200'

NOTES:
(1) SEE NOTES SHEET 5-3.

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

No.	Revision Description	Drwn.	Chk'd	Date
–	–	–	–	–
–	–	–	–	–

Protected Natural Resources Alteration Plan – Northern
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 200'
Date: 10-9-19	Sheet: 5-4

MATCH LINE

MATCH LINE

WETLAND AREA: 2,820 SF

WETLAND AREA: 2,605 SF

WETLAND AREA: 5,251 SF

WETLAND AREA: 3,404 SF

WETLAND AREA: 12,449 SF

AREA # 2

ZONED LUPC PROJECT BOUNDARY

WETLAND AREA: 324 SF

WETLAND AREA: 1,044 SF

WETLAND AREA: 2,108 SF

WETLAND AREA: 1,717 SF

AREA # 3

WETLAND AREA: 261 SF

WETLAND AREA: 977 SF

AREA #1

WETLAND AREA: 50,781 SF

WETLAND AREA: 13,754 SF

WETLAND AREA: 4,755 SF

VERNAL POOL SEE SHEET 5-2

WETLAND AREA: 9,834 SF

WETLAND AREA: 1,336 SF

PROPERTY LINE

WETLAND AREA: 1,741 SF

WETLAND AREA: 4,255 SF

WETLAND AREA: 513 SF

WETLAND AREA: 18,131 SF

WETLAND AREA: 4,280 SF

WETLAND AREA: 11,487 SF

WETLAND AREA: 5,824 SF

LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- EXISTING ROADS EXEMPT
- EXISTING ROADS OUTSIDE PROJECT AREA
- EXISTING ROADS TO BE REVEGETATED
- TREE LINE
- R/W - TRANSMISSION R.O.W. LINE
- STREAM
- 600 - CONTOURS
- SIGNIFICANT VERNAL POOL (SVP)
- WETLAND (SEE NOTE 5)
- WETLAND AREA FOR PROPOSED VEGETATION HEIGHT MAINTENANCE
- 75' WETLAND OF SPECIAL SIGNIFICANCE ADJACENCY SETBACK
- DEVELOPMENT BOUNDARY
- SOLAR PANELS

MATCH LINE

MATCH LINE

0 200 400 800

SCALE: 1" = 200'

NOTES:
(1) SEE NOTES SHEET 5-3.

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

No.	Revision Description	Drwn.	Chk'd	Date
–	–	–	–	–
–	–	–	–	–

Protected Natural Resources Alteration Plan – Central
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 200'
Date: 10-3-19	Sheet: 5-5

MATCH LINE

MATCH LINE

150.0'

100.0'

150.0'

AREA #3

AREA #4

AREA #5

AREA #6

PROPOSED SUBSTATION

ZONED LUPC PROJECT BOUNDARY

PROPERTY LINE

PROPERTY LINE

WETLAND AREA: 6,998 SF

WETLAND AREA: 880 SF

WETLAND AREA: 5,740 SF

WETLAND AREA: 1,404 SF

WETLAND AREA: 6,114 SF

WETLAND AREA: 2,336 SF

WETLAND AREA: 1,456 SF

WETLAND AREA: 3,649 SF

WETLAND AREA: 12,395 SF

WETLAND AREA: 2,767 SF

WETLAND AREA: 2,005 SF

WETLAND AREA: 4,069 SF

WETLAND AREA: 3,278 SF

WETLAND AREA: 10,022 SF

WETLAND AREA: 996 SF

WETLAND AREA: 1,585 SF

WETLAND AREA: 930 SF

WETLAND AREA: 431 SF

WETLAND AREA: 933 SF

WETLAND AREA: 1,042 SF

WETLAND AREA: 4,184 SF

R/W

LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- EXISTING ROADS EXEMPT
- EXISTING ROADS OUTSIDE PROJECT AREA
- EXISTING ROADS TO BE REVEGETATED
- TREE LINE
- TRANSMISSION R.O.W. LINE
- STREAM
- CONTOURS
- SIGNIFICANT VERNAL POOL (SVP)
- WETLAND (SEE NOTE 5)
- WETLAND AREA FOR PROPOSED VEGETATION HEIGHT MAINTENANCE
- 75' WETLAND OF SPECIAL SIGNIFICANCE ADJACENCY SETBACK
- DEVELOPMENT BOUNDARY
- SOLAR PANELS

0 200 400 800

SCALE: 1" = 200'

NOTES:
(1) SEE NOTES SHEET 5-3.

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

No.	Revision Description	Drwn.	Chk'd	Date
–	–	–	–	–
–	–	–	–	–

Protected Natural Resources Alteration Plan – Southern
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 200'
Date: 10-3-19	Sheet: 5-6

ATTACHMENT 6

Additional Plans

(Blank - No Additional Plans)

ATTACHMENT 7

Construction Plan

ATTACHMENT 7 - Construction Plan (Acheron Engineering Services)

The Applicant is committed to constructing facilities that minimize environmental impacts and comply with regulatory requirements and recommendations.

Construction of the Project is projected to begin in the Spring of 2021 with the goal of project completion set for end of year 2021. The sequence of project construction will generally adhere to the timeline detailed below (Table 1.2), although adjustments may be necessary to accommodate various weather and environmental conditions.

The project site will be accessed by the network of existing logging roads. Construction will be mostly sequential with multiple construction activities occurring concurrently.

Construction of the Project is dependent on receipt of MDEP Site Location of Development, Natural Resource Protection Act permit and an ISO-NE Large Generator Interconnection Agreement. Site preparation will take place during the first phase of construction. Once the remaining portion of the Project Area with timber cover has been cleared, such areas will be de-stumped and rocks will be removed, similar to the activities required for cultivation of blueberries. Subsequently, the panel racking will be installed. The panel racking will be pile driven into the ground, therefore require minimal grading.
Following installation of the racking, panels will be placed onto the racking while collector lines are installed underground. Erosion control will be mostly associated with installation of the underground collector lines. There will be no new roads constructed. All existing roads are sufficient as is for both construction and maintenance of the Project.

Construction of the substation will occur concurrently with other work on the site.

Panels will be delivered to the site and may be temporarily staged at laydown areas or they will be delivered directly to the racking. This will depend on the final construction schedule. Panel installation will generally be linear with the racking installation.

Table 1 Anticipated construction activity timeline

Anticipated timeframe	Task
Week 1	Three Rivers Solar Power receive all permits & ISO-NE LGIA • Maine Site Location of Development Permit • NRPA Permit • Large Generator Interconnection Agreement
Weeks 2-26	Site preparation • De-stumping • Rock removal • Clearing remaining timber
Weeks 18-40	Panel racking installation Construction of new substation
Weeks 20-52	Underground collection installation Solar panel installation Completion of substation construction

ATTACHMENT 8

Erosion and Sedimentation Control Plan

EROSION AND SEDIMENTATION CONTROL

INSPECTION AND MAINTENANCE PLAN

Submitted by:

THREE RIVERS SOLAR POWER

TOWNSHIP 16 MD BPP

HANCOCK COUNTY, MAINE

Prepared by:

Acheron Engineering Services

147 Main Street
Newport, Maine 04953
(207) 368-5700

24466 Powell Road
Brooksville, Florida 34602
(352) 796-6236

DATE:

OCTOBER, 2019

1.0 Introduction

The purpose of this plan is to establish an inspection and maintenance process to employ during construction of the project and is intended to meet the requirements set forth in Chapter 500, Section 4(B) of the Stormwater Management Rules. The following section includes:

- A description of the project.
- Responsible parties for implementing the plan.
- Inspection and maintenance procedures during construction.
- Inspection and maintenance procedures after construction.

This plan was prepared by or under the supervision of, Kirk Ball, P.E., Acheron Engineering Services, 147 Main Street Newport, Maine 04953.

2.0 Project Description

Three Rivers Solar proposes to develop a 100 megawatt utility scale solar facility located in Township 16MD, BPP, Hancock County, Maine (Project). The project parcel is approximately 1,115 acres in size.

The scope of work includes, but is not limited to:

- Stump and boulder removal.
- Stump grinding and or burning.
- Road regrading.
- Revegetation of gravel roads.
- Installation of solar panels with up to 100 megawatt capacity and associated support structures.
- Installation of 35 inverters.
- Installation of buried collector lines.
- Construction of a 115kV substation.

The stormwater management BMPs include forested and meadow buffers. Please see that attached plan for specific locations of the BMPs.

3.0 Responsible Parties

During construction Elliott Jordan & Son will be responsible to ensure that the inspections are performed as described in the following sections. Following construction, the Three Rivers Solar's Environmental Manager will be responsible for overseeing or conducting the inspections and record keeping as described in Section 5. Recertification requirement, within three months of the expiration of each five-year interval from the date of issuance of the permit, the permittee shall certify the following to the Department:

1. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.
2. All aspects of the stormwater control system are operating as approved, have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the system, or portions of the system, as necessary.
3. The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.

Contact Information:

Three Rivers Solar Power, LLC
89 Main Street
Yarmouth, ME 04096
Tel. 857-315-5292

General Contractor:
Elliott Jordan & Son
456 Cave Hill Rd,
Waltham, ME 04605
Tel. 207-584-5403

4.0 Inspection and Maintenance During Construction

This plan applies to all temporary and permanent erosion control features/structures. During construction, all stormwater features and erosion control structures that remain in place shall be inspected weekly, or after each rainstorm producing 1" or greater rainfall, whichever is more frequent. All inspections shall be conducted/performed by an individual with knowledge of erosion and stormwater control practices and the conditions of the stormwater management permit issued by the Maine Department of Environmental Protection. All erosion and sedimentation controls structures shall be inspected and maintained for, but not limited to, the following:

A. <u>Sediment Barriers</u>
    1. Inspect weekly, before and after a storm.
    2. Verify that barriers are installed prior to any soil disturbance.
    3. Verify if silt fence is keyed properly and tight.
    4. Repair and/or replace barriers as needed.
    5. Verify barriers are removed when the site is stabilized. Silt fence should be cut at the ground surface.
    6. Water that is flowing under the silt-fence without treatment requires resetting the silt fence so the bottom of the fabric is buried into or covered with soil or stone.
    7. Sediments that have built up behind silt fence should be removed and the section of the silt fence reset (with new fabric and posts if signs of damage are evident).

8. Rips or holes in fabric require replacement of the section of silt fence with new fabric from post to post. Examine area for cause of problem and remove the threat.

B. Temporary Stabilization

1. Inspect disturbed areas weekly, before and after a storm.
2. Verify that areas that are idle for more than 14 days have been stabilized.
3. Verify that disturbed areas within 100 feet of a natural resource are stabilized each day.

C. Mulch

1. Inspect disturbed areas weekly, before and after a storm.
2. Verify that areas are seeded and mulched within 7 days of obtaining final grade.
3. Verify that erosion control mix is 4-6 inches thick.
4. Verify that erosion control blankets or hay mulch are anchored.

D. Stormwater Channels

1. Inspect disturbed areas weekly, before and after a storm.
2. Verify that ditches and swales are clear of obstruction, accumulated sediments or debris.
3. Verify that ditch lining/bottoms are free of erosion.

E. Buffers

1. Inspect before and after a storm.
2. Verify that areas that buffer are free of erosion and concentrated flows.
3. Verify that area downgradient of level spreaders is stable.
4. Inspect and remove any sediment accumulation within the level spreaders.

F. Winter Construction (Nov 1st to April 15th)

1. Inspect erosion control measures daily.
    i. Ensure final graded areas are mulched twice the normal rate and anchored.
    ii. Ensure that newly constructed ditches are lined with riprap.

If any corrective correction actions are needed based on inspections, they shall be started by the end of the following work day and completed within seven days or prior to the next rain event. Document the corrective actions and maintain with inspection forms. Inspection forms and corrective action documents shall be maintained for three years after permanent stabilization is achieved.

(See Appendix B for Inspection and Maintenance Log)

5.0 Inspection and Maintenance After Construction

After construction is finished, inspections must take place once per quarter, or after each rainstorm producing at least 1 inch of rainfall, whichever is more frequent (Appendix A). Such inspections are necessary to ensure the structures are functioning properly and are necessary as part of the 5-year recertification process for long-term maintenance of stormwater systems. If any structures are not functioning properly, they shall be repaired or replaced. All inspections shall be conducted/performed by an individual with knowledge of erosion and stormwater control practices and the conditions of the stormwater management permit issued by the Maine Department of Environmental Protection. All control structures shall be inspected and maintained for, but not limited to, the following:

A. Ditches and Swales

   a. Inspect annually, in spring and late fall and after heavy rains.

   b. Sediment deposits shall be removed if the depth is greater than 3".

   c. If erosion has scoured the ditch inverts, they shall be repaired with new loam, seed, fertilizer, and protective mulch or mesh until a new catch of grass is established.

   d. Slumping of the banks which should be repaired, seeded, and protected with mulch until a new catch of grass is established.

   e. Water is flowing by or around check dams which shall be rebuilt or repaired with more stone.

   f. Remove any woody vegetation growing through riprap.

   g. Repair riprap where underlying filter fabric or gravel is showing or stone has been dislodged.

B. Level Spreaders:

   a. Inspect annually in fall and after heavy rains for sand accumulation and debris that may reduce level spreader capacity.

   b. Sediment build up within the level spreader should be removed when it has accumulated to approximately 25% of design volume or channel capacity. Dispose of sediments appropriately.

   c. Remove debris, such as leaf litter, branches, and tree growth, as needed from the spreader.

   d. Vegetated spreaders may require mowing.

Document the corrective actions and maintain with inspection forms. Inspection forms and corrective action documents shall be maintained for five years after permanent stabilization is achieved.

(See Appendix B for Inspection and Maintenance Log)

6.0 Housekeeping

A. Spill Prevention & Response

Controls must be used to prevent pollutants from construction and waste materials stored on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.

NOTE: Any spill or release of toxic or hazardous substances must be reported to the Maine Department of Environmental Protection. For oil spills, call 1-800-482-0777 which is available 24 hours a day. For spills of toxic or hazardous material, call 1-800-452-4664 which is available 24 hours a day. For more information, visit the Department's website at: http://www.maine.gov/dep/spills/emergspillresp/

Clean-up assistance:

Clean Harbors Environmental: 207-772-2201

B. Groundwater protection

During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization. During dry months, all access roads should be wet down weekly or as needed.

C. Fugitive Sediment and Dust

Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

D. Debris and Other Materials

Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.

E. Excavation Dewatering

Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Maine Department of Environmental Protection.

F. Authorized Non-stormwater Discharges

Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

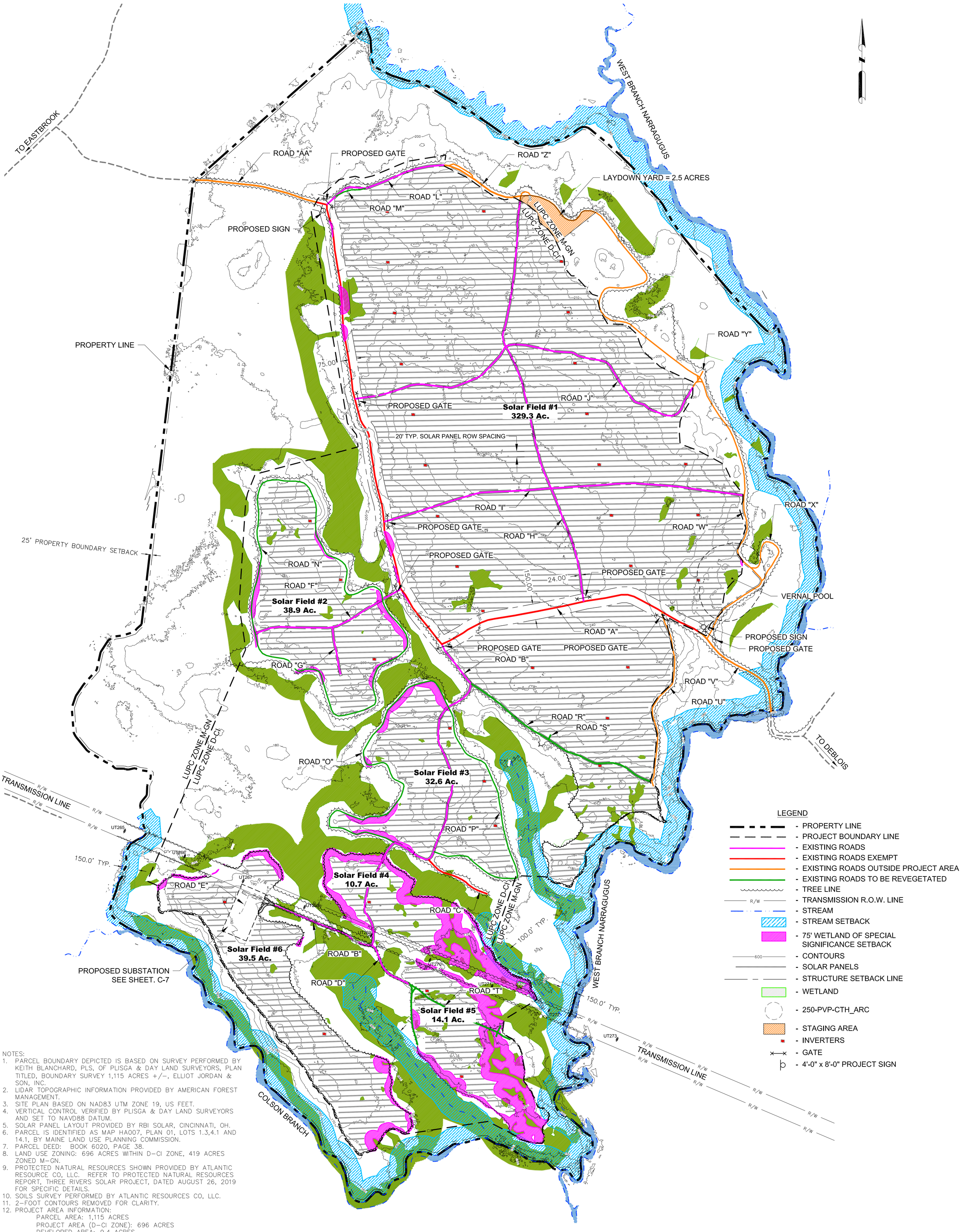
1. Discharges from firefighting activity;
2. Fire hydrant flushings;
3. Vehicle wash water if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
4. Dust control runoff in accordance with permit conditions;
5. Routine external building wash down, not including surface paint removal, that does not involve detergents;
6. Pavement wash water (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
7. Uncontaminated air conditioning or compressor condensate;
8. Uncontaminated groundwater or spring water;
9. Foundation or footer drain-water where flows are not contaminated;
10. Uncontaminated excavation dewatering;
11. Potable water sources including waterline flushings; and
12. Landscape irrigation.

G. **Unauthorized Non-stormwater Discharges**

The Maine Department of Environmental Protections' approval does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges in compliance with Department regulations. Specifically, the Department's approval does not authorize discharges of the following:

1. Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
2. Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
3. Soaps, solvents, or detergents used in vehicle and equipment washing; and
4. Toxic or hazardous substances from a spill or other release.

APPENDIX A: PLAN



NOTES:
1. PARCEL BOUNDARY DEPICTED IS BASED ON SURVEY PERFORMED BY KEITH BLANCHARD, PLS, OF PLISGA & DAY LAND SURVEYORS, PLAN TITLED, BOUNDARY SURVEY 1,115 ACRES +/−, ELLIOT JORDAN & SON, INC.
2. LIDAR TOPOGRAPHIC INFORMATION PROVIDED BY AMERICAN FOREST MANAGEMENT.
3. SITE PLAN BASED ON NAD83 UTM ZONE 19, US FEET.
4. VERTICAL CONTROL VERIFIED BY PLISGA & DAY LAND SURVEYORS AND SET TO NAVD88 DATUM.
5. SOLAR PANEL LAYOUT PROVIDED BY RBI SOLAR, CINCINNATI, OH.
6. PARCEL IS IDENTIFIED AS MAP HA007, PLAN 01, LOTS 1.3,4.1 AND 14.1, BY MAINE LAND USE PLANNING COMMISSION.
7. PARCEL DEED: BOOK 6020, PAGE 38.
8. LAND USE ZONING: 696 ACRES WITHIN D−CI ZONE, 419 ACRES ZONED M−GN.
9. PROTECTED NATURAL RESOURCES SHOWN PROVIDED BY ATLANTIC RESOURCE CO, LLC. REFER TO PROTECTED NATURAL RESOURCES REPORT, THREE RIVERS SOLAR PROJECT, DATED AUGUST 26, 2019 FOR SPECIFIC DETAILS.
10. SOILS SURVEY PERFORMED BY ATLANTIC RESOURCES CO, LLC.
11. 2−FOOT CONTOURS REMOVED FOR CLARITY.
12. PROJECT AREA INFORMATION:
    - PARCEL AREA: 1,115 ACRES
    - PROJECT AREA (D−CI ZONE): 696 ACRES
    - DEVELOPED AREA: 9.4 ACRES
    - DISTURBED AREA: 465.1 ACRES
    - IMPERVIOUS AREA: 7.6 ACRES
    - APPROXIMATE AREA OF SOLAR PANELS: 95.5 ACRES
    - LOT COVERAGE INCLUDING SOLAR PANELS: 9%
13. PROVIDE 12"X 18" "CAUTION: SOLAR POWER FACILITY: NO TRESPASSING" SIGNS ALONG PROJECT BOUNDARY, 3−5 FEET ABOVE GROUND NO FURTHER THAN 100−FEET APART. SEE NO TRESPASSING SIGN DETAIL.
14. LIGHTING TWO HOLOPHANE PREDATOR LED FLOOD LIGHTS, UP TO 45,000 LUMENS, MOUNTED 20 TO 35−FEET ABOVE GRADE, SOUTH END OF COLLECTOR SUBSTATION.

Do Not Use for Construction
For Regulatory Review Only

0 400 800 1200
SCALE: 1" = 400'

SWIFT CURRENT

Sheet 3 of 12 | Drawing No: C-2 | Job Number: 80900

Three Rivers Solar Project

Proposed Conditions Site Plan

Three Rivers Solar
Township 16 MD
Hancock County, ME.

ACHERON ENGINEERING SERVICES
Engineering, Environmental & Geologic Consultants
www.AcheronEngineering.com
147 Main St. *Newport, ME. 04953* *(207)-368-5700*
24466 Powell Rd. *Brooksville, Fl. 34602* *(352)-796-6236*
Acheron International, Inc.

Drwn By: BPG
Desg By: BPG / KJB
Chkd By: KJB
Aprvd By: -
Date: -

No.	Revision Description	Drwn	Chk'd	Date
-	-	-	-	-

Proposed Condition Runoff Table

Description	Solar Field #1 Area (Acres)	Solar Field #1 CN Value	Solar Field #2 Area (Acres)	Solar Field #2 CN Value	Solar Field #3 Area (Acres)	Solar Field #3 CN Value	Solar Field #4 Area (Acres)	Solar Field #4 CN Value	Solar Field #5 Area (Acres)	Solar Field #5 CN Value	Solar Field #6 Area (Acres)	Solar Field #6 CN Value
Brush, Hyd Condition - Good, HSG-A	16.05	30			2.82	30						
Brush, Hyd Condition - Good, HSG-B	79.54	48	3.69	48	0.00	48	2.12	48	0.00	48	2.98	48
Brush, Hyd Condition - Good, HSG-C	196.04	65	34.18	65	18.04	65	0.00	65	2.79	65	19.68	65
Brush, Hyd Condition - Good, HSG-D	32.86	73	0.29	73	11.74	73	8.59	73	11.15	73	15.00	73
Gravel Roads, Hyd Condition - Good, HSG - A, B, C & D	4.53	96	0.71	96	0.00	96	0.00	96	0.14	96	0.00	96
Concrete, Hyd Condition - Good, HSG - A, B, C & D	0.21	98	0.03	98	0.00	98	0.01	98	0.02	98	0.01	98
Support Posts, Hyd Condition - Good, HSG - A, B, C & D	0.06	98	0.01	98	0.00	98	0.00	98	0.00	98	0.02	98
Substation, Hyd Condition - Good, HSG - A, B & C	0.00	55	0.00	55	0.00	55	0.00	55	0.00	55	1.82	55
Total	**329.3**		**38.9**		**32.6**		**10.7**		**14.1**		**39.5**	
Weighted Average		**60**		**64**		**65**		**68**		**72**		**64**

Solar Field Combined Curve Number Value Comparison

Solar Field	Pre-Existing Condition (CN)	Post Development Condition (CN)
#1	65	60
#2	69	64
#3	69	65
#4	73	68
#5	76	72
#6	72	64

SOIL SURVEY LEGEND

- BrB - Brayton mucky silt loam, 0-5 percent slopes, very stony
- BmA - Bucksport muck, 0-3 percent slopes
- BvA - Buxton silt loam, sandy substratum variant, 0-3 percent slopes
- BuB - Buxton silt loam, 1-8 percent slopes, very bouldery
- BuC - Buxton silt loam, 8-15 percent slopes, very bouldery
- CoB - Colonel stony sandy loam, 1-8 percent slopes, very bouldery
- CgB - Croghan loamy fine sand, 1-8 percent slopes
- CrB - Croghan loamy fine sand, 1-8 percent slopes, very bouldery
- CgC - Croghan fine sandy loam, 5-15 percent slopes
- CrC - Croghan fine sandy loam, 8-15 percent slopes, very bouldery
- CgD - Croghan loamy fine sand, 5-25 percent slopes
- CrD - Croghan loamy fine sand, 15-25 percent slopes, very bouldery
- HmB - Hermon sandy loam, 1-8 percent slopes
- LaB - Lamoine silt loam, 1-8 percent slopes, very bouldery
- MoC - Monadnock fine sandy loam, 5-15 percent slopes, very bouldery
- MoD - Monadnock very fine sandy loam, 15-25 percent slopes, very bouldery
- MPB - Monadnock-Peru Complex, 1-8 percent slopes, very bouldery
- MPC - Monadnock-Peru Complex, 8-15 percent slopes, very bouldery
- MPD - Monadnock-Peru Complex, 15-25 percent slopes, very bouldery
- PeA - Peru fine sandy loam, 0-3 percent slopes, extremely bouldery
- PeB - Peru sandy loam, 1-8 percent slopes, extremely bouldery
- PeC - Peru sandy loam, 8-15 percent slopes, extremely bouldery
- PeD - Peru sandy loam, 15-25 percent slopes, extremely bouldery
- RLB - Roundabout-Lamoine Complex, 1-8 percent slopes, very bouldery
- ScA - Scantic silt loam, 0-3 percent slopes, very bouldery
- SkB - Skerry fine sandy loam, 1-8 percent slopes, very bouldery
- SrC - Skerry fine sandy loam, 3-15 percent slopes
- SkC - Skerry cobbley fine sandy loam, 8-15 percent slopes, very bouldery
- SkD - Skerry fine sandy loam, 15-25 percent slopes, very bouldery

NOTES:
1. PARCEL BOUNDARY DEPICTED IS BASED ON SURVEY PERFORMED BY KEITH BLANCHARD, PLS, OF PLISGA & DAY LAND SURVEYORS, PLAN TITLED, BOUNDARY SURVEY 1,115 ACRES +/-, ELLIOT JORDAN & SON, INC.
2. LIDAR TOPOGRAPHIC INFORMATION PROVIDED BY AMERICAN FOREST MANAGEMENT.
3. SITE PLAN BASED ON NAD83 UTM ZONE 19, US FEET.
4. VERTICAL CONTROL VERIFIED BY PLISGA & DAY LAND SURVEYORS AND SET TO NAVD88 DATUM.
5. SOLAR PANEL LAYOUT PROVIDED BY RBI SOLAR, CINCINNATI, OH.
6. PARCEL IS IDENTIFIED AS MAP HA007, PLAN 01, LOTS 1.3,4.1 AND 14.1, BY MAINE LAND USE PLANNING COMMISSION.
7. PARCEL DEED: BOOK 6020, PAGE 38.
8. PROTECTED NATURAL RESOURCES SHOWN PROVIDED BY ATLANTIC RESOURCE CO, LLC. REFER TO PROTECTED NATURAL RESOURCES REPORT, THREE RIVERS SOLAR PROJECT, DATED AUGUST 26, 2019 FOR SPECIFIC DETAILS.
9. SOILS SURVEY PERFORMED BY ATLANTIC RESOURCES CO, LLC.

LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- EXISTING ROAD EXEMPT
- EXISTING ROAD REQUIRING S.W. TREATMENT
- EXISTING ROAD TO BE RE-VEGETATED
- EXISTING ROAD OUTSIDE PROJECT BOUNDARY
- TREE LINE
- TRANSMISSION R.O.W. LINE
- CONTOURS
- STREAM
- STREAM SETBACK
- WETLAND
- 75' WETLAND OF SPECIAL SIGNIFICANCE SETBACK
- 250-PVP-CTH_ARC
- LIMIT OF CLASS C - MEDIUM HIGH INTENSITY SOIL SURVEY SERVICES
- SOIL BOUNDARY
- CoA - SOIL LABEL
- BUFFER LOCATION

0 400 800 1200

SCALE: 1" = 400'

Do Not Use for Construction
For Regulatory Review Only

SWIFT CURRENT

Drawing No: C-5
Sheet 6 of 12

Job Number: 80900

Stormwater Management Plan

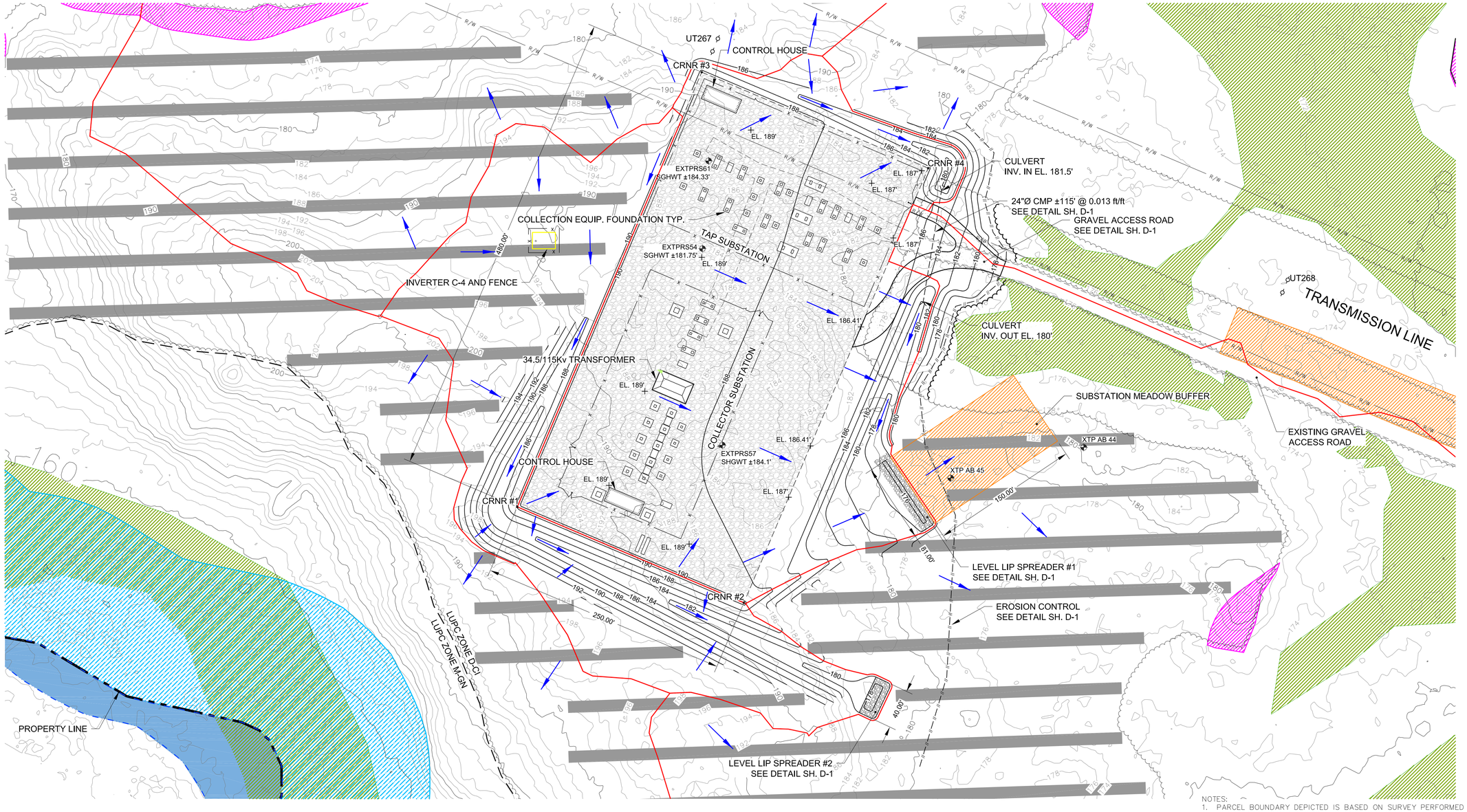
Proposed Site Plan

Three Rivers Solar
Township 16 MD
Hancock County, ME.

Acheron Engineering Services
Engineering, Environmental & Geologic Consultants
www.AcheronEngineering.com
147 Main St. Newport, ME. 04953 (207)-368-5700
24466 Powell Rd. Brooksville, Fl. 34602 (352)-796-6236
Acheron International, Inc.

Drwn By: BPG
Desg By: -
Chkd By: -
Aprvd By: -
Date: -

No.	Revision Description	Drwn	Chk'd	Date
-	-	-	-	-



LEGEND

EXISTING

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROAD
- TREE LINE
- TRANSMISSION R.O.W. LINE
- STREAM
- CONTOURS
- UTILITY POLE
- WETLAND
- 75' WETLAND OF SPECIAL SIGNIFICANCE SETBACK
- 150' RIVER SETBACK

PROPOSED

- BUFFER LOCATION
- CONTOURS
- 8' CHAIN LINK PERIMETER FENCE
- NEW SUBSTATION YARD
- DRAINAGE BOUNDARY
- FLOW DIRECTION
- TEST PITS
- TREE LINE
- CULVERT
- EROSION CONTROL BERM
- LOCATION POINT
- SPOT ELEVATIONS
- SOLAR PANELS

Substation Stormwater Treatment Table

Description	Proposed Area (SF)		Amount of Area Treated (SF)			
	Developed	Impervious	Developed	BMP	Impervious	BMP
Substation Foot Print (480' x 250')	120,000	6,932	113,068	Stone & Gravel Base	6,932	Meadow Buffer
Regraded Area	50,645	0	35,928	Meadow Buffer	0	Meadow Buffer
Totals	170,645	6,932	148,996		6,932	

Percent of Developed Area Treated: 87%
Percent of Impervious Area Treated: 100%
Note: Regraded Gravel Substation Access Part of Linear Portion of Project.

Substation Level Lip Spreader Length Calculation Table

BMP	Acres of Impervious Area (Acres)	Acres of Landscaped Area (Acres)	Berm Length per Acre of Impervious Area (Ft/Acres)	Berm Length per Acre of Landscaped Area (Ft/Acres)	Length of Level Lip Spreader (Ft)
Meadow Buffer with Stone Bermed Level Lip Spreader	0.16	0.82	200	60	81

0 50 100 150

SCALE: 1" = 50'

LOCATION POINT TABLE

LABEL	NORTHING	EASTING	DESCRIPTION
CRNR #1	16244383.2022	1871359.6579	SOUTHWEST CORNER OF SUBSTATION
CRNR #2	16244285.6145	1871589.8245	SOUTHEAST CORNER OF SUBSTATION
CRNR #3	16244825.1220	1871547.0265	NORTHWEST CORNER OF SUBSTATION
CRNR #4	16244727.5342	1871777.1930	NORTHEAST CORNER OF SUBSTATION

NOTES:

1. PARCEL BOUNDARY DEPICTED IS BASED ON SURVEY PERFORMED BY KEITH BLANCHARD, PLS, OF PLISGA & DAY LAND SURVEYORS, PLAN TITLED, BOUNDARY SURVEY 1,115 ACRES +/-, ELLIOT JORDAN & SON, INC.
2. LIDAR TOPOGRAPHIC INFORMATION PROVIDED BY AMERICAN FOREST MANAGEMENT.
3. SITE PLAN BASED ON NAD83 UTM ZONE 19, US FEET.
4. VERTICAL CONTROL VERIFIED BY PLISGA & DAY LAND SURVEYORS AND SET TO NAVD88 DATAUM.
5. SOLAR PANEL LAYOUT PROVIDED BY RBI SOLAR, CINCINNATI, OH.
6. PARCEL IS IDENTIFIED AS MAP HA007, PLAN 01, LOTS 1.3,4.1 AND 14.1, BY MAINE LAND USE PLANNING COMMISSION.
7. PARCEL DEED: BOOK 6020, PAGE 38.
8. PROTECTED NUTURAL RESOURCES SHOWN PROVIDED BY ATLANTIC RESOURCE CO, LLC. REFER TO PROTECTED NATURAL RESOURCES REPORT, THREE RIVERS SOLAR PROJECT, DATED AUGUST 26, 2019 FOR SPECIFIC DETAILS.
9. SOILS SURVEY PERFORMED BY ATLANTIC RESOURCES CO, LLC.
10. SUBSTAION LAYOUT BASED ON DESIGN PROVIDED BY SGC ENGINEERING, AUGUSTA, MAINE.
11. SEE INDEX SHEET FOR DETAILS REGARDING EROSION CONTROL.

SWIFT CURRENT

Do Not Use for Construction
For Regulatory Review Only

No.	Revision Description	Drwn	Ckkd	Date
-	-	-	-	-

Drwn By: BPG
Desg By: BPG / KJB / SGC
Ckkd By: KJB
Aprvd By: ---
Date: ---

ACHERON ENGINEERING SERVICES
Engineering, Environmental & Geologic Consultants
www.AcheronEngineering.com
147 Main St. 24466 Powell Rd.
Newport, ME. 04953 Brooksville, FL. 34602
(207)-368-5700 (352)-796-6236
Acheron International, Inc.

Stormwater Management Plan
Substation Location
Proposed Conditions Site Plan

Three Rivers Solar
Township 16 MD
Hancock County, ME.

Job Number:
80900

Drawing No:
C-7

Sheet 8 of 12

APPENDIX B: INSPECTION CHECK LISTS

THREE RIVERS SOLAR CONSTRUCTION INSPECTION FORM FOR EROSION AND SEDIMENT CONTROL					
General Information:					
Site Name:	Date:		Inspected by:		
Owner:					
Retained 3PI:	Last Rain Date:			Amount:	
Reason for Inspection:	Weekly	Winter	Final	Rain Event	Complaint
Description of disturbed area:					
Photos:					
	YES/NO/NA	**COMMENTS**			
1. Is an Erosion and Sediment Control Plan available?					
ESC plan on-site and followed					
Other:					
2 . Are all erosion control practices installed properly, maintained and functioning?					
Disturbed areas stable					
Concentrated flow inlet/outlet protection					
All areas at final grade					
Disturbed dormant areas stabilized					
Access roads and parking					
Hillsides and stockpiles					
Other:					
3. Are all sedimentation control practices installed properly, maintained and functioning?					
Construction entrance					
Sedimentation basins/traps/diversions					
Perimeter controls					
Check dams					
Other:					
4. Is maintenance of ESC measures, construction activities and housekeeping kept-up?					
Sedimentation/erosion in ditches					
Tracked Sediment or dust at exits					
Hazardous material storage and spill control practices					
Waste management (concrete, hazardous material, etc.)					
Other:					
5. Violation, Corrective Actions, Recommendations					
Sediment discharged from site?					
Corrective action required?					
Site compliant with all permits?					
Notice of violation or stop work order issued?					
Comments/Corrective Actions (complete corrective actions before the next rain event and within 7 day)					

THREE RIVERS SOLAR
POST CONSTRUCTION INSPECTION FORM FOR BUFFERS

General Information:

Site Name:	Date:		Inspected by:	
Owner:				
Retained 3PI:	Last Rain Date:			Amount:
Reason for Inspection:	Rain Event	Monthly	Quarterly	
Description of Basin Condition:				
Photos:				

Inspection Details	**Yes/No**	**Comments**
Is buffer free from trash, debris or waste?		
Has any vegetation been removed within the buffer?		
Is there any evidence of mowing within the buffer?		
Any temporary structure within the buffer?		
Any evidence of motorized vehicles operation within buffer?		
Level spreader functiong properly or filled with sediment?		
Buffer signs visible and readable?		

Additional Comments:

ATTACHMENT 9

Site Conditions Report

Protected Natural Resources Report

Three Rivers Solar Project

T16MD, Maine

August 26, 2019

Prepared For:

Three Rivers Solar Power, LLC
89 Main Street
Yarmouth, ME 04096

Prepared By:

Atlantic Resource Co, LLC
P.O. Box 76
Bass Harbor, ME 04653

ARC #B18-006

Table of Contents

Atlantic Resource Co, LLC

August 26, 2019

1.0 INTRODUCTION

This Report presents the findings of Protected Natural Resources services for the proposed Three Rivers Solar Power, LLC project in T16MD, Maine. The purpose of the services was to:

1. Conduct a desktop review and mapping of Protected Natural Resources within the approximately 1,115-acre area of Title, Right and/or Interest ("TRI Area");
2. Conduct identification and delineation of Protected Natural Resources in the approximately 520-acre proposed development areas; and
3. Conduct a vernal pool documentation within approximately 250-feet of the proposed development areas (~260-acres). During this reconnaissance, conduct ground-truthing of Protected Natural Resources identified within 250 feet of proposed development areas during the desktop review.

This Report supercedes Atlantic Resource Co, LLC's January 31, 2019 Protected Natural Resources Report, and includes additional data taken in the spring of 2019 "growing season" such as vernal pool documentation, wetland delineation verification, Corps Wetland Data Forms, and wetland photographs.

This Report is subject to the Limitations attached in Appendix A. Appendix B contains a Site Location Map and Protected Natural Resource Plans. Appendix C contains data spreadsheets for wetlands, vernal pools, and streams. Appendix D contains color photographs of delineated wetlands and streams. Appendix E contains U.S. Corps of Engineers Wetland Data Forms for representative delineated wetlands. Appendix F contains Maine State Vernal Pool Assessment Forms and attachments. Appendix G contains resource agency responses and database searches.

2.0 SITE LOCATION AND DESCRIPTION

The approximately 1,115-acre "TRI Area" is located in T16MD, which is an unorganized township located between Deblois and Eastbrook in Hancock County, Maine. A Site Location Map is included as Sheet B-1. The TRI Area is located west of the West Branch of the Narraguagus River, north and east of Colson Branch, and south of Mahanon Brook; in the Narraguagus River watershed. The Hydrologic Unit Code (HUC 10) for the site is 0105000210, which is New

England Region, Maine Coastal Subregion, Maine Coastal Accounting Unit, Maine Coastal, Maine Cataloguing Unit, Narraguagus River – Frontal Atlantic Ocean. The TRI area is mainly accessed by seasonal gravel roads from Eastbrook, Deblois and Route 9.

The TRI Area is undeveloped land containing a mixture of forestland and agricultural field with several intersecting gravel agricultural and forestry access roads. Most of the forestland appears to have been harvested within the past 10 years, however, some harvests appear older than that. The area contains several topographic "hills" that are dominated by well and moderately well drained glacial till and glacial outwash sediments (NRCS mapping). The topographically lower areas are dominated by somewhat poorly to poorly drained glacial till and glacio-marine/lacustrine sediments (NRCS mapping). Surface stones and boulders are common throughout. In the lowest topographical areas and drainages, intermittent streams flow out from larger wetlands located between the "hills", and eventually flow west, south or east to one of the larger bordering perennial streams/rivers. TRI Area slopes range from about 0 to 40 percent.

The six proposed development areas are mostly located on the "hills" within the larger TRI Area and total approximately 520 acres. These six areas are labeled on the plans (in Appendix B) as Areas #1 through #6. The proposed development areas are in various states of conversion to agricultural land, for blueberry production, with Areas #1, #2 and #3 being largely completed.

3.0 PROTECTED NATURAL RESOURCES SERVICES

3.1 Desktop Mapping Within TRI Area

Atlantic Resource Co, LLC (ARC) conducted a desktop review and mapping of Protected Natural Resources within the TRI Area. The results of this mapping are presented on the Overview Map included as Sheet B-2.

This effort included review of publicly available data sources such as USGS topographic mapping, USGS National Hydrography Dataset, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI), Natural Resources Conservation Service (NRCS) soil survey, FEMA Flood Maps, State of Maine Office of GIS (MEGIS) data, and recent and historic aerial photography.

The NWI maps forested, scrub-shrub and emergent wetlands along the three streams/rivers that border and within the TRI Area. The NWI maps the West Branch Narraguagus River and Colson Branch as streams/rivers.

The U.S.D.A. Natural Resources Conservation Service (NRCS) Soil Survey maps Hermon-Monadnock-Peru complex, Colonel-Skerry-Brayton association, Pushaw-Swanville association, Lamoine-Scantic-Colonel complex, Colton-Hermon association and Scantic-Biddeford complex soils within the TRI Area. These soils are mostly glacial till sediments, with some glacial outwash and glacio-marine/lacustrine sediments. Brayton, Swanville, Scantic and Biddeford soils are classified as hydric soils, which are a component of wetlands.

The USGS topographic map shows the West Branch Narraguagus River, Mahanon Brook and Colson Branch. It also shows wetland areas associated with these water features.

According to the FEMA map, the TRI Area is in an "area of Minimal Flood Hazard".

The desktop mapping services also included contacting and/or accessing the databases of natural resource agencies to identify if Threatened, Endangered, Significant or Essential species and/or habitats are mapped within the area of Title, Right and/or Interest. 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). Response letters and/or database searches are included in Appendix G, and a synopsis is included below.

The MNAP response letter dated December 07, 2018 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 lists two "Rare and Exemplary Botanical Features" documented within 4 miles of the TRI Area: Canada Mountain-Ricegrass and Domed Bog. A Rare, Threatened and Endangered Survey for botanical species was conducted by Weber Ecological Services in the summer of 2019, and is as yet to be finalized.

According to the IF&W response letter and map, dated January 08, 2019, there are eight species of bats that occur in Maine, three of which are protected under the Maine Endangered Species Act and five of which are listed as being of Special Concern in Maine. The IF&W response letter states that, "*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 migration and/or the breeding season. We recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, 207-902-1569) for further guidance, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. Otherwise, our Agency does not anticipate significant impacts to any of the bat species as a result of this project."

Also according to the IF&W response letter, "*upland sandpipers, a State Threatened species, have been documented in the barrens in the Downeast Coastal Plains region as well as within the project search area. Upland sandpipers are protected under Maine's Endangered Species Act* (and) g*iven the location, size, and amount of cleared area upland sandpipers may be utilizing the project area for breeding purposes. Therefore, to protect against unintended Take of breeding upland sandpipers (including territorial, incubating, low mobility fledgling birds, and eggs), MDIFW recommends a construction window of September 1 – May 1*." An Upland Sandpiper survey was conducted by the Biodiversity Research Institute (BRI) in the summer of 2019, and is as yet to be finalized.

IF&W recommends that a 100-foot undisturbed buffer be maintained along streams, and recommends that stream crossings be avoided, if possible. If stream crossings are required, IF&W makes recommendations pertaining to the crossing design.

The US FWS database, accessed on August 20, 2019, indicates that two federally-listed species "*should be considered as part of an effect analysis for this project*"; the Endangered Atlantic Salmon and the Threatened Northern Long-eared Bat. Additionally, the site is within Critical Habitat of the Atlantic salmon. 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.

3.2 Fieldwork in Proposed Development Areas and 250' Buffer

3.2.1 Methodology - ARC visited the site in November and December of 2018 to conduct identification and delineation of field-observable Protected Natural Resources within the proposed development areas, and to conduct a vernal pool reconnaissance and ground-truthing of the desktop review within 250 feet of the proposed development areas. ARC re-visited the site in April, May and June of 2019 to conduct a verification of the previous delineation of field-observable Protected Natural Resources (including vernal pools) within

the proposed development areas, and to conduct vernal pool documentation within 250 feet of the proposed development areas. ARC also delineated and located potential "Wetlands of Special Significance" (WOSS) including areas of >20,000 square feet of emergent marsh vegetation where they were within 250 feet of the proposed development areas, and delineated wetlands where they were within 25 feet of the gravel roads that connect the proposed development areas.

The Protected Natural Resources identification and delineation services were completed in general accordance with standards as defined by the MDEP[1] and U.S. Army Corps of Engineers[2] (Corps). Wetland identification and delineation was conducted using the 1987 Corps Wetland Delineation Manual[3] and Northeast Regional Supplement[4]. Stream identification and delineation was conducted using the MDEP Natural Resources Protection Act Statute. Vernal pool identification and documentation was conducted using MDEP Chapter 335[5], the Corps General Permit and the Maine Association of Wetland Scientists Vernal Pool Protocol[6].

The general methodology for resource identification and delineation / reconnaissance within the proposed development areas and within the 250-foot buffer areas was agreed to with the MDEP prior to the November start of work.

3.2.2 Wetland Delineation – ARC delineated sixty-five wetlands within the proposed development areas, as described on spreadsheets in Appendix C, and as located on the Protected Natural Resources Plans attached in Appendix B. Color photographs of the wetlands are attached in Appendix D. Corps Wetland Data Forms for representative wetlands are attached in Appendix E.

In general, the wetlands in Areas #1, #2, #3 are emergent or scrub-shrub wetlands located in recently converted or partially-converted agricultural fields and were previously forested. The emergent wetlands had greater than 50% hydrophytic vegetation and were dominated by species such as withe-rod (*Viburnum nudum*), bristly dewberry (*Rubus hispidus*),

[1] 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.
[2] United States Department of the Army, General Permit, State of Maine, Effective: October 13, 2015 to October 13, 2020.
[3] Environmental Laboratory. 1987. "Corps of Engineers Wetland Delineation Manual", Technical Report Y-87-1, U.S. Army Engineers Waterways Experiment Station, Vicksburg, Miss.
[4] U.S. Army Corps of Engineers. 2012. 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.
[5] State of Maine, Department of Environmental Protection, Chapter 335 Significant Wildlife Habitat, amended January 7, 2014.
[6] Maine Association of Wetland Scientists. Vernal Pool Technical Committee. Vermal Pool Survey Protocol. April 2014

woolgrass (*Scirpus cyperinus*), wrinkle-leaf goldenrod (*Solidago rugosa*), fowl mannagrass (*Glyceria striata*), broom sedge (*Carex scoparia*), Canada bluejoint (*Calamagrostis canadensis*), sheep laurel (*Kalmia angustifolia*), and meadowsweet (*Spiraea alba*). The shrubs listed were mostly less than 3 feet in height in the emergent wetlands. The scrub-shrub wetlands had greater than 50% hydrophytic vegetation and were dominated by speckled alder (*Alnus incana*), red maple (*Acer rubrum*), meadowsweet, bristly dewberry, withe-rod, and woolgrass, with the listed shrubs mostly greater than 3 feet in height.

In general, the wetlands in Areas #4, #5 and #6 were dominated by scrub-shrub wetlands located in harvested forestland (dominated by tree species, but less than 3 inch DBH). The scrub-shrub wetlands had greater than 50% hydrophytic vegetation and were dominated by shrub and sapling sized red maple, gray birch (*Betula populifolia*), quaking aspen (*Populus tremuloides*), meadowsweet, speckled alder, sheep laurel, winterberry (*Ilex verticillata*), and withe-rod.

Observed soils in most of the wetlands were dominated by poorly drained mineral soils that were closest to classification as Soil Indicator F3: Depleted Matrix. Each wetland had at least one Primary Hydrology Indicator observed, including A1: Surface Water, A2: High Water Table, A3: Saturation, and/or B9: Water Stained Leaves.

3.2.3 Vernal Pool Identification – ARC identified fifteen vernal pools (VP's), six in the proposed development areas and nine within 250 feet of the proposed development areas. One vernal pool, labeled P-RS-8, met MDEP classification as a Significant Vernal Pool. ARC also identified nine Maine vernal pool indicator species breeding habitats (IBA's), two in the proposed development areas and seven within 250 feet of the proposed development areas. IBA's do not meet the definition of a vernal pool under state regulations, but provide some Maine vernal pool indicator species breeding habitat (ex: skid ruts and drainage ditches). The VP's and IBA's are as described on spreadsheets in Appendix C, and are located as shown on the Protected Natural Resources Plans in Appendix B. Maine State Vernal Pool Assessment Forms and attachments including color photographs are included in Appendix F.

3.2.4 Streams and Rivers – ARC identified no streams within the proposed development areas. Six streams were identified within 250 feet of the proposed development areas, three of which were within 100 feet of the proposed development areas. The streams are

described on a spreadsheet in Appendix C, and are located as shown on the Protected Natural Resources Plans in Appendix B. Color photographs of the streams that are within 100 feet of the proposed development areas are attached in Appendix D.

3.3 Classification

ARC classified the delineated wetlands based on the Cowardin Classification system[7]. The wetlands on the site are classified as PFO1&4E or palustrine, forested, broad-leaved deciduous and needle-leaved evergreen wetlands with a seasonally flooded/saturated water regime; PSS1E or palustrine, scrub-shrub, broad-leaved deciduous wetlands with a seasonally flooded/saturated water regime; and PEM1E or palustrine, emergent (agricultural field), persistent wetlands with a seasonally flooded/saturated water regime.

The intermittent streams within 100 feet of the proposed development areas are classified as R4SB3/4 or riverine, intermittent, streambed, cobble-gravel and sand-silt bottom streams. The perennial stream within 100 feet of the proposed development areas is classified as R2UB2/3 or riverine, lower perennial, unconsolidated bottom, sand and mud bottom stream.

VP P-RS-8 and the area within 250 feet of VP P-RS-8 is classified as a Significant Vernal Pool Habitat, which is regulated by the MDEP as a Significant Wildlife Habitat. Freshwater wetlands on this site that contain this Significant Wildlife Habitat, or contain a freshwater wetland with greater than 20,000 square feet of emergent marsh vegetation or open water, are classified as MDEP “Wetlands of Special Significance”. The freshwater wetlands on the remainder of the site meet MDEP classification as “Wetlands Not of Special Significance”.

4.0 SUMMARY OF FINDINGS

ARC delineated sixty-five wetlands within the proposed development areas; fifteen vernal pools (VP’s), six of which were in the proposed development areas and nine within 250 feet of the proposed development areas; and six streams within 250 feet of the proposed development areas, three of which were within 100 feet of the proposed development areas.

[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

The observed wetlands on the site are forested, scrub-shrub and emergent (in converted agricultural field that was recently forested). The wetlands that contain the Significant Vernal Pool Habitat (regulated as Significant Wildlife Habitat), or contain a freshwater wetland with greater than 20,000 square feet of emergent marsh vegetation or open water, are classified as MDEP "Wetlands of Special Significance". The wetlands on the remainder of the site meet MDEP classification as "Wetlands Not of Special Significance".

The Maine Department of Inland Fisheries and Wildlife (IF&W) lists the site as within potential habitat of one or more of the eight species of bats that are currently Endangered, Threatened or species of Special Concern in Maine. IF&W recommends that the USFWS be contacted regarding bats and site development. Generally, bats are a concern if the site is near a known hibernacula or brooding tree, or if trees with greater than 5-inch DBH will be cut between about April 1 to October 15. Based on a reconnaissance of the site, there are no trees greater than 5-inch DBH within the proposed development areas. Generally, Atlantic salmon are a concern if streams or near-stream areas are to be disturbed.

IF&W also maps the site as within upland sandpiper habitat and makes recommendations for construction timing based on the potential presence of this species. IF&W recommends a 100-foot undisturbed buffer be maintained along streams, and recommends that stream crossings be avoided, if possible. If stream crossings are required, IF&W makes recommendations pertaining to the crossing design. An Upland Sandpiper survey was conducted by BRI in the summer of 2019, and is as yet to be finalized.

The Maine Natural Areas Program (MNAP) lists two "Rare and Exemplary Botanical Features" documented within 4 miles of the TRI Area: Canada Mountain-Ricegrass and Domed Bog. A Rare, Threatened and Endangered Survey for botanical species was conducted by Weber Ecological Services in the summer of 2019, and is as yet to be finalized.

The US FWS database indicates that two federally-listed species "*should be considered as part of an effect analysis for this project*"; the Endangered Atlantic Salmon and the Threatened Northern Long-eared Bat. Additionally, the site is within Critical Habitat of the Atlantic salmon. 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, Atlantic salmon are a concern if streams or near-stream areas

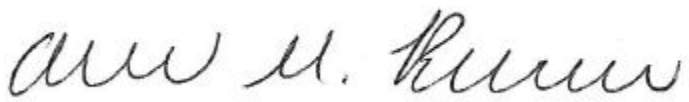
are to be disturbed. Generally, bats are a concern if the site is near a known hibernacula or brooding tree, or if trees will be cut between about April 1 to October 15.

5.0 CLOSING

Thank you for the opportunity to assist you with this project. If you have any questions, please contact ARC.

Sincerely,

Atlantic Resource Co, LLC



Aleita M. Burman, C.W.S., C.S.S., L.S.E.

Roger St.Amand, CSS, LSE, LPF, CPESC, PWS
PRINCIPAL |*ATLANTIC RESOURCE CO, LLC*

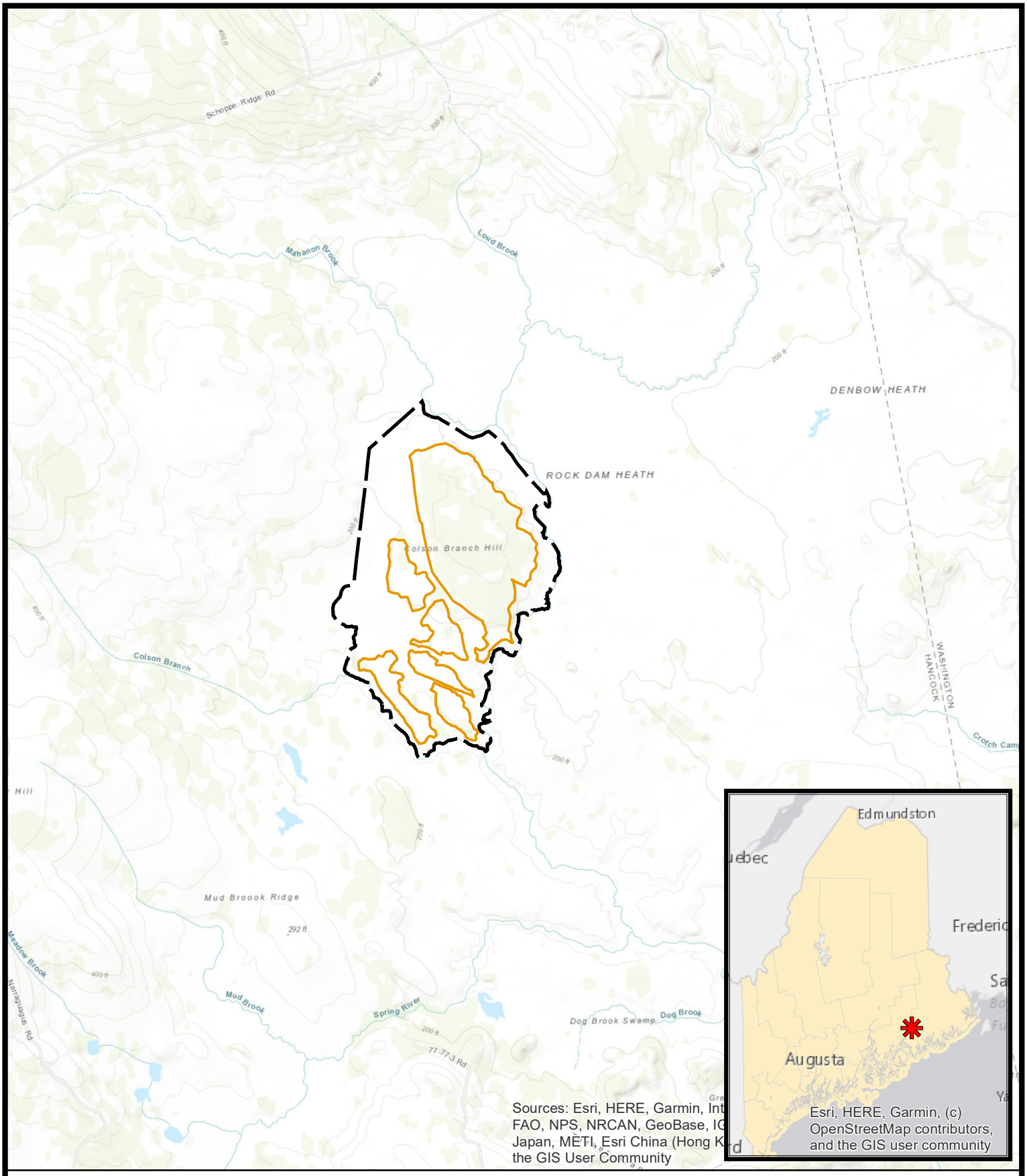
cc: Kirk Ball, Acheron Engineering Services

APPENDIX A
Limitations

Appendix A – Limitations

The scope of Atlantic Resource Co, LLC services has been limited to identification and delineation of Protected Natural Resources for Three Rivers Solar Power, LLC's proposed Three Rivers Solar project in T16MD, Maine. This Report has been prepared for the exclusive use of Three Rivers Solar Power, 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 Resource Plans



N

S

ARC
Atlantic Resource Co. LLC

AUGUST 26,2019 ARC
NOT A LEGAL SURVEY

Legend

TRS_PROJECT AREA_ACH

TRS_TRI Area_PLISGA

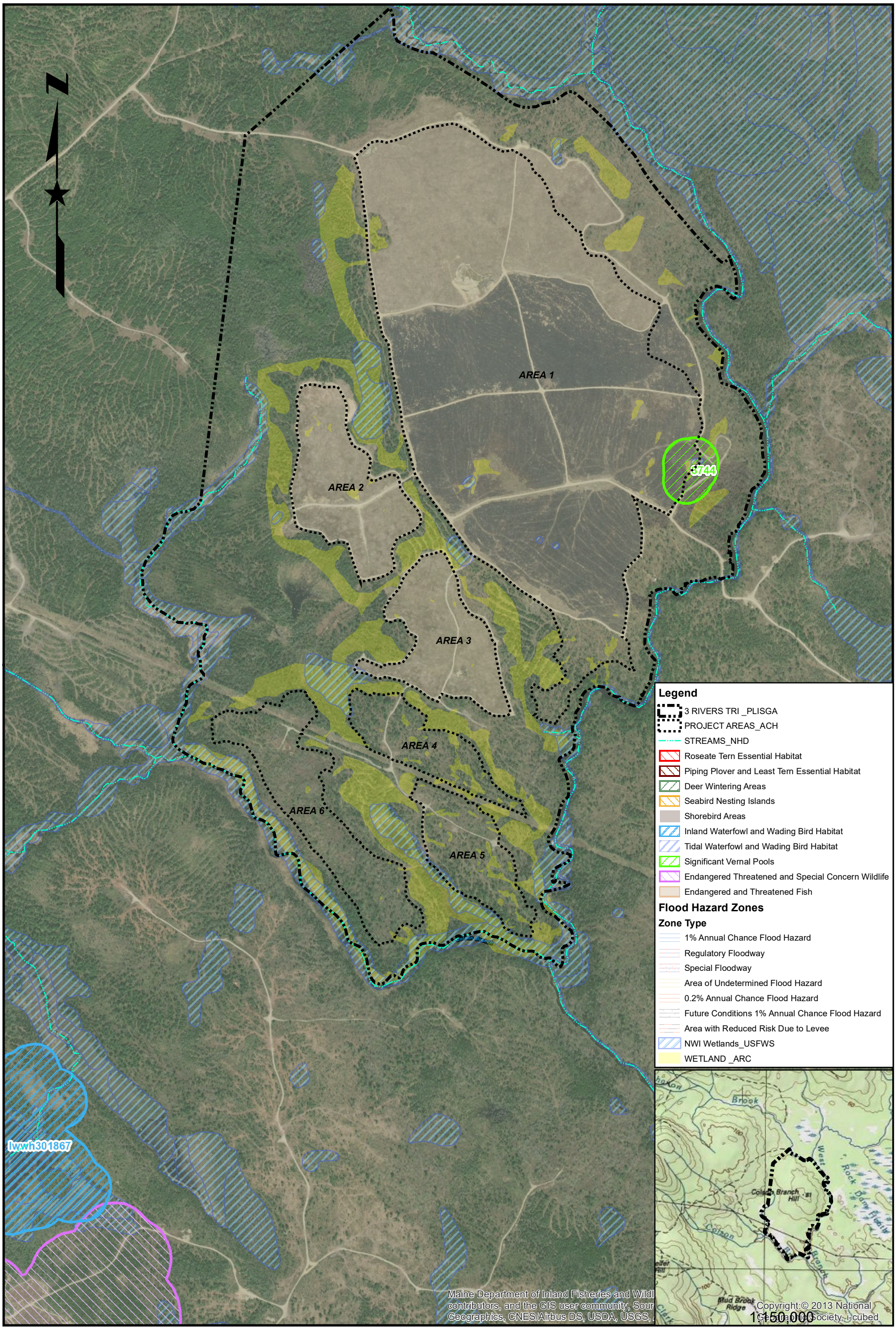
1 inch equals 4,000 feet

Feet

0 2,000 4,000

1:48,000

SHEET B-1
LOCATION MAP
THREE RIVERS SOLAR
THREE RIVERS SOLAR POWER, LLC
T16 MD, HANCOCK COUNTY, MAINE



ARC
Atlantic Resource Co. LLC
WWW.ARC-ENV.COM

NOTES:
1.NOT A LEGAL SURVEY.
2.FEATURES SHOWN ARE FOR GENERAL PLANNING ONLY
3.DATA SOURCES: ATLANTIC RESOURCE CO, LLC, PLISGA&DAY, ACHERON ENGINEERING, MAINE OFFICE OF GIS, MAINE DEPT. IF&W, MAINE GEOLOGICAL SURVEY U.S. FISH&WILDIFE, USGS

1 inch = 1,000 feet

0 250 500 1,000 1,500 2,000 Feet

1:12,000

SHEET B-2
OVERVIEW MAP
THREE RIVERS SOLAR
THREE RIVERS SOLAR POWER, LLC
T16 MD, HANCOCK COUNTY, ME
AUGUST 26, 2019

N

0 150 300 600
Feet

1 inch = 250 feet

RESOURCE MAP SCALE

NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Resource Co, LLC in November and December of 2018 and May, June and July of 2019 . Services included identification and delineation of protected natural resources (wetlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground-truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.

2. Protected Natural Resources were identified and 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 2015-2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).

3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and onsite surveys within 250' of the proposed development areas.

4. Location of delineated natural resource features was conducted by Atlantic Resource Co, LLC using sub-meter mapping grade GPS receivers. The GPS data was overlaid onto a base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.

5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natural Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; it is not a survey.

Legend

- TRS_AOI__PLISGA
- TRS PROJECT AREA_ACH

VERNAL POOL_ARC

ORIGIN

- SVP-NATURAL-MODIFIED
- NATURAL
- NATURAL-MODIFIED
- MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC

WETLAND BOUNDARY_ARC_2019

TYPE

- RECON
- PEM1E
- PFO1E
- PSS1E
- WETLAND DATA PLOT_ARC
- Wetland AREA_ARC
- DELIN. STREAM_ARC
- 250FT BUFFER_TRS
- WOSS_PEM/PUB_ARC_2019
- STREAM_NHD

Location Map Scale:
1:24,000

1.) WETLAND AND VERNAL POOL SURVEYS COMPLETED DURING 2018 & 2019 BY ATLANTIC RESOURCE CO, LLC
2.)BOUNDARIES LOCATED USING A TRIMBLE GEO/TOPCON GRS-1 GPS WITH POST PROCESSED SUBMETER ACCURACY AS STATED BY MANUFACTURER
3.) RESOURCE DATA IN NAD83 UTM ZONE 19-US.FEET.
SOURCE:
1.) ORTHOIMAGERY-ESRI ARCGIS ONLINE
2.) USGS TOPO QUADS- ESRI ARCGIS ONLINE USA TOPO MAPS
3.) BASE SURVEY PROVIDED BY PLISGA & DAY

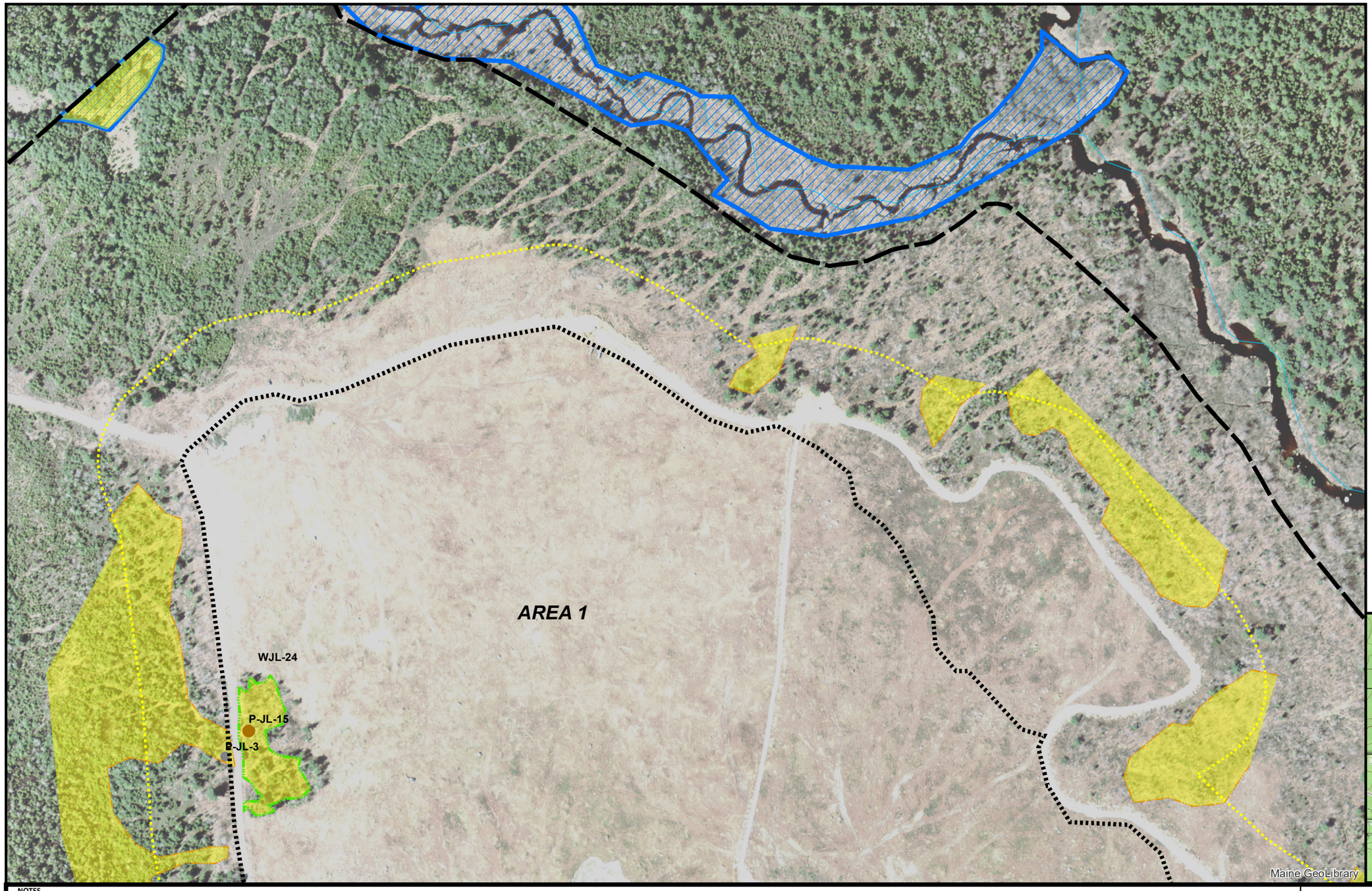
ARC
Atlantic Resource Co. LLC

THREE RIVERS PROJECT
THREE RIVERS SOLAR POWER, LLC
T16 MD, HANCOCK COUNTY, MAINE
1 inch = 250 feet

N
S

SHEET B-3
RESOURCE MAP OVERVIEW

DATE: AUGUST 26, 2019

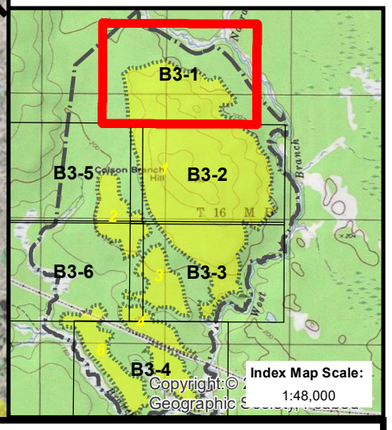


RESOURCE MAP SCALE

0 150 300 600 Feet

LEGEND

- TRI AREA _PLISGA
- UTILITY CORRIDOR_PLISGA
- **TRS_PROJECT AREA_ACH**
- **VERNAL POOL_ARC**
- **ORIGIN**
  - SVP-NATURAL-MODIFIED
  - NATURAL
  - NATURAL-MODIFIED
  - MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC
- **WETLAND BOUNDARY_ARC_2019**
- **TYPE**
  - RECON
  - PEM1E
  - PFO1E
  - PSS1E
- DELIN. STREAM_ARC
- WETLAND DATA PLOT _ARC
- 100_FT_FROM_STREAM_ARC
- 250 FT PNR RECON. AREA
- WETLAND AREA_ARC
- WATER_AREA_ARC
- WOSS_PEM/PUB_ARC_2019
- STREAM_MEGIS



NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Reso urce Co, LLC in November and December of 2018 and May, June and July of 2019. Services included identification and delineation of protected natural resources (we tlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground -truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.
2. Protected Natural Resources were identified and delineated in general accordance with the Maine Department of Environmental P rotection Natural Resources Protection Act definitions; the United States Department of the Army State of Maine General Permit (October 2015 -2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).
3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and filed observations within 250' of proposed development areas
4. Location of delineated natural resource feature s was conducted by Atlantic Resource Co, LLC using a mapping grade GPS receiver. Base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.
5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natu ral Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; not a survey.

ARC Atlantic Resource Co. LLC

THREE RIVERS SOLAR

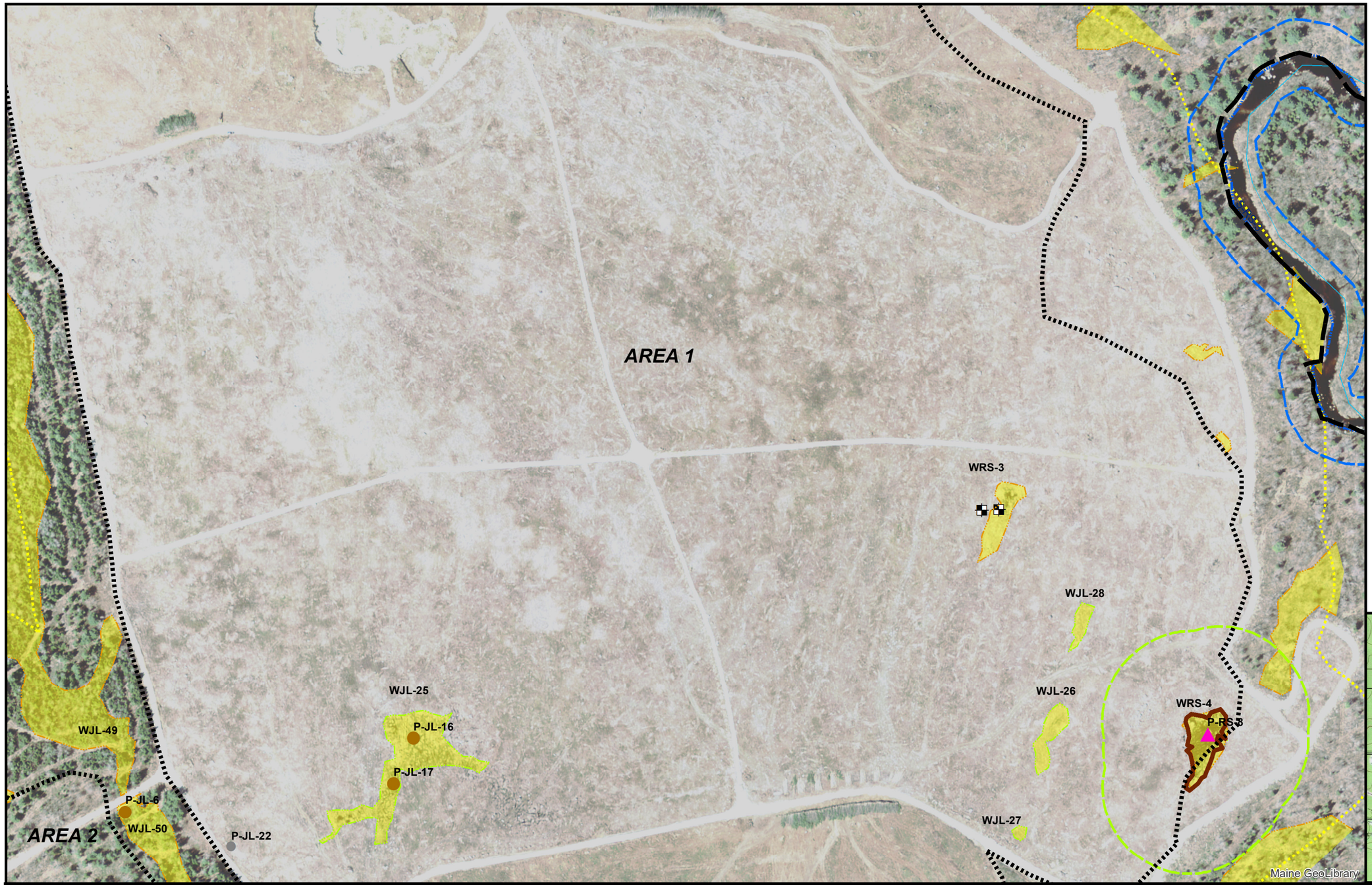
THREE RIVERS SOLAR POWER, LLC
T16 MD
HANCOCK COUNTY MAINE
1 inch = 300 feet

N S

B3-1 - RESOURCE MAP

Page 1 of 6

DATE: AUGUST 26, 2019

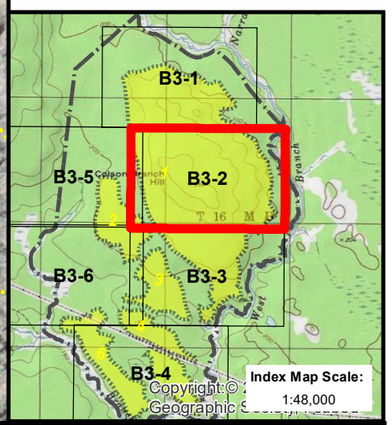


RESOURCE MAP SCALE

0 150 300 600 Feet

LEGEND

- TRI AREA _PLISGA
- UTILITY CORRIDOR_PLISGA
- **TRS_PROJECT AREA_ACH**
- **VERNAL POOL_ARC**
- **ORIGIN**
  - SVP-NATURAL-MODIFIED
  - NATURAL
  - NATURAL-MODIFIED
  - MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC
- **WETLAND BOUNDARY_ARC_2019**
- **TYPE**
  - RECON
  - PEM1E
  - PFO1E
  - PSS1E
- DELIN. STREAM_ARC
- WETLAND DATA PLOT _ARC
- 100_FT_FROM_STREAM_ARC
- 250 FT PNR RECON. AREA
- WETLAND AREA_ARC
- WATER_AREA_ARC
- WOSS_PEM/PUB_ARC_2019
- STREAM_MEGIS



NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Reso urce Co, LLC in November and December of 2018 and May, June and July of 2019. Services included identification and delineation of protected natural resources (we tlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground -truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.
2. Protected Natural Resources were identified and delineated in general accordance with the Maine Department of Environmental P rotection Natural Resources Protection Act definitions; the United States Department of the Army State of Maine General Permit (October 2015 -2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).
3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and filed observations within 250' of proposed development areas
4. Location of delineated natural resource feature s was conducted by Atlantic Resource Co, LLC using a mapping grade GPS receiver. Base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.
5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natu ral Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; not a survey.

ARC
Atlantic Resource Co. LLC

THREE RIVERS SOLAR

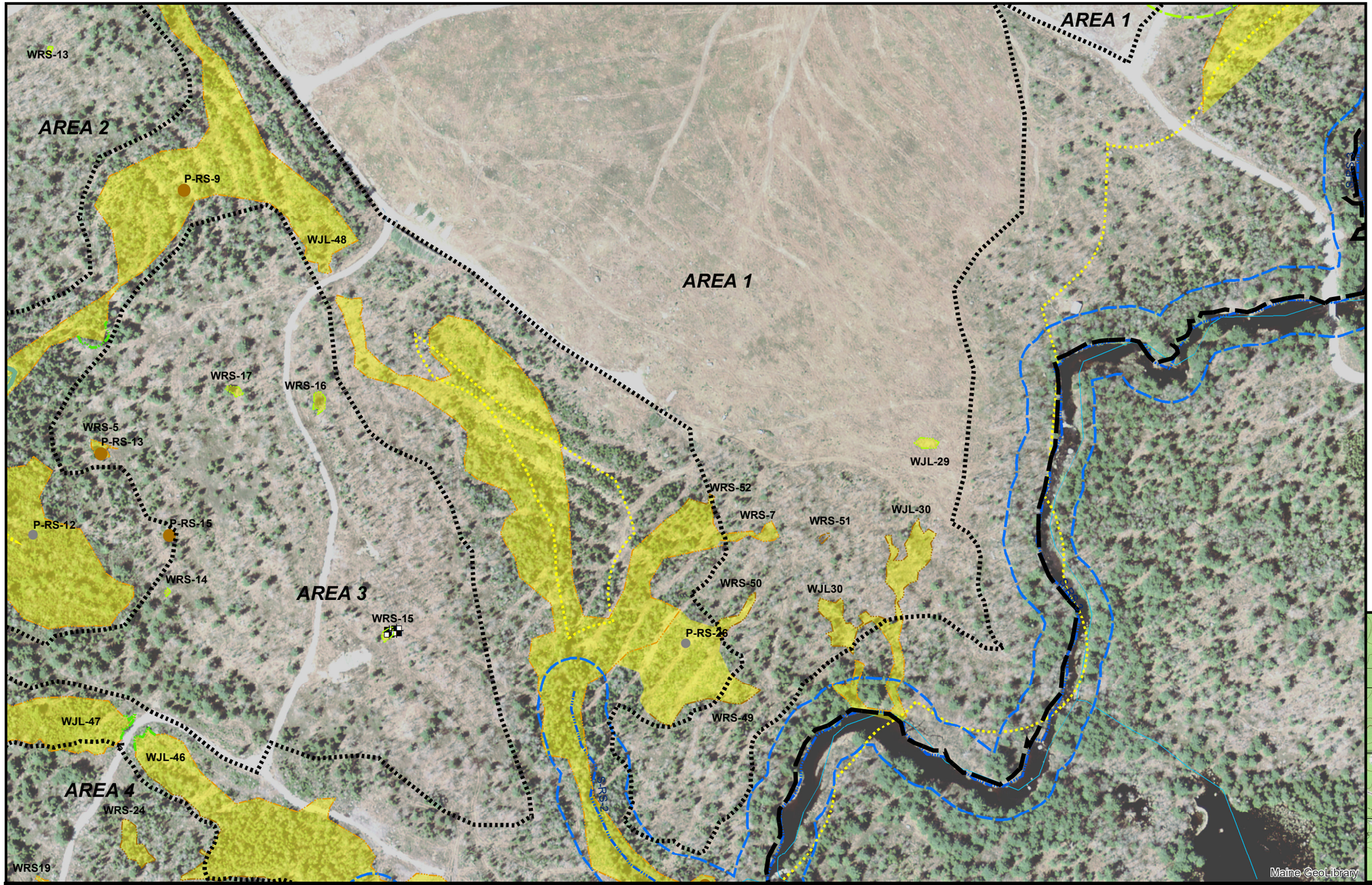
THREE RIVERS SOLAR POWER, LLC
T16 MD
HANCOCK COUNTY MAINE
1 inch = 300 feet

N
S

B3-2 - RESOURCE MAP

Page 2 of 6

DATE: AUGUST 26, 2019



RESOURCE MAP SCALE

0 150 300 600 Feet

LEGEND

- TRI AREA _PLISGA
- UTILITY CORRIDOR_PLISGA
- TRS_PROJECT AREA_ACH

VERNAL POOL_ARC

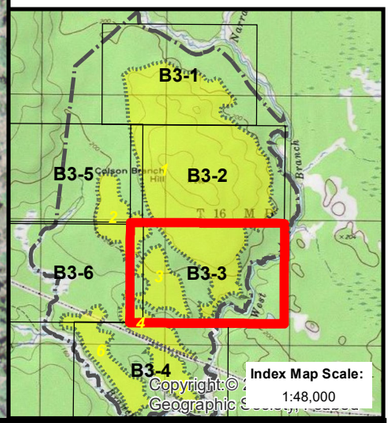
ORIGIN

- SVP-NATURAL-MODIFIED
- NATURAL
- NATURAL-MODIFIED
- MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC

WETLAND BOUNDARY_ARC_2019

TYPE

- RECON
- PEM1E
- PFO1E
- PSS1E
- DELIN. STREAM_ARC
- WETLAND DATA PLOT _ARC
- 100_FT_FROM_STREAM_ARC
- 250 FT PNR RECON. AREA
- WETLAND AREA_ARC
- WATER_AREA_ARC
- WOSS_PEM/PUB_ARC_2019
- STREAM_MEGIS



NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Reso urce Co, LLC in November and December of 2018 and May, June and July of 2019. Services included identification and delineation of protected natural resources (we tlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground -truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.
2. Protected Natural Resources were identified and delineated in general accordance with the Maine Department of Environmental P rotection Natural Resources Protection Act definitions; the United States Department of the Army State of Maine General Permit (October 2015 -2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).
3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and filed observations within 250' of proposed development areas
4. Location of delineated natural resource feature s was conducted by Atlantic Resource Co, LLC using a mapping grade GPS receiver. Base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.
5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natu ral Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; not a survey.

ARC Atlantic Resource Co. LLC

THREE RIVERS SOLAR

THREE RIVERS SOLAR POWER, LLC

T16 MD

HANCOCK COUNTY MAINE

1 inch = 300 feet

N

S

B3-3 - RESOURCE MAP

Page 3 of 6

DATE: AUGUST 26, 2019

RESOURCE MAP SCALE

0 150 300 600 Feet

LEGEND

- TRI AREA _PLISGA
- UTILITY CORRIDOR_PLISGA
- TRS_PROJECT AREA_ACH

VERNAL POOL_ARC

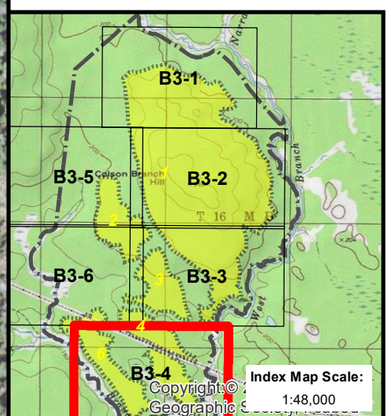
ORIGIN

- SVP-NATURAL-MODIFIED
- NATURAL
- NATURAL-MODIFIED
- MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC

WETLAND BOUNDARY_ARC_2019

TYPE

- RECON
- PEM1E
- PFO1E
- PSS1E
- DELIN. STREAM_ARC
- WETLAND DATA PLOT _ARC
- 100_FT_FROM_STREAM_ARC
- 250 FT PNR RECON. AREA
- WETLAND AREA_ARC
- WATER_AREA_ARC
- WOSS_PEM/PUB_ARC_2019
- STREAM_MEGIS



NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Reso urce Co, LLC in November and December of 2018 and May, June and July of 2019. Services included identification and delineation of protected natural resources (we tlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground -truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.
2. Protected Natural Resources were identified and delineated in general accordance with the Maine Department of Environmental P rotection Natural Resources Protection Act definitions; the United States Department of the Army State of Maine General Permit (October 2015 -2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).
3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and filed observations within 250' of proposed development areas
4. Location of delineated natural resource feature s was conducted by Atlantic Resource Co, LLC using a mapping grade GPS receiver. Base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.
5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natu ral Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; not a survey.

ARC Atlantic Resource Co. LLC

THREE RIVERS SOLAR

THREE RIVERS SOLAR POWER, LLC

T16 MD

HANCOCK COUNTY MAINE

1 inch = 300 feet

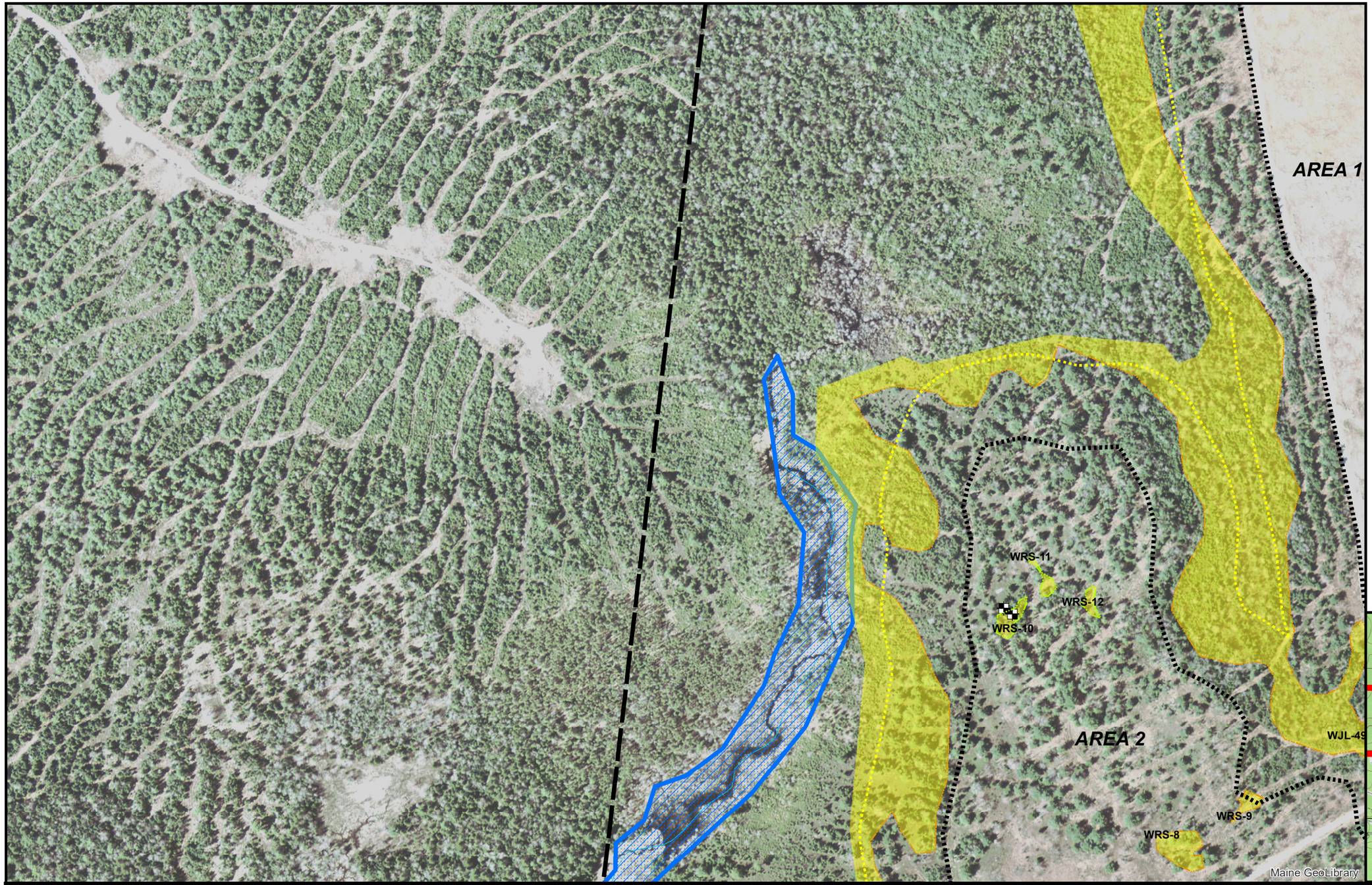
N

S

B3-4 - RESOURCE MAP

Page 4 of 6

DATE: AUGUST 26, 2019

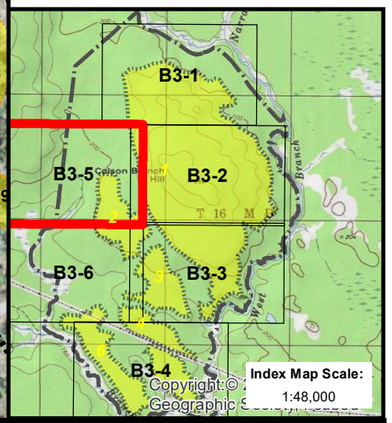


RESOURCE MAP SCALE

0 150 300 600 Feet

LEGEND

- TRI AREA _PLISGA
- UTILITY CORRIDOR_PLISGA
- **TRS_PROJECT AREA_ACH**
- **VERNAL POOL_ARC**
- **ORIGIN**
  - SVP-NATURAL-MODIFIED
  - NATURAL
  - NATURAL-MODIFIED
  - MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC
- **WETLAND BOUNDARY_ARC_2019**
- **TYPE**
  - RECON
  - PEM1E
  - PFO1E
  - PSS1E
- DELIN. STREAM_ARC
- WETLAND DATA PLOT _ARC
- 100_FT_FROM_STREAM_ARC
- 250 FT PNR RECON. AREA
- WETLAND AREA_ARC
- WATER_AREA_ARC
- WOSS_PEM/PUB_ARC_2019
- STREAM_MEGIS



NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Reso urce Co, LLC in November and December of 2018 and May, June and July of 2019. Services included identification and delineation of protected natural resources (we tlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground -truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.
2. Protected Natural Resources were identified and delineated in general accordance with the Maine Department of Environmental P rotection Natural Resources Protection Act definitions; the United States Department of the Army State of Maine General Permit (October 2015 -2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).
3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and filed observations within 250' of proposed development areas
4. Location of delineated natural resource feature s was conducted by Atlantic Resource Co, LLC using a mapping grade GPS receiver. Base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.
5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natu ral Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; not a survey.

ARC Atlantic Resource Co. LLC

THREE RIVERS SOLAR

THREE RIVERS SOLAR POWER, LLC
T16 MD
HANCOCK COUNTY MAINE
1 inch = 300 feet

N S

B3-5 - RESOURCE MAP

Page 5 of 6

DATE: AUGUST 26, 2019

RESOURCE MAP SCALE

0 150 300 600 Feet

WRS-13

AREA 2

P-JL-11

AREA 3

WRS-5

P-RS-13

P-RS-12

AREA 3

WJL-47

WRS18

AREA 4

WRS

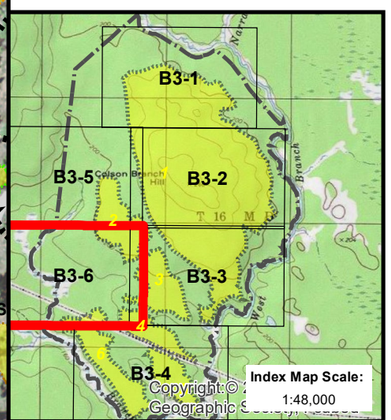
AREA 6

WRS19

Maine GeoLibrary

LEGEND

- TRI AREA _PLISGA
- UTILITY CORRIDOR_PLISGA
- **TRS_PROJECT AREA_ACH**
- **VERNAL POOL_ARC**
- **ORIGIN**
  - SVP-NATURAL-MODIFIED
  - NATURAL
  - NATURAL-MODIFIED
  - MAN-MADE
- SIGNIFICANT VERNAL POOL
- 250FT_SVP_CTH_ARC
- **WETLAND BOUNDARY_ARC_2019**
- **TYPE**
  - RECON
  - PEM1E
  - PFO1E
  - PSS1E
- DELIN. STREAM_ARC
- WETLAND DATA PLOT _ARC
- 100_FT_FROM_STREAM_ARC
- 250 FT PNR RECON. AREA
- WETLAND AREA_ARC
- WATER_AREA_ARC
- WOSS_PEM/PUB_ARC_2019
- STREAM_MEGIS



NOTES

1. This Protected Natural Resources Plan details the findings of Protected Natural Resources services conducted by Atlantic Reso urce Co, LLC in November and December of 2018 and May, June and July of 2019. Services included identification and delineation of protected natural resources (we tlands, streams, vernal pools) within the 6 proposed development areas, identification of vernal pools within 250' of the proposed development areas, identification of streams within 100' of the proposed development areas, and ground -truthing of wetlands and streams identified during the desktop review within 250' of the proposed development areas.
2. Protected Natural Resources were identified and delineated in general accordance with the Maine Department of Environmental P rotection Natural Resources Protection Act definitions; the United States Department of the Army State of Maine General Permit (October 2015 -2020), the Corps of Engineers Wetland Delineation Manual (1987), and the U.S. Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012).
3. The MDEP "Wetlands of Special Significance" determination is based on published mapping and filed observations within 250' of proposed development areas
4. Location of delineated natural resource feature s was conducted by Atlantic Resource Co, LLC using a mapping grade GPS receiver. Base map provided by Acheron Engineering Services and Plisga & Day Land Surveyors.
5. This Plan should be used in conjunction with the Atlantic Resource Co, LLC Protected Natu ral Resources Report, dated August, 2019. This Plan is for planning and resource alteration permitting purposes; not a survey.

ARC Atlantic Resource Co. LLC

THREE RIVERS SOLAR

THREE RIVERS SOLAR POWER, LLC

T16 MD

HANCOCK COUNTY MAINE

1 inch = 300 feet

N

S

B3-6 - RESOURCE MAP

Page 6 of 6

DATE: AUGUST 26, 2019

APPENDIX C
Wetland, Vernal Pool, and Stream Data Spreadsheets

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Delineated Wetlands in Proposed Development Areas - November/December 2018 and Spring/Summer 2019										
Resource ID	**Location**	**Delineation Date (verified in spring/summer 2019)**	**Cowardin Classification[1]**	**Dominant Vegetation[2]**	**Hydric Soil Indicator[3]**	**Hydrology Indicators[3]**	**Soil Map Unit[4]**	**Principal Functions and Values[5]**	**Notes**	**MDEP Classification[6]**
WAB-3	Roadside	6/15/2019	PFO & PSS	red maple; gray birch; balsam fir & gray birch; sphagnum, cattails	F3: Depleted Matrix & A2: Histic Epipedon	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WDK-01	Area 5	12/11/2018	PEM1E	common rush; meadowsweet; red-osier dogwood; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; B10: Drainage Patterns	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WDK-02	Area 5	12/11/2018	PEM1E	common rush; meadowsweet; red-osier dogwood; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B10: Drainage Patterns	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WDK-03	Area 5	12/11/2018	PEM1E	meadowsweet; bristly dewberry; smooth goldenrod	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WDK-04	Area 5	12/11/2018	PEM1E	common rush; meadowsweet; red-osier dogwood; red maple	F3 - Depleted Matrix	A3: Saturation; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WDK-05	Area 5	12/11/2018	PEM1E	common rush; meadowsweet; red-osier dogwood; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; B10: Drainage Patterns	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Wildlife Habitat	p/o of larger, off-site wetland, partially converted agricultural land (disturbed)	WOSS
WDK-06	Area 5	12/11/2018	PEM1E	red maple; pointed broom sedge; Canada bluejoint	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WDK-07	Area 5	12/11/2018	PEM1E	common rush; meadowsweet; red-osier dogwood; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Production Export; Wildlife Habitat	contains P-DK-01, P-DK-02, p/o of larger, off-site wetland, partially converted agricultural land (disturbed)	WOSS
WDK-08	Area 5	12/11/2018	PEM1E	common rush; meadowsweet; red-osier dogwood; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o of larger, off-site wetland, partially converted agricultural land (disturbed)	WOSS
WJL-24	Area 1	12/4/2018	PFO1E	red maple; balsam fir; speckled alder	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; A2: High Water Table; A3: Saturation; B9: Water stained Leaves; B10 Drainage Patterns	Colonel-Skerry-Brayton association, 0-15 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	contains P-JL- 15, p/o of larger, off-site wetland via culvert under road, partially dammed by road	WNSS
WJL-25	Area 1	12/10/2018	PEM1E	meadowsweet; red maple; sheep laurel; labrador tea	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Colonel-Skerry-Brayton association, 0-15 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	contains P-JL-16; P-JL-17; isolated wetland, converted agricultural land (disturbed)	WNSS
WJL-26	Area 1	12/10/2018	PEM1E	meadowsweet; common rush; labrador tea; woolgrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WJL-27	Area 1	12/10/2018	PEM1E	meadowsweet; sheep laurel; panicgrass; common rush	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WJL-28	Area 1	12/11/2018	PEM1E	meadowsweet; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Delineated Wetlands in Proposed Development Areas - November/December 2018 and Spring/Summer 2019										
Resource ID	**Location**	**Delineation Date (verified in spring/summer 2019)**	**Cowardin Classification[1]**	**Dominant Vegetation[2]**	**Hydric Soil Indicator[3]**	**Hydrology Indicators[3]**	**Soil Map Unit[4]**	**Principal Functions and Values[5]**	**Notes**	**MDEP Classification[6]**
WJL-29	Area 1	12/11/2018	PEM1E	meadowsweet; pointed broom sedge	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WJL-30	Area 1	12/11/2018	PSS1E	quaking aspen; red maple; meadowsweet	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Wildlife Habitat	p/o of larger, off-site wetland, logged forestland (disturbed)	WNSS
WJL-40	Roadside	6/3/2019	PFO4E	black spruce; larch; winterberry; rhodora	A2: Histic Epipedon	A1: Surface Water; A2: High Water Table; A3: Saturation	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WNSS
WJL-41	Roadside	6/3/2019	PFO4E	black spruce; larch; winterberry; rhodora	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-42	Roadside	6/3/2019	PFO1E	red maple, balsam fir; gray birch	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WNSS
WJL-43	Roadside	6/3/2019	PFO1&4E	red maple, black spruce; meadowsweet	A2: Histic Epipedon	A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-44	Roadside	6/3/2019	PFO1E	quaking aspen; willow; sheep laurel; red maple	F3 - Depleted Matrix	A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-45	Roadside	6/3/2019	PSS1E	balsam fir; winterberry; rhodora; sheep laurel	A2: Histic Epipedon	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-46	Roadside	6/5/2019	PSS1E	quaking aspen; red maple; balsam fir; winterberry	F3 - Depleted Matrix	A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-47	Roadside	6/5/2019	PSS1E	willow; balsam fir; quaking aspen; rhodora	A2: Histic Epipedon	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-48	Roadside	6/5/2019	PSS1E	winterberry; woolgrass; black spruce; red maple	F3 - Depleted Matrix	A2: High Water Table; A3: Saturation	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-49	Roadside	6/5/2019	PFO1&4E	red maple; balsam fir	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Colonel-Skerry-Brayton association, 0-15 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-50	Roadside	6/5/2019	PFO1&4E	red maple; black spruce; winterberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Colonel-Skerry-Brayton association, 0-15 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WOSS
WJL-56	Roadside	6/18/2019	PSS1E	gray birch; balsam fir; meadowsweet	F3 - Depleted Matrix	B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	wetland is on side of connector road between Areas	WNSS
WRS-10	Area 2	12/5/2018	PEM1E	meadowsweet; gray birch; rhodura; lowbush blueberries	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Production Export, Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-11	Area 2	12/5/2018	PEM1E	meadowsweet; sheep laurel; bristly dewberry; broom sedge	F3 - Depleted Matrix	A3: Saturation to Surface; D4: Microtopographic Relief	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Production Export, Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Delineated Wetlands in Proposed Development Areas - November/December 2018 and Spring/Summer 2019										
Resource ID	**Location**	**Delineation Date (verified in spring/summer 2019)**	**Cowardin Classification[1]**	**Dominant Vegetation[2]**	**Hydric Soil Indicator[3]**	**Hydrology Indicators[3]**	**Soil Map Unit[4]**	**Principal Functions and Values[5]**	**Notes**	**MDEP Classification[6]**
WRS-12	Area 2	12/5/2018	PEM1E	woolgrass; wrinkle-leaf goldenrod; flat-topped white aster	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-13	Area 2	12/5/2018	PEM1E	sheep laurel; bristly dewberry; field goldenrod	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-14	Area 3	12/5/2018	PEM1E	Carolina rose; raspberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-15	Area 3	12/5/2018	PEM1E	woolgrass ; sheep laurel; sedges	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-16	Area 3	12/7/2018	PEM1E	sheep laurel ; gray birch; withe-rod; bunchberry; velvet-leaved blueberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-17	Area 3	12/7/2018	PEM1E	withe-rod; wrinkle-leaved goldenrod; dark green bulrush	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Production Export; Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-18	Area 4	12/8/2018	PSS1E	balsam fir; black spruce; gray birch ; red maple ; winterberry ; woolgrass; fowl mannagrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-19	Area 4	12/8/2018	PSS1E	gray birch; quaking aspen; meadowsweet ; wrinkle-leaf goldenrod; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed), pit & mound	WNSS
WRS-20	Area 4	12/8/2018	PSS1E	winterberry; meadowsweet; bristly dewberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	contains P-RS-21, isolated wetland, logged forestland (disturbed)	WNSS
WRS-21	Area 4	12/8/2018	PSS1E	winterberry; meadowsweet; bristly dewberry	F3 - Depleted Matrix	A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-22	Area 4	12/8/2018	PSS1E	balsam fir; speckled alder; red maple; bristly dewberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Production Export; Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed), combined with WRS-25	WOSS
WRS-23	Area 4	12/10/2018	PSS1E	gray birch; quaking aspen; meadowsweet; interrupted fern, Canada mayflower, sedges	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	contains P-RS-25; isolated wetland, logged forestland (disturbed)	WNSS
WRS-24	Area 4	12/10/2018	PSS1E	withe-rod; red spruce; quaking aspen; sheep laurel; Canada bluejoint	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-26	Area 4	12/10/2018	PSS1E	gray birch; quaking aspen; meadowsweet; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Delineated Wetlands in Proposed Development Areas - November/December 2018 and Spring/Summer 2019										
Resource ID	**Location**	**Delineation Date (verified in spring/summer 2019)**	**Cowardin Classification[1]**	**Dominant Vegetation[2]**	**Hydric Soil Indicator[3]**	**Hydrology Indicators[3]**	**Soil Map Unit[4]**	**Principal Functions and Values[5]**	**Notes**	**MDEP Classification[6]**
WRS-27	Area 4	12/10/2018	PSS1E	red maple; quaking aspen; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-28	Area 4	12/10/2018	PSS1E	red maple; quaking aspen; meadowsweet; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-29	Area 4	12/11/2018	PSS1E	red maple; sheep laurel; bristly dewberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-3	Area 1	11/14/2018	PEM1E	sheep laurel; meadowsweet; sedges, lowbush blueberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Production Export; Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-30	Area 4	12/11/2018	PSS1E	gray birch; red maple; quaking aspen; cotton-grass; rattlesnake mannagrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-31	Area 4	12/11/2018	PSS1E	red maple; speckled alder; balsam fir; woolgrass; Canada bluejoint; fowl mannagrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-32	Area 4	12/11/2018	PSS1E	balsam fir; winterberry; withe-rod ; cotton-grass; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-33	Area 6	12/11/2018	PSS1E	meadowsweet; quaking aspen; bunchberry; velvet-leaved blueberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Colton-Hermon association, 5-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Production Export; Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-34	Area 6	12/11/2018	PSS1E	speckled alder; meadowsweet; tall white aster; bristly dewberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland,logged forestland (disturbed)	WNSS
WRS-35	Area 6	12/11/2018	PSS1E	red maple; withe-rod ; balsam fir; woolgrass; tall white aster	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-36	Area 6	12/11/2018	PSS1E	gray birch; quaking aspen; willow; bunchberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Colton-Hermon association, 5-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-37	Roadside	12/12/2018	PSS1E	red maple; withe-rod; woolgrass; fowl mannagrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B10: Drainage Patterns	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	contains P-RS-24; p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-38	Area 5	12/12/2018	PSS1E	speckled alder; sheep laurel; winterberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B10: Drainage Patterns; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-39	Area 5	12/12/2018	PSS1E	speckled alder; red spruce; withe-rod; meadowsweet; bristly dewberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Delineated Wetlands in Proposed Development Areas - November/December 2018 and Spring/Summer 2019										
Resource ID	**Location**	**Delineation Date (verified in spring/summer 2019)**	**Cowardin Classification[1]**	**Dominant Vegetation[2]**	**Hydric Soil Indicator[3]**	**Hydrology Indicators[3]**	**Soil Map Unit[4]**	**Principal Functions and Values[5]**	**Notes**	**MDEP Classification[6]**
WRS-4	Area 1	11/14/2018	PEM1E	sheep laurel; willow; withe-rod; field goldenrod; meadowsweet	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Hermon-Monadnock-Peru complex, 0-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Production Export; Wildlife Habitat	contains P-RS-8 SVP; isolated wetland, converted agricultural land (disturbed)	WOSS
WRS-40	Area 5	12/12/2018	PSS1E	speckled alder; meadowsweet; red maple; wrinkle-leaved goldenrod; tall white aster	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; B10: Drainage Patterns	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-41	Area 5	12/13/2018	PSS1E	speckled alder; withe-rod; meadowsweet; balsam fir	A2: Histic Epipedon	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; B10: Drainage Patterns	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-42	Area 5	12/12/2018	PSS1E	speckled alder; withe-rod; meadowsweet; balsam fir	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-43	Area 5	12/12/2018	PSS1E	Canada bluejoint; meadowsweet; gray birch	F3 - Depleted Matrix	A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland,partially converted agricultural land (disturbed)	WNSS
WRS-44	Area 5	12/12/2018	PSS1E	sheep laurel; Canada bluejoint; red maple	F3 - Depleted Matrix	A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WRS-45	Area 5	12/12/2018	PSS1E	sheep laurel; Canada bluejoint; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WRS-46	Area 6	12/12/2018	PSS1E	speckled alder; red maple; withe-rod; meadowsweet	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Colton-Hermon association, 5-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-47	Area 6	12/12/2018	PSS1E	red maple; speckled alder; quaking aspen; balsam fir; field goldenrod	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Colton-Hermon association, 5-15 percent slopes, very bouldery	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o of larger, off-site wetland, logged forestland (disturbed)	WOSS
WRS-48	Area 6	12/12/2018	PSS1E	woolgrass; tall white aster; Canada bluejoint; gray birch	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-49	Area 1	12/13/2018	PSS1E	red spruce; speckled alder; woodgrass; bristly dewberry; field goldenrod	F3 - Depleted Matrix	A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o of larger, off-site wetland, logged forestland (disturbed)	WNSS
WRS-5	Area 3	12/5/2018	PSS1E	winterberry; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WRS-50	Area 1	12/13/2018	PSS1E	speckled alder; red maple; meadowsweet; sheep laurel	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o of larger, off-site wetland, logged forestland (disturbed)	WNSS
WRS-51	Area 1	12/13/2018	PSS1E	withe-rod; meadowsweet	F3 - Depleted Matrix	A3: Saturation; D4: Microtopographic Relief	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, logged forestland (disturbed)	WNSS
WRS-52	Area 1	12/13/2018	PSS1E	balsam fir; red maple; beaked hazelnut	F3 - Depleted Matrix	A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o of larger, off-site wetland, logged forestland (disturbed)	WNSS
WRS-7	Area 1	12/13/2018	PSS1E	red maple; withe-rod, raspberry	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	p/o larger, off-site wetland, paritally converted agricultural land (disturbed), pit & mound	WNSS

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Delineated Wetlands in Proposed Development Areas - November/December 2018 and Spring/Summer 2019										
Resource ID	**Location**	**Delineation Date (verified in spring/summer 2019)**	**Cowardin Classification[1]**	**Dominant Vegetation[2]**	**Hydric Soil Indicator[3]**	**Hydrology Indicators[3]**	**Soil Map Unit[4]**	**Principal Functions and Values[5]**	**Notes**	**MDEP Classification[6]**
WRS-8	Area 2	12/5/2018	PEM1E	red maple; withe-rod; sheel laurel; meadowsweet; wrinkle-leaf goldenrod; fowl mannagrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WRS-9	Area 2	12/5/2018	PEM1E	red maple; gray birch; bristly dewberry; sheep laurel; tall white aster; woolgrass	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation; B9: Water Stained Leaves; D4: Microtopographic Relief	Lamoine-Scantic-Colonel complex, 0-8 percent slopes, very stony	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, converted agricultural land (disturbed)	WNSS
WSH-1	Area 5	12/11/2018	PSS1E	meadowsweet; red maple	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Production Export; Wildlife Habitat	contains P-RS-22; p/o of larger, off-site wetland, partially converted agricultural land (disturbed)	WOSS
WSH-2	Area 5	12/11/2018	PEM1E	meadowsweet; red maple; speckled alder	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Wildlife Habitat	isolated wetland, partially converted agricultural land (disturbed)	WNSS
WSH-3	Area 5	12/11/2018	PSS1E	meadowsweet; speckled alder	F3 - Depleted Matrix	A1: Surface Water; A2: High Water Table; A3: Saturation	Scantic-Biddeford complex, 0-3 percent slopes	GW Recharge/Discharge (as shallow soil water interchange); Floodflow Alteration; Wildlife Habitat	p/o of larger, off-site wetland, partially converted agricultural land (disturbed)	WOSS

1 - Cowardin, et al. 1979. United States, Fish and Wildlife Service
2 - Dominant vegetation - see below for Genus species
3 - U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual:Northcentral and Northeast Region (Version 2.0)
4 - USDA. NRCS Soil Survey. Accessed On-Line
5 - U.S. Army Corps of Engineers, NE District. The Highway Methodology Workbook Supplement
6 - State of Maine, Department of Environmental Protection, Natural Resources Protection Act Statute and Chapter 310: Wetlands and Waterbodies

Plant Name	***Genus species (latin)***	**Plant Name**	***Genus species (latin)***	**Plant Name**	***Genus species (latin)***
balsam fir	*Abies balsamea*	sheep laurel	*Kalmia angustifolia*	bristly dewberry	*Rubus hispidus*
red maple	*Acer rubrum*	eastern larch	Larix Laricina	woolgrass	*Scirpus cyperinus*
speckled alder	*Alnus incana*	interrupted fern	*Osmunda claytoniana*	dark green bulrush	*Scirpus atrovirens*
gray birch	*Betula populifolia*	rice grass	*Oryzopsis asperifolia*	smooth goldenrod	*Solidago gigantea*
Canada bluejoint	*Calamagrostis canadensis*	witch panicgrass	*Panicum capillare*	field goldenrod	*Solidago nemoralis*
broom sedge	*Carex scoparia*	black spruce	*Picea mariana*	wrinkle-leaf goldenrod	*Solidago rugosa*
bunchberry	*Cornus canadensis*	red spruce	*Picea rubens*	goldenrod	*Solidago sp.*
beaked hazelnut	*Corylus cornuta*	quaking aspen	*Populus tremuloides*	meadowsweet	*Spiraea alba*
tall white aster	*Doellingeria umbellata*	common cinquefoil	*Potentilla simplex*	dogwood	*Swida*
cotton-grass	*Eriophorum angustifolium*	red oak	*Quercus rubra*	red-osier dogwood	*Swida sericea*
fowl mannagrass	*Glyceria striata*	Labrador tea	*Rhododendron groenlandicum*	lowbush blueberry	*Vaccinium angustifolia*
winterberry	*Ilex verticillata*	Carolina rose	*Rosa carolina*	velvet-leaved blueberry	*Vaccinium myrtilloides*
common rush	*Juncus effuses*	dewdrop	*Rubus dalibarda*	withe-rod	*Viburnum nudum*

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Vernal Pool Documentation - April and May 2019															
Resource ID	Pool Location	Pool Origin	Wood Frog Egg Masses		Spotted Salamander Egg Masses		Blue Spotted Salamander Egg Masses		Fairy Shrimp		Vegetation Classification	Pool Hydroperiod (Estimated)	Soils	Notes	Corps Jurisdictional	MDEP Jurisdictional
			V #1	V #2	V #1	V #2	V #1	V #2	V #1	V #2						
P-JL-15	Area 1	Man-Made to Natural-Modified	5	0	0	0	0	0	0	0	PFO/PSS	Semi-Permanent to Ephemeral - 24" at visit	shallow O over mineral	in wetland W-JL-24; hydrology impacted by road	**	No
P-JL-16	Area 1	Natural-Modified	7	TP	6	6	0	0	0	0	PSS/PEM	Ephemeral, ~5-16" at visit, may not be viable	shallow O over mineral	in wetland W-JL-25; converted agricultural land (disturbed)	**	No
P-JL-17	Area 1	Natural-Modified	2	2	0	0	0	0	0	0	PSS/PEM	Ephemeral, open & sunny	shallow O over mineral	in wetland W-JL-25; converted agricultural land (disturbed)	**	No
P-RS-8	Area 1	Natural-Modified	1	TP	2	27	0	0	0	0	PEM	Ephemeral , ~12-30" at visit	shallow O over mineral	in wetland W-RS-4, converted agricultural land (disturbed)	**	YES - SVP
P-RS-21	Area 4	Natural-Modified	4	TP	4	7	0	0	0	0	PSS	Semi-permanent - 30" at visit	shallow O over mineral	in wetland W-RS-20, ~25' diameter	**	No
P-RS-25	Area 4	Natural-Modified	1	0	0	0	0	0	0	0	PSS	Ephemeral, ~ 10" deep at visit	shallow O over mineral	~15' diameter	**	No
P-DK-1	250' Buffer Area	Natural to Natural-Modified	2	0	2	13	0	0	0	0	PFO	Ephemeral - 16" at visit	leaf litter over mineral	~25'X60'; intermittent outlet	**	No
P-DK-2	250' Buffer Area	Natural to Natural Modified	2	0	0	0	0	0	0	0	PSS	Ephemeral - 12" at visit	shallow O over mineral	~30' X 70'; disturbed due to logging	**	No
P-JL-6	250' buffer area	Natural-Modified	3	0	5	5	0	0	0	0	PFO	Semi-Permanent to Ephemeral - 12" at visit	organic	in wetland; hydrology modified by road and culvert, skid ruts	**	No
P-RS-4	250' buffer area	Man-Made to Natural-Modified	0	0	2	0	0	0	0	0	PFO/PSS	Ephemeral - ~12" deep at visit	leaf litter over mineral	in pool near road, old beaver activity, ~12'X10', snapping turtle	**	No
P-RS-6	250' buffer area	Natural	5	1	0	2	0	0	0	0	PSS/PEM	Ephemeral - 6-12" at visit	organic	~15' diameter	**	No
P-RS-9	250' buffer area	Natural-Modified	0	0	2	2	0	0	0	0	PFO	Ephemeral - 8" at visit	organic	pit & mound, disturbed	**	No
P-RS-15	250' buffer area	Man-Made to Natural-Modified	3	3	3	3	0	0	0	0	PFO/PSS	Ephemeral - ~18 ft deep at visit	shallow O over mineral	~20'X30', hydrology altered or created by road	**	No
P-RS-22	250' Buffer Area	Natural to Natural Modified	4	0	0	0	0	0	0	0	PSS/PFO	Ephemeral, ~14" deep at visit	organic	~30' diam, disturbed due to logging	**	No
P-RS-24	250' Buffer Area	Natural-Modified	0	0	1	0	0	0	0	0	PSS	Ephemeral, ~12" deep at visit	shallow O over mineral	hydrology altered by road	**	No

V#1 Visit Dates: 04/30/19, 05/06/19; 05/07/19
V#2 Visit Dates: 05/20/9; 05/21/19; 05/28/19

** = May be jurisdictional to the Corps if wetland alteration triggers jurisdiction

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine - Indicator Breeding Area (Not Vernal Pools) Documentation - April and May 2019															
Resource ID	**Pool Location**	**Pool Origin**	**Wood Frog Egg Masses**		**Spotted Salamander Egg Masses**		**Blue Spotted Salamander Egg Masses**		**Fairy Shrimp**		**Vegetation Classification**	**Pool Hydroperiod (Estimated)**	**Soils**	**Notes**	**Corps Jurisdictional**	**MDEP Jurisdictional**
			V #1	**V #2**	**V #1**	**V #2**	**V #1**	**V #2**	**V #1**	**V #2**						
P-JL-22	Area 1	Man-Made	0	0	7	6	0	0	0	0	OW	Ephemeral, ~24" deep at visit, sunny	mineral	~10'X10', borrow pit in upland	No	No
P-RS-13	Area 3	Natural-Modified	0	0	1	0	0	0	0	0	PEM	Ephemeral - sunny, 6" at visit, not viable, drying quickly	shallow O over mineral	in wetland W-RS-5, converted agricultural land (disturbed)	**	No
P-JL-3	250' buffer area	Man-Made	0	0	1	0	0	0	0	0	PSS	Ephemeral - full sun, 12" at visit	mineral	~8'X8' borrow pit, steep sides	No	No
P-JL-11	250' buffer area	Natural	7	2	1	0	0	0	0	0	PEM	Permanent	organic	Beaver Pond with inlet and outlet	**	No
P-JL-23	250' Buffer Area	Man-Made		0		7		0		0	PFO/PSS	Ephemeral - 16" at visit	O over mineral	several skid ruts, only 2 with masses	**	No
P-RS-12	250' buffer area	Man-Made		0		1		0		0	PFO	Ephemeral - 14" deep at visit	shallow O over mineral	~14'X20'; skidder ruts	**	No
P-RS-23	250' Buffer Area	Man-Made	0	TP	2	2	0	0	0	0	PFO	Ephemeral - 12" deep at visit 1, likely not viable	shallow O over mineral	2 skid ruts	**	No
P-RS-26	250' Buffer Area	Man-Made	0	0	5	0	0	0	0	0	PFO/PSS	Ephemeral - 6" deep at visit, drying quickly	shallow O over mineral	~3X15', skid ruts in wetland, disturbed by logging	**	No
P-RS-27	250' Buffer Area	Natural	0	0	1	0	0	0	0	0	PFO	Permanent, ~5' deep at visit	organic	fish, active beaver pond	**	No

V#1 Visit Dates: 04/30/19, 05/06/19; 05/07/19
V#2 Visit Dates: 05/20/9; 05/21/19; 05/28/19

** = May be jurisdictional to the Corps if wetland alteration triggers jurisdiction

Three Rivers Solar Power, LLC - Three Rivers Solar Project, T16MD, Maine Streams within 250' Buffer Area - November/December 2018 and May/June 2019					
Resource ID	Location	Hydroperiod	Width	Depth at Visit	Bottom Type
S-RS-1*	250' buffer area	Intermittent	18"	10"	sandy silt
S-RS-2*	250' buffer area	Intermittent	24"	8"	sandy,cobbles
S-RS-3	250' buffer area	Perennial	10-15'	2-4'	sand and gravel
S-RS-4	250' buffer area	Perennial	10-15'	2-4'	sand and gravel
S-RS-5	250' buffer area	Intermittent	12"-24"	8"-12"	sand and silt
S-RS-6*	250' buffer area	Perennial	24"-60"	12-30"	sand /silt and mud

* S-RS-1, S-RS-2, and S-RS-6 are within 100' of Proposed Development Areas

APPENDIX D
Color Photographs of Wetlands and Streams
(see Appendix F for vernal pool photographs)

Atlantic Resource Co, LLC

August 26, 2019

Photo 1: Wetland WRS-1: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 2: Wetland WRS-2: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 3: Wetland WRS-3: PEM1E (Area 1). Photograph taken 6/12/19.

Photo 4: Wetland WRS-4: PEM1E (Area1). Photograph taken 6/18/19.

Photo 5: Wetland WRS-5: PEM1E (Area 3). Photograph taken 08/16/19.

Photo 6: Wetland WRS-7: PSS1E (Area1). Photograph taken 7/5/19.

Photo 7: Wetland WRS-8: PEM1E (Area 2). Photograph taken 6/18/19.

Photo 8: Wetland WRS-9 (Area 2): PEM1E. Photograph taken 6/18/19.

Photo 9: Wetland WRS-10 (Area 2): PEM1E. Photograph taken 6/17/19.

Photo 10: Wetland WRS-11: PEM1E (Area 2). Photograph taken 6/17/19.

Photo 11: Wetland WRS-12: PEM1E (Area 2). Photograph taken 06/18/18.

Photo 12: Wetland WRS-13: PEM1E (Area 2). Photograph taken 6/18/19.

Photo 13: Wetland WRS-14: PEM1E (Area 3). Photograph taken 6/18/19.

Photo 14: Wetland WRS-15: PEM1E (Area 3). Photograph taken 6/18/19.

Photo 15: Wetland WRS-16: PEM1E (Area 3). Photograph taken 6/18/19.

Photo 16: Wetland WRS-17: PEM1E (Area 3). Photograph taken 6/18/19.

Photo 17: Wetland WRS-18: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 18: Wetland WRS-19: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 19: Wetland WRS-20: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 20: Wetland WRS-21: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 21: Wetland WRS-22: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 22: Wetland WRS-23: PSS1E (Area 4). Photograph taken 12/10/18.

Photo 23: Wetland WRS-24: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 24: Wetland WRS-26: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 25: Wetland WRS-27: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 26: Wetland WRS-28: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 27: Wetland WRS-29: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 28: Wetland WRS-30: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 29: Wetland WRS-31: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 30: Wetland WRS-32: PSS1E (Area 4). Photograph taken 6/18/19.

Photo 31: Wetland WRS-33: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 32: Wetland WRS-34: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 33: Wetland WRS-35: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 34: Wetland WRS-36: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 35: Wetland WRS-37: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 36: Wetland WRS-38: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 37: Wetland WRS-39: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 38: Wetland WRS-40: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 39: Wetland WRS-41: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 40: Wetland WRS-42: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 41: Wetland WRS-43 (Area 5): PSS1E. Photograph taken 6/17/19.

Photo 42: Wetland WRS-44: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 43: Wetland WRS-45: PSS1E (Area 5). Photograph taken 6/17/19.

Photo 44: Wetland WRS-46: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 45: Wetland WRS-47: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 46: Wetland WRS-48: PSS1E (Area 6). Photograph taken 6/17/19.

Photo 47: Wetland WRS-49: PSS1E (Area 1). Photograph taken 5/7/19.

Photo 48: Wetland WRS-50: PSS1E (Area 1). Photograph taken 5/7/19.

Photo 49: Wetland WRS-51: PSS1E (Area 1). Photograph taken 5/7/19.

Photo 50: Wetland WRS-52: PSS1E (Area 1). Photograph taken 5/7/19.

Photo 51: Wetland WJL-24: PFO1E (Area 1). Photograph taken6/18/19.

Photo 52: Wetland WJL-25: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 53: Wetland WJL-26: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 54: Wetland WJL-27: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 55: Wetland WJL-28: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 56: Wetland WJL-29: PEM1E (Area 1). Photograph taken 6/18/19.

Photo 57: Wetland WJL-30: PSS1E (Area 1). Photograph taken 5/7/19.

Photo 58: Wetland WDK-1: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 59: Wetland WDK-2: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 60: Wetland WDK-3: PEM1E (Area 5). Photograph taken 6/17/19.

Photo 61: Wetland WDK-4: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 62: Wetland WDK-5: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 63: Wetland WDK-6: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 64: Wetland WDK-7: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 65: Wetland WDK-8: PEM1E (Area 5). Photograph taken 12/11/18.

Photo 66: Wetland WSH-1/WAB-1: PSS1E (Area 5). Photograph taken 6/15/19.

Photo 67: Wetland WSH-2: PEM1E (Area 5). Photograph taken 6/18/19.

Photo 68: Wetland WSH-3: PSS1E (Area 5). Photograph taken 6/18/19.

Photo 69: Wetland WJL-40: PFO4E (Road Connector). Photograph taken 6/12/19.

Photo 70: Wetland WJL-41: PFO4E (Road Connector). Photograph taken 6/12/19.

Photo 71: Wetland WJL-42: PFO1E (Road Connector). Photograph taken 6/12/19.

Photo 72: Wetland WJL-43: PFO4E (Road Connector). Photograph taken 6/12/19.

Photo 73: Wetland WJL-44: PFO1E (Road Connector). Photograph taken 6/12/19.

Photo 74: Wetland WJL-45: PSS1E (Road Connector). Photograph taken 6/12/19.

Photo 75: Wetland WJL-46: PSS1E (Road Connector). Photograph taken 6/12/19.

Photo 76: Wetland WJL-47: PSS1E (Road Connector). Photograph taken 6/12/19.

Photo 77: Wetland WJL-48: PSS1E (Road Connector). Photograph taken 6/17/19.

Photo 78: Wetland WJL-49: PFO1&4E (Road Connector). Photograph taken 6/17/19.

Photo 79: Wetland WJL-50: PFO1&4E (Road Connector). Photograph taken 6/17/19.

Photo 80: Wetland WJL-56: PSS/PEM (Road Connector). Photograph taken 6/17/19.

Photo 81: Wetland WAB-3: PSS1 (Road Connector). Photograph taken 6/17/19.

Photo 82: Stream S-R1 (within 100' of Area 4). Photograph taken 7/1/19.

Photo 83: Stream S-R2 (within 100' of Area 1). Photograph taken 7/1/19.

Photo 84: Stream S-R6 (within 100' of Area 5). Photograph taken 7/1/19.

APPENDIX E
Representative Corps Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: DK-3 U

Investigator(s): JL, DK Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): HILLSIDE Local relief (concave, convex, none): LINEAR Slope (%): 3-8

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.709137 Long: -68.103059 Datum: WGS84

Soil Map Unit Name: Scantic-Biddeford Complex (SBA) NWI classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and most shrubs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: DK-3 U

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Prunus pensylvanica*	25	Yes	FACU
2. *Populus tremuloides*	30	Yes	FACU
3. *Viburnum nudum*	15	No	FACW
4. *Acer rubrum*	10	No	FAC
5.			
6.			
7.			
	80 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Rubus idaeus*	30	Yes	FACU
2. *Rubus allegheniensis*	20	Yes	FACU
3. *Aralia nudicaulis*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	110	x 4 =	440
UPL species	0	x 5 =	0
Column Totals:	135 (A)		500 (B)
Prevalence Index = B/A =			3.70

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: DK-3 U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 2.5/1	100						ORGANIC
3-4	7.5YR 3/3	100					Loamy/Clayey	
4-10	10YR 5/6	100					Loamy/Clayey	
10-20	10YR 5/6	95	7.5YR 4/6	5	C	M	Loamy/Clayey	Faint redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: DK-3 W

Investigator(s): JL, DK Section, Township, Range: T16MD

Landform (hillside, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.709079 Long: -68.103119 Datum: WGS84

Soil Map Unit Name: Scantic-Biddeford Complex (SBA) NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	WDK-03

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and most shrubs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-3 U

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): HILLSIDE Local relief (concave, convex, none): CONVEX Slope (%): 3-8

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.722488 Long: -68.095245 Datum: WGS84

Soil Map Unit Name: Hermon-Monadnock-Peru Complex (HMC) NWI classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and shrubs, stumped and large boulders currently being removed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ____ Surface Water (A1)
- ____ High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ____	Depth (inches): ____
Water Table Present?	Yes ____	No ____	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 10

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-3 U

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Acer rubrum*	10	No	FAC
2. *Vaccinium angustifolium*	40	Yes	FACU
3. *Kalmia angustifolia*	40	Yes	FAC
4. *Viburnum nudum*	10	No	FACW
5. *Prunus pensylvanica*	5	No	FACU
6.			
7.			
	105 =Total Cover		
Herb Stratum (Plot size: 1M)			
1. *Gaultheria procumbens*	40	Yes	FACU
2. *Pteridium aquilinum*	5	No	FACU
3. *Poa pratensis*	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	65 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	50	x 3 =	150
FACU species	110	x 4 =	440
UPL species	0	x 5 =	0
Column Totals:	170 (A)		610 (B)
Prevalence Index = B/A =			3.59

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-3 U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/1	100						ORGANIC
2-4	7.5YR 4/1	100					Loamy/Clayey	
4-6	10YR 3/4	100					Loamy/Clayey	
6-10	10YR 4/6	90	10YR 5/2	10	D	M	Loamy/Clayey	
10-14	10YR 4/6	100						GRAVELLY

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-3 W

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.722587 Long: -68.094948 Datum: WGS84

Soil Map Unit Name: Hermon-Mondadnock-Peru Complex (HMC) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	WRS-03

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and shrubs, stumped, boulders currently being removed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	4
Water Table Present?	Yes X	No ____	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-3 W

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Kalmia angustifolia*	30	Yes	FAC
2. *Spiraea alba*	15	Yes	FACW
3. *Acer rubrum*	5	No	FAC
4. *Viburnum nudum*	5	No	FACW
5.			
6.			
7.			
	55 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Scirpus cyperinus*	5	No	OBL
2. *Solidago gigantea*	5	No	FACW
3. *Carex debilis*	10	Yes	FACW
4. *Carex tenera*	10	Yes	FAC
5. *Gaultheria procumbens*	20	Yes	FACU
6. *Kalmia angustifolia*	5	No	FAC
7. *Spiraea alba*	5	No	FACW
8. *Vaccinium angustifolium*	20	Yes	FACU
9.			
10.			
11.			
12.			
	80 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	40	x 2 =	80
FAC species	50	x 3 =	150
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	135 (A)		395 (B)
Prevalence Index = B/A =			2.93

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-3 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	2.5Y 2.5/1	100					Peat	ORGANIC
2-4	2.5Y 4/1	100					Loamy/Clayey	
4-10	2.5Y 5/2	80	7.5YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations
10-14	2.5Y 6/2	70	7.5YR 5/8	30	C	M	Loamy/Clayey	Prominent redox concentrations
14-18	2.5Y 6/2	40	10YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations
	10YR 6/1	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/17/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-10 U

Investigator(s): JL,RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): HILLSIDE Local relief (concave, convex, none): LINEAR Slope (%): 3-8

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.721927 Long: -68.109603 Datum: WGS84

Soil Map Unit Name: Lamoine-Scantic-Colonel Complex (LLB) NWI classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and most shrubs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-10 U

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Pteridium aquilinum*	5	No	FACU
2. *Carex arctata*	10	No	UPL
3. *Vaccinium angustifolium*	80	Yes	FACU
4. *Kalmia angustifolia*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	85	x 4 =	340
UPL species	10	x 5 =	50
Column Totals:	100 (A)		405 (B)
Prevalence Index = B/A =			4.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-10 U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	2.5Y 3/1	100						ORGANIC
3-5	2.5Y 8/2	100					Loamy/Clayey	FSL
5-7	7.5YR 3/3	100					Loamy/Clayey	FSL
7-11	5YR 4/3	100					Loamy/Clayey	FSL
11-15	10YR 4/6	100					Loamy/Clayey	FSL

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/17/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-10 W

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.721931 Long: -68.109513 Datum: WGS84

Soil Map Unit Name: Lamoine-Scantic-Colonel Complex (LLB) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	WRS-10

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and most shrubs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	2
Water Table Present?	Yes X	No ____	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: RS-10 W

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Betula populifolia*	10	Yes	FAC
2. *Spiraea tomentosa*	10	Yes	FACW
3. *Spiraea alba*	10	Yes	FACW
4. *Rhododendron canadense*	10	Yes	FACW
5.			
6.			
7.			
	40 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Carex canescens*	15	Yes	OBL
2. *Maianthemum canadense*	2	No	FACU
3. *Vaccinium angustifolium*	5	No	FACU
4. *Vaccinium myrtilloides*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	27 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	35	x 2 =	70
FAC species	10	x 3 =	30
FACU species	7	x 4 =	28
UPL species	0	x 5 =	0
Column Totals:	67 (A)		143 (B)

Prevalence Index = B/A = 2.13

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-10 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	2.5Y 2.5/1	100					Peat	
4-6	5Y 5/1	100					Loamy/Clayey	
6-9	2.5Y 5/2	50	10YR 5/6	30	C	M	Loamy/Clayey	Prominent redox concentrations
	2.5Y 4/2	20						
9-16	2.5Y 6/2	70	10YR 5/8	30	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: FIRM LAYER

Depth (inches): 16

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-15 U

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): Toe slope Local relief (concave, convex, none): convex Slope (%): 3-8

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.714577 Long: -68.102401 Datum: WGS84

Soil Map Unit Name: Hermon-Monadnock-Peru Complex (HMC) NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No x

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and most shrubs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 8

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-15 U

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Viburnum nudum*	5	Yes	FACW
2. *Kalmia angustifolia*	5	Yes	FAC
3. *Betula alleghaniensis*	5	Yes	FAC
4.			
5.			
6.			
7.			
	15 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Solidago canadensis*	30	Yes	FACU
2. *Maianthemum canadense*	10	No	FACU
3. *Carex lucorum*	20	Yes	UPL
4. *Betula alleghaniensis*	5	No	FAC
5. *Kalmia angustifolia*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	20	x 3 =	60
FACU species	40	x 4 =	160
UPL species	20	x 5 =	100
Column Totals:	85 (A)		330 (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-15 U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	7.5YR 3/2	100						Loam
2-8	7.5YR 3/4	100						Sandy Loam with coarse fragments
8-12	10YR 4/4	100						Gravely loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: NEXT PHASE ENERGY, LLC State: ME Sampling Point: RS-15 W

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.714438 Long: -68.102312 Datum: WGS84

Soil Map Unit Name: Hermon-Monadnock-Peru Complex (HMC) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	WRS-15

Remarks: (Explain alternative procedures here or in a separate report.)
Area has undergone conversion to agricultural land, has been cleared of all trees and most shrubs.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- X Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ____	Depth (inches):	6
Water Table Present?	Yes X	No ____	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-15 W

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Kalmia angustifolia*	10	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	10 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Scirpus cyperinus*	20	Yes	OBL
2. *Carex canescens*	10	Yes	OBL
3. *Onoclea sensibilis*	5	No	FACW
4. *Rubus hispidus*	5	No	FACW
5. *Solidago gigantea*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	55 (A)		90 (B)

Prevalence Index = B/A = 1.64

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-15 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5Y 2.5/1	100					Peat	ORGANIC
1-8	2.5Y 5/2	95	10YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations
8-14	2.5Y 5/2	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-23 U

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): HILLSIDE Local relief (concave, convex, none): CONVEX Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.712216 Long: -68.105249 Datum: WGS84

Soil Map Unit Name: Scantic-Biddeford Complex (SBA) NWI classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Area has been cleared of all trees.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes ____	No X	Depth (inches): ____
Saturation Present? (includes capillary fringe)	Yes ____	No X	Depth (inches): ____

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-23 U

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Populus tremuloides*	30	Yes	FACU
2. *Viburnum nudum*	30	Yes	FACW
3. *Picea rubens*	5	No	FACU
4. *Abies balsamea*	5	No	FAC
5. *Acer rubrum*	10	No	FAC
6.			
7.			
	80 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Pteridium aquilinum*	5	No	FACU
2. *Vaccinium angustifolium*	15	Yes	FACU
3. *Maianthemum canadense*	15	Yes	FACU
4. *Kalmia angustifolia*	5	No	FAC
5. *Carex novae-angliae*	20	Yes	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	20	x 3 =	60
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	140 (A)		480 (B)
Prevalence Index = B/A =			3.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-23 U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	7.5YR 3/1	100						ORGANIC
1-3	7.5YR 3/4	100						LOAM
3-16	10YR 5/4	100						SILT LOAM
16-20	2.5Y 5/4	80	10YR 5/6	20	C	M		Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/12/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-23 W

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.712325 Long: -68.105117 Datum: WGS84

Soil Map Unit Name: Scantic-Biddeford Complex (SBA) NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation x , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No x

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	WRS-23

Remarks: (Explain alternative procedures here or in a separate report.)
Area has been cleared of all trees.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- x Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ____ Water Marks (B1)
- ____ Sediment Deposits (B2)
- ____ Drift Deposits (B3)
- ____ Algal Mat or Crust (B4)
- ____ Iron Deposits (B5)
- ____ Inundation Visible on Aerial Imagery (B7)
- ____ Sparsely Vegetated Concave Surface (B8)
- x Water-Stained Leaves (B9)
- ____ Aquatic Fauna (B13)
- ____ Marl Deposits (B15)
- ____ Hydrogen Sulfide Odor (C1)
- ____ Oxidized Rhizospheres on Living Roots (C3)
- ____ Presence of Reduced Iron (C4)
- ____ Recent Iron Reduction in Tilled Soils (C6)
- ____ Thin Muck Surface (C7)
- ____ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- x Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- x Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes x	No ____	Depth (inches):	3
Water Table Present?	Yes x	No ____	Depth (inches):	0
Saturation Present? (includes capillary fringe)	Yes x	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-23 W

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.	0		
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. *Alnus incana*	10	No	FACW
2. *Viburnum nudum*	5	No	FACW
3. *Spiraea alba*	40	Yes	FACW
4. *Betula populifolia*	15	Yes	FAC
5. *Acer rubrum*	5	No	FAC
6. *Rhododendron canadense*	5	No	FACW
7.			
	80 =Total Cover		
Herb Stratum (Plot size: 1 m)			
1. *Osmunda claytoniana*	10	Yes	FAC
2. *Maianthemum canadense*	10	Yes	FACU
3. *Rubus hispidus*	5	No	FACW
4. *Carex debilis*	5	No	FACW
5. *Carex canescens*	10	Yes	OBL
6. *Spiraea alba*	10	Yes	FACW
7.			
8.			
9.			
10.			
11.			
12.			
	50 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	80	x 2 =	160
FAC species	30	x 3 =	90
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	130 (A)		300 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-23 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y 2.5/1	100					Peat	ORGANIC
6-8	2.5Y 2.5/1	100						LOAM
8-18	2.5Y 4/1	60	7.5YR 4/6	10	C	M		SILT LOAM
	2.5Y 5/2	30						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/17/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-36 U

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): Terrace Local relief (concave, convex, none): linear Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.707440 Long: -68.106041 Datum: WGS84

Soil Map Unit Name: Colton-Hermon Association (CUC) NWI classification: UPLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____	No X	**within a Wetland?** **Yes** ____ **No** X
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Area has been cleared of most trees, leaving shrubs up to 20' tall.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- x High Water Table (A2)
- x Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches): ____
Water Table Present?	Yes X	No ____	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: RS-36 U

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer rubrum*	2	No	FAC
2. *Prunus pensylvanica*	2	No	FACU
3.			
4.			
5.			
6.			
7.			
	4	=Total Cover	
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Prunus pensylvanica*	5	No	FACU
2. *Populus tremuloides*	60	Yes	FACU
3. *Betula populifolia*	5	No	FAC
4. *Viburnum nudum*	15	No	FACW
5. *Corylus cornuta*	2	No	FACU
6.			
7.			
	87	=Total Cover	
Herb Stratum (Plot size: 1 M)			
1. *Prunus pensylvanica*	2	No	FACU
2. *Populus tremuloides*	5	Yes	FACU
3. *Corylus cornuta*	2	No	FACU
4. *Fragaria virginiana*	5	Yes	FACU
5. *Hieracium aurantiacum*	5	Yes	UPL
6. *Potentilla simplex*	5	Yes	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	24	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	7	x 3 =	21
FACU species	88	x 4 =	352
UPL species	5	x 5 =	25
Column Totals:	115 (A)		428 (B)
Prevalence Index = B/A =			3.72

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-36 U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	2.5Y 2.5/1	100					Peat	
1-4	10YR 4/4	100					Loamy/Clayey	
4-8	2.5Y 5/4	100					Loamy/Clayey	
8-12	2.5Y 6/3	80	2.5Y 5/1	10	D	M	Loamy/Clayey	
			10YR 4/4	10	C	M		Distinct redox concentrations
12-16	2.5Y 6/3	60	2.5Y 5/1	20	D	M	Loamy/Clayey	
			10YR 4/4	20	C	M		Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: Firm Layer

Depth (inches): 16

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: THREE RIVERS SOLAR City/County: HANCOCK Sampling Date: 6/17/2019

Applicant/Owner: THREE RIVERS SOLAR POWER, LLC State: ME Sampling Point: RS-36 W

Investigator(s): JL, RSA Section, Township, Range: T16 MD

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0-3

Subregion (LRR or MLRA): LRR R, MLRA 143 Lat: 44.707410 Long: -68.106184 Datum: WGS84

Soil Map Unit Name: Colton-Hermon Association (CUC) NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No ____	**within a Wetland?**	**Yes** X **No** ____
Wetland Hydrology Present?	Yes X	No ____	If yes, optional Wetland Site ID:	WRS-36

Remarks: (Explain alternative procedures here or in a separate report.)
Area has been cleared of all trees and most shrubs for agricultural use.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	X Water-Stained Leaves (B9)	___ Aquatic Fauna (B13)
X High Water Table (A2)	___ Marl Deposits (B15)	___ Hydrogen Sulfide Odor (C1)
X Saturation (A3)	___ Water Marks (B1)	___ Sediment Deposits (B2)
___ Drift Deposits (B3)	___ Algal Mat or Crust (B4)	___ Iron Deposits (B5)
___ Inundation Visible on Aerial Imagery (B7)	___ Sparsely Vegetated Concave Surface (B8)	

___ Oxidized Rhizospheres on Living Roots (C3)	___ Surface Soil Cracks (B6)
___ Presence of Reduced Iron (C4)	___ Drainage Patterns (B10)
___ Recent Iron Reduction in Tilled Soils (C6)	___ Moss Trim Lines (B16)
___ Thin Muck Surface (C7)	___ Dry-Season Water Table (C2)
___ Other (Explain in Remarks)	___ Crayfish Burrows (C8)
	___ Saturation Visible on Aerial Imagery (C9)
	___ Stunted or Stressed Plants (D1)
	X Geomorphic Position (D2)
	___ Shallow Aquitard (D3)
	X Microtopographic Relief (D4)
	X FAC-Neutral Test (D5)

Secondary Indicators (minimum of two required)

Field Observations:

Surface Water Present?	Yes ____	No X	Depth (inches):	____
Water Table Present?	Yes X	No ____	Depth (inches):	4
Saturation Present? (includes capillary fringe)	Yes X	No ____	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: RS-36 W

Tree Stratum (Plot size: 10 M)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5 M)			
1. *Viburnum nudum*	45	Yes	FACW
2. *Spiraea alba*	10	No	FACW
3. *Populus tremuloides*	20	Yes	FACU
4.			
5.			
6.			
7.			
	75 =Total Cover		
Herb Stratum (Plot size: 1 M)			
1. *Viburnum nudum*	10	Yes	FACW
2. *Spiraea alba*	10	Yes	FACW
3. *Rubus pubescens*	5	No	FACW
4. *Carex debilis*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	85	x 2 =	170
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	105 (A)		250 (B)

Prevalence Index = B/A = 2.38

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: RS-36 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	2.5Y 2.5/1	100					Peat	
2-4	2.5Y 3/1	100					Mucky Loam/Clay	
4-8	2.5Y 5/2	98	10YR 4/6	2	C	M	Mucky Loam/Clay	Prominent redox concentrations
8-18	2.5Y 5/2	70	10YR 4/6	30	C	M	Loamy/Clayey	Prominent redox concentrations
18-20	2.5Y 5/2	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to reflect the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

APPENDIX F
Maine State Vernal Pool Assessment Forms and Attachments

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: P-JL-15 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-JL-15 is in the northwest of TRS Area 1 (see map). Large undeveloped property; use coordinates to find.

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: -68.1066 Latitude/Northing: 44.7280

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

PFO/PSS wetland with numerous areas of standing water.Pool depth is increased by road and plugged culvert.

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:

Pool is 36-60" deep in center, but up to half of delineated pool dries out (ditch and/or shallower pools).

■ 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: 20 ○ m ◉ ft Length: 75 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☑ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/30/19, 5/7/2019, 5/20/2019

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	5	0	0	3	3	3	M								
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:

Hydrology impacted by road.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-JL-16 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St. Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-JL-16 is in the central portion of TRS Area 1. Large undeveloped property; use coordinates to find.

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: -68.1018 Latitude/Northing: 44.7205

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Area has been cleared of all vegetation over 3 feet tall and treated with herbicides for agricultural use. Skid ruts are evident in the wetland and vernal pool.

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:

Pool at most 18" deep. No surrounding cover (full sun).

■ 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: 100 ○ m ◉ ft Length: 140 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☑ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/20/2019

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	7			3			M				Y			3	
Spotted Salamander	6	6		3	3		F	A							
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:

Pool is large chain of connected pools in PEM/PSS wetland. Skid ruts on east side.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-JL-17 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St. Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-JL-17 is in the central portion of TRS Area 6. Large undeveloped property; use coordinates to find.

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: -68.1021 Latitude/Northing: 44.7203

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Area has been cleared of all vegetation over 3 feet tall and treated with herbicides for agricultural use. Skid ruts are evident in the wetland.

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:

Pool at most 18" deep, average of 6" deep. No surrounding cover (full sun).

■ 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: 30 ○ m ◉ ft Length: 80 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/30/2019, 5/20/2019

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	2	2		3	3		M	H							
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:

Chain of connected pools in a PSS/PEM wetland. Over 500 feet from undisturbed upland forests.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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 <u>required</u> for pool registration.**
- **<u>Clear photographs</u> of a) the pool AND b) the indicators (one example of each species egg mass) are <u>required</u> for all observers.**

Observer's Pool ID: P-RS-8 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-8 is in the eastern portion of TRS Area 1 (see map). Large undeveloped property; use coordinates to find.

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: -68.0927 Latitude/Northing: 44.7206

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ○ Pool associated with larger wetland complex
- ◉ Other: Isolated pool inside isolated wetland

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

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

Area around and in pool has been cleared of all vegetation over 2 feet high and treated with herbicides

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:

Although deep during survey season, pool was only 10" deep by mid June, and therefore likely dries out completely (saturated soils and high water table likely).

■ 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: 100 ○ m ◉ ft Length: 250 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/30/2019, 5/21/2019

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	1	0		3	3		M				Y			3	
Spotted Salamander	2	27		3	3		F	M							
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:

Deep organics and sphagnum mat. One continuous pool inside isolated wetland. Dense leather leaf in center of pool, lots of sedges around edges.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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 <u>required</u> for pool registration.**
- **<u>Clear photographs</u> of a) the pool AND b) the indicators (one example of each species egg mass) are <u>required</u> for all observers.**

Observer's Pool ID: P-RS-21 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-21 is in the southern portion of TRS Area 4 (see map). Large undeveloped property; use coordinates to find.

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: -68.1052 Latitude/Northing: 44.7116

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Area has been clear cut, only shrubs and small trees remaining.

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:

Small pool area, no cover.

■ 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: 12 ○ m ◉ ft Length: 20 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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: Green frogs observed

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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/7/2019, 5/21/2019

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	4			3			F				Y			3	
Spotted Salamander	4	7		3	3		F	M							
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: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-RS-25 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St. Amand, J. LeClerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-25 is in the central portion of TRS Area 4 (see map). Large undeveloped property; use coordinates to find.

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: -68.1050 Latitude/Northing: 44.71211944

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

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

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

Area has been clear cut.

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:

Shallow with minimal shade cover in small isolated wetland

■ 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: 10 ( ) m (•) ft Length: 20 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- (•) Mineral soil (sphagnum moss present)
- ( ) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/28/2019

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	1	0		3	3		M								
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: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-DK-01 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R.St. Amand, J. LeClerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-DK-01 is east of TRS Area 5 (see map). Large undeveloped property; use coordinates to find.

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: -68.1004 Latitude/Northing: 44.7077

Coordinate system: WGS 84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Within area of timber harvest.

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:

Shallow, with intermittent outlet to northeast

■ 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: 25 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☑ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/28/2019

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	2	0		3	3		M				X			3	
Spotted Salamander	2	13		3	3		F	A							
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:

Pool inside forest on edge of clearing

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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 <u>required</u> for pool registration.**
- **<u>Clear photographs</u> of a) the pool AND b) the indicators (one example of each species egg mass) are <u>required</u> for all observers.**

Observer's Pool ID: P-DK-02 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-DK-02 is east of TRS Area 5 (see map). Large undeveloped property; use coordinates to find.

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: -68.1002 Latitude/Northing: 44.7074

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Western section of pool has been cleared of woody vegetation, skid ruts are evident.

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:

Full sun; shallow O over mineral.

■ 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: 30 ○ m ◉ ft Length: 70 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ◉ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/28/2019

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	2	0		3			A								
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: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-JL-06 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-JL-6 is northeast of TRS Area 2 (see map). Large undeveloped property; use coordinates to find.

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: -68.1052 Latitude/Northing: 44.7201

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Roads border wetland on east, north, and west. skid ruts and logging impacting pool and surrounding wetland. Small borrow pit on west side where spotted salamander masses were observed.

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:

Pool and surrounding wetland likely saturated all year, with small pockets of standing water present most years. Culvert draining wetland to north limits water depth, shortening hydroperiod.

■ 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: 30 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☑ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ◉ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/7/19 and 5/21/19

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	3	0		3	3		M								
Spotted Salamander	5	5		3	3		F	A							
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:

Most indicator species' egg masses found in modified areas (skid ruts and burrow pits). Drains north through culvert under road

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-RS-4 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS - 4 is east of TRS Area 1 (see map). Large undeveloped property; use coordinates to find.

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: -68.0986 Latitude/Northing: 44.7124

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Evidence of historic logging and old road along south side. Very old beaver dam holding water to southeast

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:

Pool drains through historic beaver dam to southeast. 18" deep max at time of surveys.

■ 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: 12 ○ m ◉ ft Length: 10 ○ m ○ ft

■ Predominate substrate in order of increasing hydroperiod:

- ◉ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☐ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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: Snapping turtle in pool.

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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Drains thru old beaver dam into intermittent stream

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/8/2019, 5/21/2019

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	2	0		3	3		F								
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:

Sparsely vegetated concave surface with 80% Alnus incana cover (growing in and on edges of pool). Very large snapping turtle observed laying on/in substrate. This area likely a historic intermittent stream prior to beaver activity.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-RS-6 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS - 6 is east of TRS Area 4 (see map). Large undeveloped property; use coordinates to find.

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: -68.1010 Latitude/Northing: 44.7112

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

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:

Shallow, open PEM

■ 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: 15 ○ m ◉ ft Length: 15 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/7/2019, 5/21/2019

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	5	1		3	3		A	H							
Spotted Salamander	0	2		3	3			M							
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:

Small chain of connected pools in larger PEM/PFO5b

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-RS-9 **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 Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-9 is between TRS Areas 2 and 3 (see map). Large undeveloped property; use coordinates to find.

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: -68.1046 Latitude/Northing: 44.7181

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Strip-style logging throughout area. Skid ruts along both edges of pool.

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:

Shallow. Drains (non-channelized) to southwest

■ 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: 30 ○ m ◉ ft Length: 60 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/21/2019

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	2	2		3	3		F	A							
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:

Chain of connected pools in large PFO/PSS. Wetland drains southwest, areas of visible water movement.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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 <u>required</u> for pool registration.**
- **<u>Clear photographs</u> of a) the pool AND b) the indicators (one example of each species egg mass) are <u>required</u> for all observers.**

Observer's Pool ID: P-RS-15 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St.Amand, J. Leclerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-15 is west of TRS Area 3 (see map). Large undeveloped property; use coordinates to find.

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: -68.1048 Latitude/Northing: 44.7153

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ( ) Floodplain depression
- ( ) Pool associated with larger wetland complex
- ( ) Other: _____

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

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

Potentially modified by road/earthwork around north and east sides of pool. Possible borrow pit (very old).

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:

Isolated pool, not associated with larger wetland. Mineral soils.

■ 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: 15 ( ) m (•) ft Length: 25 ( ) m (•) ft

■ Predominate substrate in order of increasing hydroperiod:

- ( ) Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ( ) Mineral soil (sphagnum moss present)
- (•) Organic matter (peat/muck) shallow or restricted to deepest portion
- ( ) 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☐ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ( ) Intermittent inlet or outlet
- ( ) Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ( ) Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 4/30/2019, 5/8/2019, 5/21/2019

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	3	3	0	3	3	3	F	M	H			Y			3
Spotted Salamander	3	3	3	3	3	3	F	M	A						
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:

Hydrology altered by road.

Send completed form and supporting documentation to: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-RS-22 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St. Amand, J. LeClerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-22 is southeast of TRS Area 5 (see map). Large undeveloped property; use coordinates to find.

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: 44.70647778 Latitude/Northing: 68.10027778

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Area has been clear cut of all trees. Only shrubs remaining. Some skid ruts in wetland.

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:

Shallow and limited cover (50% shade).

■ 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: 80 ○ m ◉ ft Length: 40 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ○ Organic matter (peat/muck) shallow or restricted to deepest portion
- ◉ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☑ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☐ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☑ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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: Green frogs

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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ◉ Other or Unknown (explain): Wetland drains southeast to W. Branch Narraguagus R.

Maine State Vernal Pool Assessment Form

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/28/2019

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	4	0		3	3		M								
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: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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: P-RS-24 **MDIFW Pool ID:** _____

1. PRIMARY OBSERVER INFORMATION

a. Observer name: R. St. Amand, J. LeClerc

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

2. PROJECT CONTACT INFORMATION

a. Contact name: ○ same as observer ◉ other Aleita Burman

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

c. Project Name: Three Rivers 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: Duane Jordan Phone: 207-479-4465

Street Address: 381 Cave Hill Road City: Waltham State: ME Zip: 04605

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

4. VERNAL POOL LOCATION INFORMATION

a. Location Township: T16 MD

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

P-RS-24 is (see map). Large undeveloped property; use coordinates to find.

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: -68.1050000 Latitude/Northing: 44.71069444

Coordinate system: WGS84

Check one:

◉ GIS shapefile
- send to Jason.Czapiga@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)

○ The center of the pool is approximately _____ m ○ ft ○ in the compass direction of _____ degrees from the above GPS point. (Acceptable)

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
- ○ Floodplain depression
- ◉ Pool associated with larger wetland complex
- ○ Other: _____

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

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

Hydrology altered by road to south.

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:

Shallow with full sun

■ 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: 20 ○ m ◉ ft Length: 35 ○ m ◉ ft

■ Predominate substrate in order of increasing hydroperiod:

- ○ Mineral soil (bare, leaf-litter bottom, or upland mosses present)
- ○ Mineral soil (sphagnum moss present)
- ◉ Organic matter (peat/muck) shallow or restricted to deepest portion
- ○ 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.)
- ☐ Dry site ferns (e.g. spinulose wood fern, lady fern, bracken fern)
- ☑ Moist site ferns (e.g. sensitive fern, cinnamon fern, interrupted fern, New York fern)
- ☐ Moist site vasculars (e.g. skunk cabbage, jewelweed, blue flag iris, swamp candle)
- ☑ Sphagnum moss (anchored or suspended)
- ☐ Wet site ferns (e.g. royal fern, marsh fern)
- ☐ Wet site shrubs (e.g. highbush blueberry, maleberry, winterberry, mountain holly)
- ☑ Wet site graminoids (e.g. blue-joint grass, tussock sedge, cattail, bulrushes)
- ☐ Aquatic vascular spp. (e.g. pickerelweed, arrowhead)
- ☐ 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
- ○ Intermittent inlet or outlet
- ○ Permanent inlet or outlet (channel with well-defined banks and permanent flow)
- ○ Other or Unknown (explain): _____

6. VERNAL POOL INDICATOR INFORMATION

a. Indicator survey dates: 5/6/2019, 5/28/2019

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	1	0		3	3		M								
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: Maine Dept. of Inland Fisheries and Wildlife
Attn: Vernal Pools
650 State Street, Bangor, ME 04401

NOTE: Digital submission (to Jason.Czapiga@maine.gov) of vernal pool field forms and photographs is only acceptable for projects with 3 or fewer assessed pools; larger projects must be mailed as hard copies.

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:

Atlantic Resource Co, LLC

July 06, 2019

Photo 1: Vernal Pool: P-JL-15 (Area 1). Man-Made/Natural Modified. Photograph taken 5/7/19.

Photo 2: Vernal Pool: P-JL-15 (Area 1). Wood frog egg mass. Photograph taken 4/30/19.

Photo 3: Vernal Pool: P-JL-16 (Area 1). Natural Modified. Photograph taken 04/30/19.

Photo 4: Vernal Pool: P-JL-16 (Area 1). Wood frog egg mass. Photograph taken 4/30/19.

Photo 5: Vernal Pool: P-JL-16 (Area 1). Spotted salamander egg mass. Photograph taken 4/30/19.

Photo 6: Vernal Pool: P-JL-17 (Area 1). Natural Modified. Photograph taken 5/20/19.

Photo 7: Vernal Pool: P-JL-17 (Area 1). Wood Frog egg mass. Photograph taken 5/20/19.

Photo 8: Vernal Pool: P-RS-8 (Area 1). Natural Modified. Photograph taken 5/20/19.

Photo 9: Vernal Pool: P-RS-8 (Area 1). Wood frog egg mass. Photograph taken 04/30/19.

Photo 10: Vernal Pool: P-RS-8 (Area 1). Spotted Salamander egg mass. Photograph taken 5/20/19.

Photo 11: Vernal Pool: P-RS-21 (Area 4). Natural Modified. Photograph taken 5/21/19.

Photo 12: Vernal Pool: P-RS-21 (Area 4). Wood frog egg mass (upper right). Photograph taken 04/30/19.

Photo 13: Vernal Pool: P-RS-21 (Area 4). Spotted salamander egg mass. Photograph taken 5/21/19.

Photo 14: Vernal Pool: P-RS-25 (Area 4). Natural Modified. Photograph taken 5/28/19.

Photo 15: Vernal Pool: P-RS-25 (Area 4). Wood frog egg mass. Photograph taken 04/30/19.

Photo 16: Vernal Pool: P-DK-1 (250’ Buffer Area). Natural / Natural Modified. Photograph taken 5/28/19.

Photo 17: Vernal Pool: P-DK-1 (250' Buffer Area). Wood frog egg mass. Photograph taken 04/30/19.

Photo 18: Vernal Pool: P-DK-1 (250' Buffer Area). Spotted salamander egg mass. Photograph taken 5/6/19.

Photo 19: Vernal Pool: P-DK-2 (250' Buffer Area). Natural / Natural Modified. Photograph taken 5/28/19.

Photo 20: Vernal Pool: P-DK-2 (250' Buffer Area). Wood frog egg mass. Photograph taken 05/28/19.

Photo 21: Vernal Pool: P-JL-6 (250’ Buffer Area). Natural-Modified. Photograph taken 5/6/19.

Photo 22: Vernal Pool: P-JL-6 (250’ Buffer Area). Wood Frog egg mass. Photograph taken 5/6/19.

Photo 23: Vernal Pool: P-JL-6 (250' Buffer Area). Spotted salamander egg mass (center). Photograph taken 5/6/19.

Photo 24: Vernal Pool: P-RS-4 (250' Buffer Area). Man-Made/ Natural Modified. Photograph taken 5/21/19.

Photo 25: Vernal Pool: P-RS-4 (250' Buffer Area). Spotted salamander egg mass. Photograph taken 04/30/19.

Photo 26: Vernal Pool: P-RS-6 (250' Buffer Area). Natural. Photograph taken 5/21/19.

Photo 27: Vernal Pool: P-RS-6 (250’ Buffer Area). Wood Frog egg masses. Photograph taken 4/30/19.

Photo 28: Vernal Pool: P-RS-6 (250’ Buffer Area). Spotted salamander egg mass. Photograph taken 04/30/19.

Photo 29: Vernal Pool: P-RS-9 (250’ Buffer Area). Natural Modified. Photograph taken 5/6/19.

Photo 30: Vernal Pool: P-RS-9 (250’ Buffer Area). Spotted salamander egg mass. Photograph taken 5/6/19.

Photo 31: Vernal Pool: P-RS-15 (250’ Buffer Area). Man-Made/Natural Modified. Photograph taken 5/21/19.

Photo 32: Vernal Pool: P-RS-15 (250’ Buffer Area). Wood Frog egg masses. Photograph taken 5/6/19.

Photo 33: Vernal Pool: P-RS-15 (250' Buffer Area). Spotted salamander egg mass (typical – no photo at this VP). Photograph taken 5/6/19.

Photo 34: Vernal Pool: P-RS-22 (250' Buffer Area). Natural/Natural Modified. Photograph taken 5/28/19.

Photo 35: Vernal Pool: P-RS-22 (250' Buffer Area). Wood Frog egg masses. Photograph taken 04/30/19.

Photo 36: Vernal Pool: P-RS-24 (250' Buffer Area). Natural Modified. Photograph taken 5/28/19.

Photo 37: Vernal Pool: P-RS-24 (250' Buffer Area). Spotted salamander egg mass. Photograph taken 04/30/19.

Photo 38: Indicator Breeding Area: P-JL-22 (Area 1). Man-Made Borrow Pit. Photograph taken 5/28/19.

Photo 39: Indicator Breeding Area: P-RS-13 (Area 3). Natural Modified – Insufficient Hydrology. Photograph taken 5/21/19.

Photo 40: Indicator Breeding Area: P-JL-3 (Area 3). Man-Made Borrow Pit. Photograph taken 5/28/19.

Photo 41: Indicator Breeding Area: P-JL-11 (250' Buffer Area). Natural Beaver Pond in Stream. Photograph taken 5/7/19.

Photo 42: Indicator Breeding Area: P-JL-23 (250' Buffer Area). Man-Made - Skid Ruts. Photograph taken 5/28/19.

Photo 43: Indicator Breeding Area: P-RS-12 (250' Buffer Area). Man-Made - Skid Ruts. Photograph taken 5/21/19.

Photo 44: Indicator Breeding Area: P-RS-23 (250' Buffer Area). Man-Made - Skid Ruts. Photograph taken 5/28/19.

Photo 45: Indicator Breeding Area: P-RS-26 (250’ Buffer Area). Man-Made - Skid Ruts. Photograph taken 5/28/19.

Photo 46: Indicator Breeding Area: P-RS-27 (250’ Buffer Area). Natural Beaver Pond. Photograph taken 5/08/19.

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

GERALD D. REID
COMMISSIONER

July 26, 2019

Aleita Burman
Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474

Re: Vernal Pool Significance Determination, Pool ID #s 3741, 3742, 3743, 3745, 3746, 3747, 3748, 3749, 3750, 3751, 3752, 3753, 3754, 3755–T16 MD BPP

Dear Aleita Burman:

Vernal pools are temporary to semi-permanent wetlands occurring in shallow depressions that typically fill during the spring and dry during the summer or in drought years. They provide important breeding and foraging habitat for a wide variety of specialized wildlife species including several rare, threatened, and endangered species.

Based on your field surveys, it has been determined that the vernal pools identified above on the property of Duane Jordan are NOT SIGNIFICANT because either: 1. the features do not meet the definition of a vernal pool under the Significant Wildlife Habitat rules, 06-096 CMR 335(9) or 2. the vernal pools do not meet the biological standards for exceptional wildlife use of the Significant Wildlife Habitat rules, 06-096 CMR 335(9)(B). Therefore, activities within 250 feet of the pools are not regulated under the Natural Resources Protection Act (NRPA) unless there are other protected natural resources nearby such as streams or freshwater wetlands. I have attached a copy of the database printout that verifies the State's findings with respect to your surveys.

I want to also advise you that the pool areas on the property can be considered freshwater wetlands and therefore direct pool alterations may require permitting under the NRPA.

The Department will notify the landowner of the pool status under separate cover. If you have any questions or need further clarification, please contact me at (207) 530-0965 or email at: Nick.Livesay@maine.gov

Sincerely,

Nick Livesay, Director
Bureau of Land Resources

cc. town file

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JANET T. MILLS
GOVERNOR

GERALD D. REID
COMMISSIONER

July 26, 2019

Aleita Burman
Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474

Re: Vernal Pool Significance Determination, Pool ID # 3744–T16 MD BPP

Dear Aleita Burman:

Vernal pools are temporary to semi-permanent wetlands occurring in shallow depressions that typically fill during the spring and dry during the summer or in drought years. They provide important breeding and foraging habitat for a wide variety of specialized wildlife species including several rare, threatened, and endangered species.

Based on your field survey, it has been determined that the vernal pool identified above on the property of Duane Jordan is SIGNIFICANT. I have attached a copy of the database printout that verifies the State's findings with respect to our survey.

As a significant vernal pool, all areas on the Duane Jordan property within 250 feet of the vernal pool depression, known as the "critical terrestrial habitat", will be subject to the requirements of the Natural Resources Protection Act, 38 M.R.S.A. §§480-A to 480-FF, and the Significant Wildlife Habitat rules, 06-096 CMR 335.

The Department will ensure that the vernal pool's location and status is entered and mapped in the State's vernal pool database. Note that if the pool depression (only) crosses two or more property boundaries the abutter(s) are similarly subject to the requirements of the Natural Resources Protection Act and the Significant Wildlife Habitat rules.

The Department will notify the landowner of the pool status under separate cover. If you have any questions or need further clarification, please contact me at (207) 530-0965 or email at: Nick.Livesay@maine.gov

Sincerely,

Nick Livesay, Director
Bureau of Land Resources

cc. town file

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769
(207) 764-0477 FAX: (207) 760-3143

web site: www.maine.gov/dep

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 26, 2019

IFW's Pool ID: 3741 Twp: T16 MD BPP
Observer's ID: P-JL-15
UTM Coordinates of Pool Center: 570749 E, 4953126 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 4/30/2019 Additional Survey Dates: 05/07/2019, 05/20/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool provides some habitat for wood frogs but does not meet threshold for significance. Possible permanent hydrology.

IFW's Pool ID: 3742 Twp: T16 MD BPP
Observer's ID: P-JL-16
UTM Coordinates of Pool Center: 571131 E, 4952311 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/20/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3743 Twp: T16 MD BPP
Observer's ID: P-JL-17
UTM Coordinates of Pool Center: 571113 E, 4952271 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 4/30/2019 Additional Survey Dates: 05/20/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3744 Twp: T16 MD BPP
Observer's ID: P-RS-8
UTM Coordinates of Pool Center: 571858 E, 4952315 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 4/30/2019 Additional Survey Dates: 05/21/2019
IFW's Recommendation: GREEN: SIGNIFICANT
IFW Comments: Pool provides some habitat for wood frogs and significant habitat for spotted salamanders

---

IFW's Pool ID: 3745 Twp: T16 MD BPP
Observer's ID: P-RS-21
UTM Coordinates of Pool Center: 570877 E, 4951300 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/7/2019 Additional Survey Dates: 05/21/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 26, 2019

IFW's Pool ID: 3746 Twp: T16 MD BPP
Observer's ID: P-RS-25
UTM Coordinates of Pool Center: 570895 E, 4951360 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/28/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3747 Twp: T16 MD BPP
Observer's ID: P-DK-01
UTM Coordinates of Pool Center: 571265 E, 4950876 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/28/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3748 Twp: T16 MD BPP
Observer's ID: P-DK-02
UTM Coordinates of Pool Center: 571268 E, 4950847 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/28/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3749 Twp: T16 MD BPP
Observer's ID: P-JL-06
UTM Coordinates of Pool Center: 570868 E, 4952244 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/7/2019 Additional Survey Dates: 05/21/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3750 Twp: T16 MD BPP
Observer's ID: P-RS-4
UTM Coordinates of Pool Center: 571397 E, 4951392 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/8/2019 Additional Survey Dates: 05/21/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW Recommendations for Significant Vernal Pool Determinations

The following is a list of pools and IFW's recommendations for whether or not they qualify as Significant Vernal Pools, one of Maine's Significant Wildlife Habitats.

Data current as of: Friday, July 26, 2019

IFW's Pool ID: 3751 Twp: T16 MD BPP
Observer's ID: P-RS-6
UTM Coordinates of Pool Center: 571211 E, 4951258 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/7/2019 Additional Survey Dates: 05/21/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3752 Twp: T16 MD BPP
Observer's ID: 3752
UTM Coordinates of Pool Center: 570920 E, 4952029 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/21/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3753 Twp: T16 MD BPP
Observer's ID: P-RS-15
UTM Coordinates of Pool Center: 570906 E, 4951712 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 4/30/2019 Additional Survey Dates: 05/08/2019, 05/21/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments: Pool provides some habitat for wood frogs and spotted salamander but does not meet threshold for significance. May be unnatural?(borrow pit)

IFW's Pool ID: 3754 Twp: T16 MD BPP
Observer's ID: P-RS-22
UTM Coordinates of Pool Center: 571275 E, 4950736 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/28/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

IFW's Pool ID: 3755 Twp: T16 MD BPP
Observer's ID: P-RS-24
UTM Coordinates of Pool Center: 570897 E, 4951202 N
ProjectType: Three Rivers Solar

Landowner: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
(207) 479-4465

Contact: Aleita Burman - Burman Land & Tree, LLC
PO Box 145
Orrington, ME 04474
(207) 825-4050 blburman@gmail.com

Survey Date: 5/6/2019 Additional Survey Dates: 05/28/2019
IFW's Recommendation: RED: NOT SIGNIFICANT, does not meet the biological criteria
IFW Comments:

APPENDIX G
Resource Agency Reponses/Database Searches

JANET T. MILLS
GOVERNOR

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

JUDITH CAMUSO
ACTING COMMISSIONER

January 8, 2019

Aleita Burman
Burman Land & Tree Company, LLC
P.O. Box 145
Orrington, ME 04474

RE: Information Request - Three Rivers Solar Project, T16 MD BPP

Dear Lee:

Per your request received December 10, 2018, 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 fisheries habitat concerns within the vicinity of the *Three Rivers Solar Project* in T16 MD BPP. 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 protected under Maine's Endangered Species Act (MESA) and are afforded special protection under 12 M.R.S §12801 - §12810. The three *Myotis* species include little brown bat (State Endangered), northern long-eared bat (State Endangered), and eastern small-footed bat (State Threatened). The five remaining bat species are listed as 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 migration and/or the breeding season. We recommend that you contact the U.S. Fish and Wildlife Service--Maine Fish and Wildlife Complex (Wende Mahaney, 207-902-1569) for further guidance, as the northern long-eared bat is also listed as a Threatened Species under the Federal Endangered Species Act. Otherwise, our Agency does not anticipate significant impacts to any of the bat species as a result of this project.

Upland sandpiper

Upland sandpipers, a State Threatened species, have been documented in the barrens in the Downeast Coastal Plains region as well as within the project search area. Upland sandpipers are protected under Maine's Endangered Species Act and, as such, are afforded special protection against activities that may cause "Take" (kill or cause death), "harassment" (create injury or significantly disrupt normal behavior patterns), and other adverse actions.

Upland sandpipers nest only on the ground and use both native and cultivated vegetation for nesting sites. Given the location, size, and amount of cleared area upland sandpipers may be utilizing the project area for breeding purposes. Therefore, to protect against unintended Take of breeding upland sandpipers (including territorial, incubating, low mobility fledgling birds, and eggs), MDIFW recommends a construction window of September 1 – May 1. MDIFW is willing to work closely with the applicant to design a project that attempts to limit potential impacts to this listed species.

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 recommend that 100-foot undisturbed vegetated buffers be maintained along streams. Buffers should be measured from the edge of stream or associated fringe and floodplain wetlands. Maintaining and enhancing buffers along streams that support coldwater fisheries 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 conditions required by many fish 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 full fish 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 and undersized crossings may inhibit these functions. 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 not only providing habitat connectivity for fish but also for 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 from construction activities can travel significant distances as well as transport other pollutants resulting in direct impacts to fish and fisheries habitat. In addition, we recommend that any necessary instream work occur between July 15 and October 1.

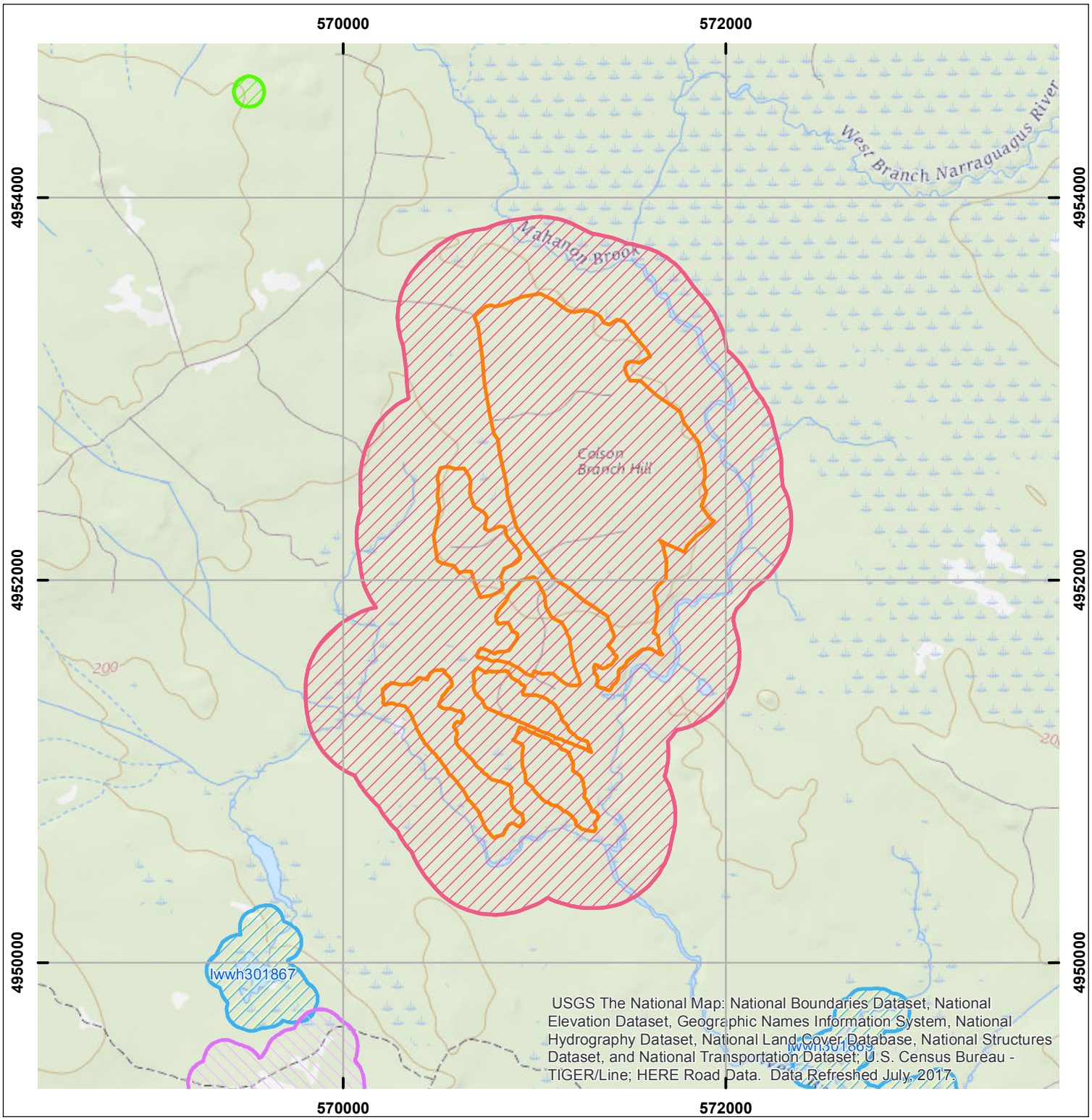
This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may

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 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,

John Perry
Environmental Review Coordinator



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Township 16, Three Rivers Solar Project (Version 3)

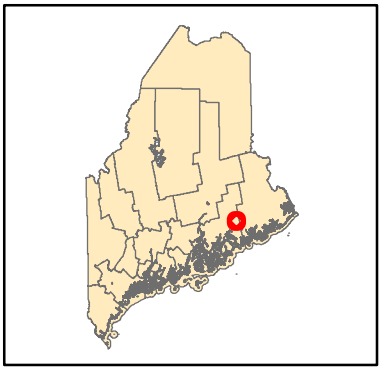
Maine Department of Inland Fisheries and Wildlife

0 0.15 0.3 0.6 0.9 1.2 Miles

Projection: UTM, NAD83, Zone 19N

Date: 12/15/2018

- ProjectPolys
- ProjectSearchAreas
- Inland Waterfowl/Wading Bird
- Significant Vernal Pools
- ETSc Environmental Review Polygons



STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
93 STATE HOUSE STATION
AUGUSTA, MAINE 04333

PAUL R. LEPAGE
GOVERNOR

WALTER E. WHITCOMB
COMMISSIONER

December 7, 2018

Aleita Burman
Atlantic Resource Co
PO Box 76
Bass Harbor, ME 04653

Via email: blburman@gmail.com

CC: Roger St. Amand; roger@arc-env.com

Re: Rare and exemplary botanical features in proximity to #18-006, Commercial Energy Project, T16 MD Maine

Dear Ms. Burman:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received December 6, 2018 for information on the presence of rare or unique botanical features documented from the vicinity of the project in T16 MD, 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

DEPARTMENT OF Agriculture Conservation & Forestry

PHONE: (207) 287-8044
FAX: (207) 287-8040
WWW.MAINE.GOV/DACF/MNAP

The Natural Areas Program 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. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The 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 the Natural Areas Program 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,

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

Rare and Exemplary Botanical Features within 4 miles of
Project: #18-006, Commercial Energy Project, T16 MD, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Canada Mountain-ricegrass						
	SC	S2	G4G5	1938-07-01	9	Dry barrens (partly forested, upland)
	SC	S2	G4G5	1930-07-08	1	Dry barrens (partly forested, upland)
Domed Bog						
	<null>	S3	GNR	2004-04-09	2	Forested wetland,Open wetland, not coastal nor rivershore (non-forested, wetland)

STATE RARITY RANKS

S1 Critically imperiled in Maine because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extirpation from the State of Maine.

S2 Imperiled in Maine because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

S3 Rare in Maine (20-100 occurrences).

S4 Apparently secure in Maine.

S5 Demonstrably secure in Maine.

SU Under consideration for assigning rarity status; more information needed on threats or distribution.

SNR Not yet ranked.

SNA Rank not applicable.

S#? Current occurrence data suggests assigned rank, but lack of survey effort along with amount of potential habitat create uncertainty (e.g. S3?).

Note: **State Rarity Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines State Rarity Ranks for animals.

GLOBAL RARITY RANKS

G1 Critically imperiled globally because of extreme rarity (five or fewer occurrences or very few remaining individuals or acres) or because some aspect of its biology makes it especially vulnerable to extinction.

G2 Globally imperiled because of rarity (6-20 occurrences or few remaining individuals or acres) or because of other factors making it vulnerable to further decline.

G3 Globally rare (20-100 occurrences).

G4 Apparently secure globally.

G5 Demonstrably secure globally.

GNR Not yet ranked.

Note: **Global Ranks** are determined by NatureServe.

STATE LEGAL STATUS

Note: State legal status is according to 5 M.R.S.A. § 13076-13079, which mandates the Department of Conservation to produce and biennially update the official list of Maine's **Endangered** and **Threatened** plants. The list is derived by a technical advisory committee of botanists who use data in the Natural Areas Program's database to recommend status changes to the Department of Conservation.

E ENDANGERED; Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered.

T THREATENED; Rare and, with further decline, could become endangered; or federally listed as Threatened.

NON-LEGAL STATUS

SC SPECIAL CONCERN; Rare in Maine, based on available information, but not sufficiently rare to be considered Threatened or Endangered.

PE Potentially Extirpated; Species has not been documented in Maine in past 20 years or loss of last known occurrence has been documented.

ELEMENT OCCURRENCE RANKS - EO RANKS

Element Occurrence ranks are used to describe the quality of a rare plant population or natural community based on three factors:

- **Size**: Size of community or population relative to other known examples in Maine. Community or population's viability, capability to maintain itself.
- **Condition**: For communities, condition includes presence of representative species, maturity of species, and evidence of human-caused disturbance. For plants, factors include species vigor and evidence of human-caused disturbance.
- **Landscape context**: Land uses and/or condition of natural communities surrounding the observed area. Ability of the observed community or population to be protected from effects of adjacent land uses.

These three factors are combined into an overall ranking of the feature of **A**, **B**, **C**, or **D**, where **A** indicates an **excellent** example of the community or population and **D** indicates a **poor** example of the community or population. A rank of **E** indicates that the community or population is **extant** but there is not enough data to assign a quality rank. The Maine Natural Areas Program tracks all occurrences of rare (S1-S3) plants and natural communities as well as A and B ranked common (S4-S5) natural communities.

Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

Visit our website for more information on rare, threatened, and endangered species!
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
http://www.fws.gov/mainefieldoffice/index.html

In Reply Refer To:
Consultation Code: 05E1ME00-2019-SLI-0321
Event Code: 05E1ME00-2019-E-02836
Project Name: Three Rivers Solar

August 20, 2019

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies the threatened, endangered, candidate, and proposed species and designated or proposed critical habitat that may occur within the boundary of your proposed project or may be affected by your proposed project. This 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 Web site 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 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 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

This species list also identifies candidate species under review for listing and those species that the Service considers species of concern. Candidate species have no protection under the Act but are included for consideration because they could be listed prior to completion of your project. Species of concern are those taxa whose conservation status is of concern to the Service (i.e., species previously known as Category 2 candidates), but for which further information is needed.

If a proposed project may affect only candidate species or species of concern, you are not required to prepare a Biological Assessment or biological evaluation or to consult with the Service. However, the Service recommends minimizing effects to these species to prevent future conflicts. Therefore, if early evaluation indicates that a project will affect a candidate species or species of concern, you may wish to request technical assistance from this office to identify appropriate minimization measures.

Please be aware that bald and golden eagles are not protected under the Endangered Species Act but are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.). Projects affecting these species may require development of an eagle conservation plan: http://www.fws.gov/windenergy/eagle_guidance.html Information on the location of bald eagle nests in Maine can be found on the Maine Field Office Web site: http://www.fws.gov/mainefieldoffice/Project%20review4.html

Additionally, wind energy projects should follow the wind energy guidelines: http://www.fws.gov/windenergy/ for minimizing impacts to migratory birds and bats. Projects may require development of an avian and bat protection plan.

Migratory birds are also a Service trust resource. Under the Migratory Bird Treaty Act, construction activities in grassland, wetland, stream, woodland, and other habitats that would result in the take of migratory birds, eggs, young, or active nests should be avoided. Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g.,

cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm and at: http://www.towerkill.com; and at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html

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 Tracking Number 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

Consultation Code: 05E1ME00-2019-SLI-0321

Event Code: 05E1ME00-2019-E-02836

Project Name: Three Rivers Solar

Project Type: POWER GENERATION

Project Description: The project is construction of a large scale solar array and substation, on about 550-acres of land.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/44.71936942574213N68.10210421473107W

Counties: Hancock, ME

Endangered Species Act Species

There is a total of 2 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 Fisheries[1], 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 *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Fishes

NAME	STATUS
Atlantic Salmon *Salmo salar* Population: Gulf of Maine DPS There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2097	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Atlantic Salmon *Salmo salar* https://ecos.fws.gov/ecp/species/2097#crithab	Final

ATTACHMENT 10

Public Notice

PUBLIC NOTICE FILING AND CERTIFICATION

Department Rules, Chapter 2, require an applicant to provide public notice for all Tier 2, Tier 3 and individual Natural Resources Protect Act projects. In the notice, the applicant must describe the proposed activity and where it is located. **"Abutter"** for the purposes of the notice provision means any person who owns property that is BOTH (1) adjoining and (2) within one mile of the delineated project boundary, including owners of property directly across a public or private right of way.

1. **Newspaper:** You must publish the Notice of Intent to File in a newspaper circulated in the area where the activity is located. The notice must appear in the newspaper within 30 days prior to the filing of the application with the Department. You may use the attached Notice of Intent to File form, or one containing identical information, for newspaper publication and certified mailing.

2. **Abutting Property Owners:** You must send a copy of the Notice of Intent to File by certified mail to the owners of the property abutting the activity. Their names and addresses can be obtained from the town tax maps or local officials. They must receive notice within 30 days prior to the filing of the application with the Department.

3. **Municipal Office:** You must send a copy of the Notice of Intent to File and a **duplicate of the entire application** to the Municipal Office.

   ATTACH a list of the names and addresses of the owners of abutting property.

CERTIFICATION

By signing below, the applicant or authorized agent certifies that:

1. A Notice of Intent to File was published in a newspaper circulated in the area where the project site is located within 30 days prior to filing the application;
2. A certified mailing of the Notice of Intent to File was sent to all abutters within 30 days of the filing of the application;
3. A certified mailing of the Notice of Intent to File, and a duplicate copy of the application was sent to the town office of the municipality in which the project is located; and
4. Provided notice of and held a public informational meeting, if required, in accordance with Chapter 2, Rules Concerning the Processing of Applications, Section 13, prior to filing the application. Notice of the meeting was sent by certified mail to abutters and to the town office of the municipality in which the project is located at least ten days prior to the meeting. Notice of the meeting was also published once in a newspaper circulated in the area where the project site is located at least seven days prior to the meeting.

The Public Informational Meeting was held on _____August 14, 2019_____.
Date

Approximately ___0_____ members of the public attended the Public Informational Meeting.

_____ _____
Signature of Applicant or authorized agent Date

PUBLIC NOTICE:
NOTICE OF PUBLIC INFORMATION MEETING

Please take notice that Three Rivers Solar Power, LLC, 89 Main Street, Yarmouth, Maine 04096, Tel: 857-315-5292. Is holding a public informational meeting pursuant to the Maine Department of Environmental Protection Site Location of Development Act, Natural Resource Protection Act, provisions of 38 M.R.S.A. §§ 481 thru 490 and 480-A thru 480-BB. The purpose of the meeting is to inform the public of the project described below and its anticipated environmental impacts and to educate the public about opportunities for public comment on the project.

Project Description: 100 MW solar power generation facility, located in Township 16MD BPP, Hancock County, Maine.

Meeting will be held on August 14, 2019 at 5:00 PM, at the following location:

Eastbrook Community Building
959 Eastbrook Road
Eastbrook, ME 04634

PUBLIC NOTICE:
NOTICE OF INTENT TO FILE

Please take notice that Three Rivers Solar Power, LLC (89 Main Street, Yarmouth, ME 04096, Tel: 857-315-5292) is intending to file a Site Location of Development Act permit application and a Natural Resources Protection Act application with the Maine Department of Environmental Protection pursuant to the provisions of 38 M.R.S.A. §§ 481 through 490 and 38 M.R.S. §§ 480-A to 480-BB on or about October 25, 2019.

The application is for a 100 MW solar power generation facility, located in Township 16MD BPP, Hancock County, Maine.

A request for a public hearing or a request that the Board of Environmental Protection assume jurisdiction over this application must be received by the Department in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. A public hearing may or may not be held at the discretion of the Commissioner or Board of Environmental Protection. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Environmental Protection's office in Bangor during normal working hours. A copy of the application may also be seen at the Hancock County Commissioners Office in Hancock, Maine.

Written public comments may be sent to the regional office in Bangor where the application is filed for public inspection: MDEP, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401.

Public Notice - Abutter List

Nature Conservancy Fund/The Conservation Fund
14 Main Street, Suite 401
Brunswick, ME 04011
Book 6886, Page 308

Maine Department of Inland Fisheries & Wildlife
41 State House Station
Augusta, ME 04333-0041
Book 2206, Pages 83,85 & 87

Wild Ridge Blueberries
P.O. Box 25
Cherryfield, ME 04622
Book 6371, Page 311

Lakeville Shores, Inc.
P.O. Box 96
Winn, ME 04495
Book 5141, Page 309

Tree Top Manufacturing, Inc.
Attn: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605
Book 3809, Pages 286 & 295
Book 6333, Page 331

Hancock County Commissioners Office
Attn: Scott A. Adkins
50 State Street, Suite 8
Ellsworth, ME 04605

Cherryfield Foods
320 Ridge Road
Cherryfield, ME 04622
Book 4697, Page 119

Public Notice – Municipality

Maine Land Use Planning Commission – Downeast Office
106 Hogan Rd, Suite 8,
Bangor, Maine 04401

Three Rivers Solar Public Meeting

Welcome! Please sign in 8-14-19

~~Roger~~ St. Amand	
Dave Fowler	Swift Current
Kirk Ball	Acharon
Lucy Fowler	~~[redacted]~~ Swift Current/ Next Phase Energy Services
[redacted]	Burman Land & Tree, LLC
Duane Jordan	Elliott Jordan & Son, Inc

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Nature Conservancy Fund
14 Maine Street, Suite 401
Brunswick, ME 04011

9590 9402 4048 8079 5570 56

2. Article Number (Transfer from service label)

7018 0360 0001 8148 7932

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☐ Agent ☐ Addressee

B. Received by (Printed Name): Anna Brown

C. Date of Delivery: 8/5/2019

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Tree Top Manufacturing Inc
Attn: Duane Jordan
381 Cave Hill Road
Waltham, ME 04605

9590 9402 4048 8079 5570 32

2. Article Number (Transfer from service label)

7018 0360 0001 8148 7895

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X Lisa R. Palmer ☐ Agent ☐ Addressee

B. Received by (Printed Name): Lisa R Palmer

C. Date of Delivery: 8-5-19

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Lakeville Shores, Inc.
P.O. Box 96
Winn, ME 04495

9590 9402 4048 8079 5570 01

2. Article Number (Transfer from service label)

7018 0360 0001 8148 7901

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X [signature] ☑ Agent ☐ Addressee

B. Received by (Printed Name): [illegible]

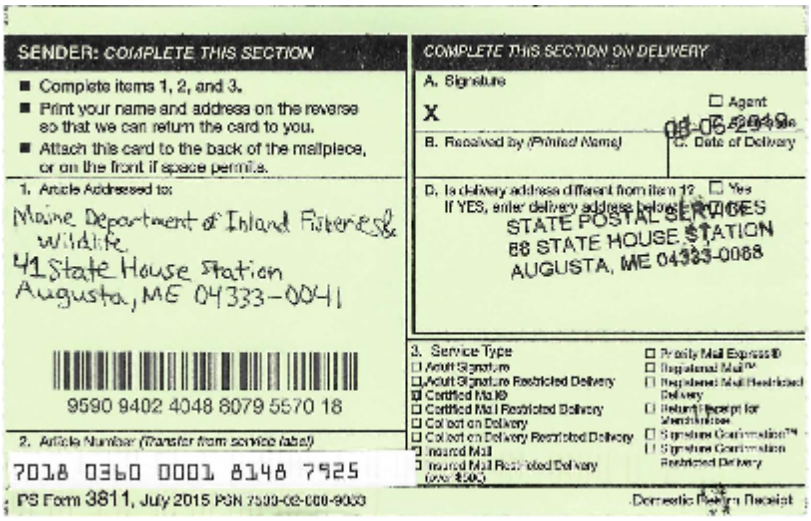
C. Date of Delivery: 08-05-19

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☑ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Maine Department of Inland Fisheries & Wildlife
41 State House Station
Augusta, ME 04333-0041

9590 9402 4048 8079 5570 18

2. Article Number (Transfer from service label)

7018 0360 0001 8148 7925

PS Form 3811, July 2015 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Agent

B. Received by (Printed Name)

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below:

STATE POSTAL SERVICES
STATE HOUSE STATION
68 STATE HOUSE STATION
AUGUSTA, ME 04333-0068

3. Service Type

☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Certified Mail Restricted Delivery
☐ Collect on Delivery
☐ Collect on Delivery Restricted Delivery
☐ Insured Mail
☐ Insured Mail Restricted Delivery (over $500)

☐ Priority Mail Express®
☐ Registered Mail™
☐ Registered Mail Restricted Delivery
☐ Return Receipt for Merchandise
☐ Signature Confirmation™
☐ Signature Confirmation Restricted Delivery

Domestic Return Receipt

CERTIFIED MAIL®

ACHERON
147 Main Street
Newport, Maine 04953-1136

7018 0360 0001 8148 7918

NIXIE 015 SE 1
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD
*1669-00776-07
BC: 04953113699

04622841O2 RO11

COMPLETE THIS SECTION ON DELIVERY

ENDEF; COMPLETE THIS SECTION

A. Signature
O Agent

X

Addressee

B. Received by (Printed Name)

C. Date of Delivery

Complete items 1, 2, and 3.
Print your name and address on the reverse so that we can return the card to you.
Attach this card to the back of the mailpiece, or on the front if space permits.

ACHERON
147 Main Street
Newport, Maine 04953-1136

CERTIFIED MAIL®

7018 0360 0001 8148 7871

1000

04622

U.S. POSTAGE
FCM LETTER,
MANCHESTER,
04351
AUG 02 19
AMOUNT
$6.85
R2304H108023-3

0462284340

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Wild Ridge Blueberries
227 North Main Street
Cherryfield, ME 04622

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X

☐ Ag
☐ Ad

B. Received by (Printed Name) | C. Date of

D. Is delivery address different from item 1? ☐ Ye
If YES, enter delivery address below: ☐ No

3. Service Type
☐ Adult Signature
☐ Adult Signature Restricted Delivery
☑ Certified Mail®
☐ Priority Mail Ex
☐ Registered Mail
☐ Registered Mail Delivery

D. Is delivery address different from item I? Yes
If YES, enter delivery address below: NO

3. Service Type Priority Mail Express@ Adult Signature Registered Mail™ Clhdult Signature Restricted Delivery CJ Registered Mail Restricted Certified Mail@ Delivery Certified Mail Restricted Delivery Return Receipt for Cl Collect on Delivery Merchandise ü Collect on Delivery Restricted Delivery D Signature ConfirmationTM Insured Mail D Signature Confirmation Insured Mail Restricted Delivay Restricted Delivery (over $500)

2. Article Number (Transfer from service label)

0360

PS Form 3811 , July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

NIXIE 015 DE 1 ØØØ8/Ø7/19

RETURN T SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD

BC: 04953113699 *1669-00775-07-16

RTS

anos 'ssauaav NUTUäH SO
11--191B 2H101 äd07äAN3 sO dox aov7d

SENDER: COMPLETE THIS SECTION

u Complete items 1, 2, and 3.

- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

A. Signature

Agent

X

Addressee

B. Received by (Printed Name)	C. Date of Delivery

1. Article Addressed to:

Cherryfield Foods
4 Park Street
Cherryfield, ME 04622

D. Is dettvery address different from item I? Yes
If YES, enter delivery address below: NO

9590 9402 4048 8079 5570 49

2. Article Number (Transfer from service label)

3. Service Type
Priority Mail Express@
Adult Signature
Ü Registered Mail™
C] Adult Signature Restricted Delivery
Registered Mail
Restricted tXCertified Mail@
Delivety
[3 Certified Mail Restricted Delivery
Return Receipt for
C] Collect on Delivery
Merchandise
Collect on Delivery Restricted Delivety
El Signature Confirmation™
Insured Mail
Q Signature Confirmation
Insured Mail Restricted Delivery
Restricted Delivery _(oveL$500

ATTACHMENT 11

Submission to MHPC and Native American Tribes

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

PAUL R. LEPAGE
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

April 30, 2018

Ms. Stephanie Fowler
Next Phase Energy Services, LLC
143 Highland Shores Road
Casco, ME 04015

Project: MHPC #0465-18 Three Rivers Solar
100 MW Energy with Panels

Town: T 16 MD, ME

Dear Ms. Fowler:

In response to your recent request, I have reviewed the information received April 12, 2018 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended.

There are no known archaeological sites on the property, but certain land forms and areas of the property have a high to medium probability of containing prehistoric archaeological sites. A Phase I prehistoric archaeological survey is recommended within 200 yards of the West Branch Narraguagus, or the Colson Branch, and on the crest of Colson Branch Hill (above the 260 foot contour as mapped on the USGS topographic map).
A list of qualified historic archaeologists has been enclosed and can be found on our website: http://www.maine.gov/mhpc/project_review/consultants/prehistoric_archaeology.shtml.

No architectural or historic archaeological resources will be affected by this undertaking.

If you have any questions regarding archaeology, please contact Dr. Arthur Spiess of this office at Arthur.Spiess@maine.gov.

Sincerely,

Kirk F. Mohney
State Historic Preservation Officer

Acheron

Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com

July 22, 2019

Susan Young, Tribal Historic Preservation Officer
Natural Resources Director
Houlton Band of Maliseets
88 Bell Road
Littleton, ME 04730

Ms. Young:

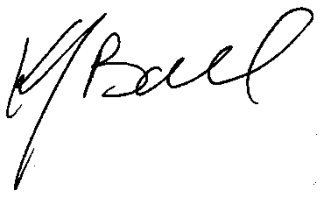
Enclosed is a site location map that depicts a 1,115 acre lot located in Township 16 MD in Maine. Three Rivers Solar Power, LLC is proposing to construct a 100 megawatt solar farm.

The proposed development is subject to review by the Maine Department of Environmental Protection under the Site Location of Development Law. Acheron requests your assistance in determining any potential impact to historic sites, historic structures, or archaeological sites.

The proposed project site is currently being converted to blueberry fields. There is one known building on an adjacent property.

If you need any additional information or if you have any questions, please feel free to contact us at 368-5700.

Regards,
Acheron Engineering Services



Kirk Ball, PE

Encl: Site Location Map

Acheron

Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com

July 22, 2019

The Honorable Edward Peter-Paul, Chief
Aroostook Band of Micmac Indians
7 Northern Road
Presque Isle, ME 04469

Chief Peter-Paul:

Enclosed is a site location map that depicts a 1,115 acre lot located in Township 16 MD in Maine. Three Rivers Solar Power, LLC is proposing to construct a 100 megawatt solar farm.

The proposed development is subject to review by the Maine Department of Environmental Protection under the Site Location of Development Law. Acheron requests your assistance in determining any potential impact to historic sites, historic structures, or archaeological sites.

The proposed project site is currently being converted to blueberry fields. There is one known building on an adjacent property.

If you need any additional information or if you have any questions, please feel free to contact us at 368-5700.

Regards,
Acheron Engineering Services

Kirk Ball, PE

Encl: Site Location Map

Acheron

Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com

July 22, 2019

The Honorable Chief Ralph Dana,
Chief Passamaquoddy Tribe, Pleasant Point Reservation
P.O. Box 343
Perry, ME 04667-0343

Chief Dana:

Enclosed is a site location map that depicts a 1,115 acre lot located in Township 16 MD in Maine. Three Rivers Solar Power, LLC is proposing to construct a 100 megawatt solar farm.

The proposed development is subject to review by the Maine Department of Environmental Protection under the Site Location of Development Law. Acheron requests your assistance in determining any potential impact to historic sites, historic structures, or archaeological sites.

The proposed project site is currently being converted to blueberry fields. There is one known building on an adjacent property.

If you need any additional information or if you have any questions, please feel free to contact us at 368-5700.

Regards,
Acheron Engineering Services

Kirk Ball, PE

Encl: Site Location Map

Acheron

Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com

July 22, 2019

The Honorable William J. Nicholas Sr., Chief
Passamaquoddy Tribe, Indian Township Reservation
P.O. Box 301
Princeton, ME 04668

Chief Nicholas Sr:

Enclosed is a site location map that depicts a 1,115 acre lot located in Township 16 MD in Maine. Three Rivers Solar Power, LLC is proposing to construct a 100 megawatt solar farm.

The proposed development is subject to review by the Maine Department of Environmental Protection under the Site Location of Development Law. Acheron requests your assistance in determining any potential impact to historic sites, historic structures, or archaeological sites.

The proposed project site is currently being converted to blueberry fields. There is one known building on an adjacent property.

If you need any additional information or if you have any questions, please feel free to contact us at 368-5700.

Regards,
Acheron Engineering Services

Kirk Ball, PE

Encl: Site Location Map

Acheron

Engineering, Environmental & Geologic Consultants

www.AcheronEngineering.com

July 22, 2019

Chris Sockalexis, Tribal Historic Preservation Officer
Penobscot Nation, Cultural & Historic Preservation
12 Wabanaki Way
Indian Island, ME 04468

Mr. Sockalexis:

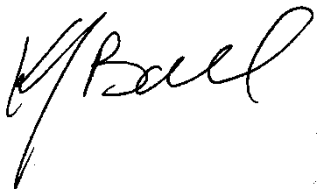
Enclosed is a site location map that depicts a 1,115 acre lot located in Township 16 MD in Maine. Three Rivers Solar Power, LLC is proposing to construct a 100 megawatt solar farm.

The proposed development is subject to review by the Maine Department of Environmental Protection under the Site Location of Development Law. Acheron requests your assistance in determining any potential impact to historic sites, historic structures, or archaeological sites.

The proposed project site is currently being converted to blueberry fields. There is one known building on an adjacent property.

If you need any additional information or if you have any questions, please feel free to contact us at 368-5700.

Regards,
Acheron Engineering Services



Kirk Ball, PE

Encl: Site Location Map

ATTACHMENT 12

Wetland Functional Assessment
(Blank - Not Required)

ATTACHMENT 13

Compensation Plan

Atlantic Resource Co, LLC

www.arc-env.com

#B18-006
October 31, 2019

Three Rivers Solar Power, LLC
Attention: Dave Fowler, Director
89 Main Street
Yarmouth, ME 04096

Subject: Significant Wildlife Habitat Compensation Report
Three Rivers Solar Power, LLC
T16MD, Maine

Dear Dave,

This Significant Wildlife Habitat Compensation Report presents proposed compensation for alterations to a Significant Vernal Pool Habitat (a Significant Wildlife Habitat) for Three Rivers Solar Power, LLC's solar installation in T16 MD, Maine. This Report is subject to the Limitations in Appendix A. Plans are attached in Appendix B.

This Compensation Plan generally follows Maine Department of Environmental Protection (MDEP) and U.S. Army Corps of Engineers (Corps) mitigation guidance[1].

Site Location and Description

The approximately 696-acre area of land that was re-zoned by the LUPC for the project is located in T16MD, which is an unorganized township located between Deblois and Eastbrook in Hancock County, Maine. A Site Location Map is included as Sheet B-1. The site property is located west of the West Branch of the Narraguagus River, north and east of Colson Branch, and south of Mahanon Brook; in the Narraguagus River watershed. The TRI area is mainly accessed by seasonal gravel roads from Eastbrook, Deblois and Route 9.

[1] U.S. ARMY CORPS OF ENGINEERS. NEW ENGLAND DISTRICT COMPENSATORY MITIGATION GUIDANCE, U.S. ARMY CORPS OF ENGINEERS NEW ENGLAND DISTRICT, REGULATORY DIVISION, DATED 9-7-16.

Roger St.Amand
PO Box 76
Bass Harbor, ME 04653
Tel 207.944.7288
roger@arc-env.com

Aleita Burman
P.O. Box 145
Orrington, ME 04474
207.825.4050
blburman@gmail.com

The site property contains a mixture of forestland and agricultural field with several intersecting gravel agricultural and forestry access roads. The proposed development area is six topographic “hills” on which the solar installation will be located, which total approximately 465 acres. The proposed development areas are in various states of conversion to agricultural land, for blueberry production.

The Significant Vernal Pool is located in the southeast corner of the northernmost proposed development area (Area #1), within which the agricultural conversion has been largely completed, and the Significant Vernal Pool envelope has been logged, stumped, grubbed and contains mostly emergent marsh vegetation.

The site is in the Narraguagus River watershed. The Hydrologic Unit Code (HUC 10) for the site is 0105000210, which is New England Region, Maine Coastal Subregion, Maine Coastal Accounting Unit, Maine Coastal, Maine Cataloguing Unit, Narraguagus River – Frontal Atlantic Ocean.

Proposed Significant Wildlife Habitat Impacts

There are no proposed impacts to the Significant Vernal Pool envelope. The Significant Vernal Pool Habitat (the pool envelope and the area within a 250’ radius of the envelope) has approximately 14,770 sq. ft. (~4%) of existing alteration from roads. The proposed development is approximately 179,141 sq. ft. (51%) of uplands within the Habitat area, of which approximately 48.5 sq. ft. is direct upland alteration for support posts. The total of existing and proposed alteration to the Significant Vernal Pool Habitat is 193,911 sq. ft. (~55% of the 250’ Habitat area).

Proposed direct impacts to the Significant Vernal Pool Habitat are for the support posts. Proposed indirect impacts include ground vegetation shading by the solar panels; however, there will be approximately 20’ between the 6’ wide panel rows, allowing direct sunlight to the ground in more area than not. Additional proposed indirect impacts include vegetation height maintenance; the area under the panels will be mowed to approximately 1 foot in height on a yearly or bi-yearly bases.

Alternatives

RBI Solar, Inc., the solar field design engineers, were unable to avoid alterations to the SVP Habitat while maintaining the required 100-megawatt output and while avoiding direct wetland alterations, alterations to areas adjacent to Wetlands of Special Significance, and avoiding other undevelopable areas and areas near shading sources. The solar installation will use state-of-the-art solar technology, the panels having the highest output as possible, which minimizes the land area needed for the project. The alteration of Protected Natural Resources on the project site has been avoided and minimized to the extent feasible considering cost, existing technology and logistics based on the overall purpose of the project.

Proposed Compensation

Compensation for the anticipated loss of Significant Vernal Pool Habitat is payment into the Maine In-Lieu Fee Compensation Program. The In-Lieu Fee for impacts to uplands within Significant Vernal Pool Habitat in Hancock County is $40,721.31, which is the cumulative impact of 193,911 sq. ft. X $0.21 assessed land value (applicable until December 31, 2019).

Closing

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

Sincerely,

Atlantic Resource Co, LLC

Aleita M. Burman, C.W.S., C.S.S., L.S.E.
Senior Wetland Scientist

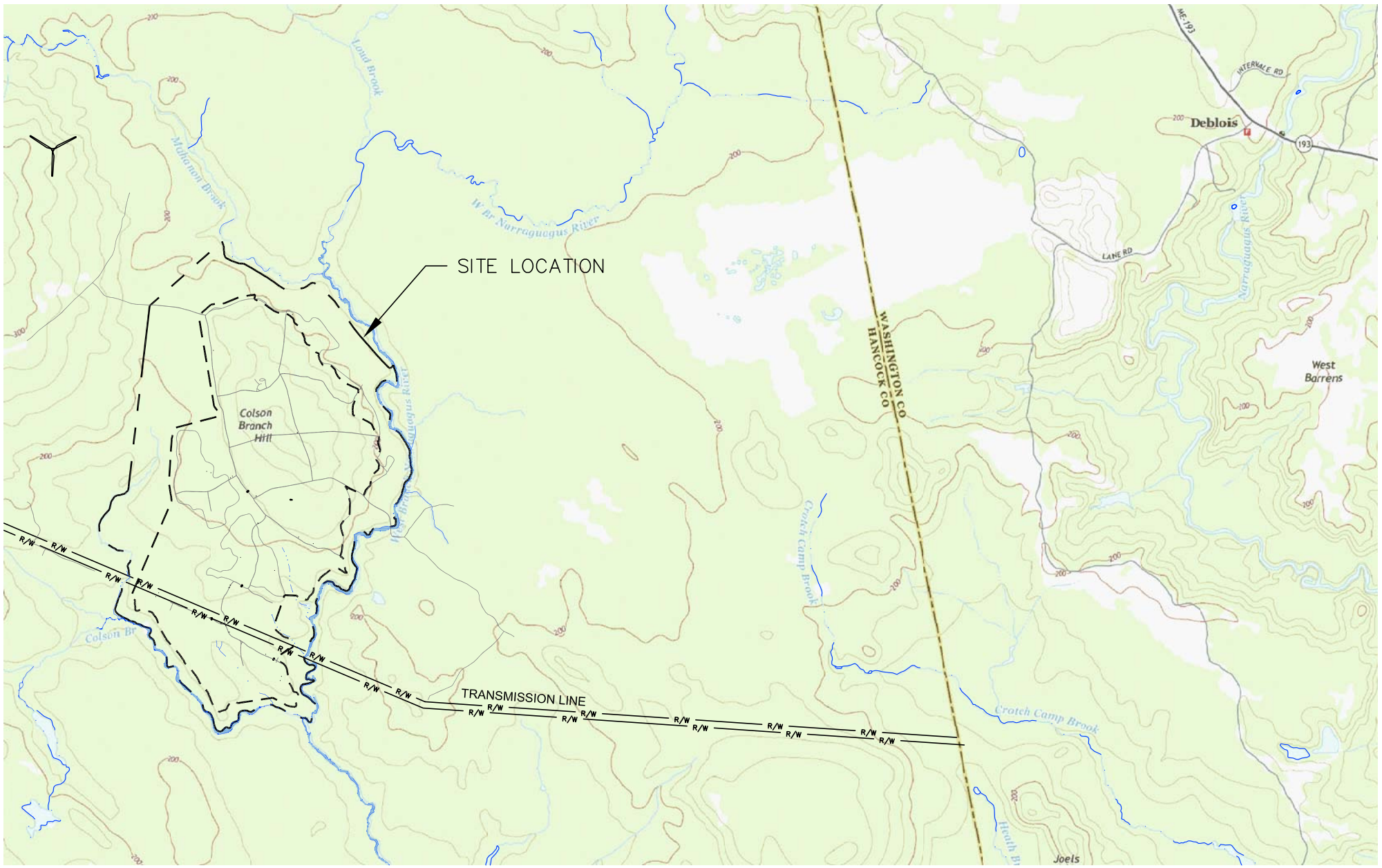
cc: Kirk Ball, Acheron Engineering Services

APPENDIX A
Limitations

Appendix A – Limitations

The scope of Burman Land & Tree Company, LLC services has been limited to a Significant Wildlife Habitat Compensation Report for Three Rivers Solar Power, LLC's project in T16MD, Maine. This Report has been prepared for the exclusive use of Three Rivers Solar Power, 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
Plans



LEGEND

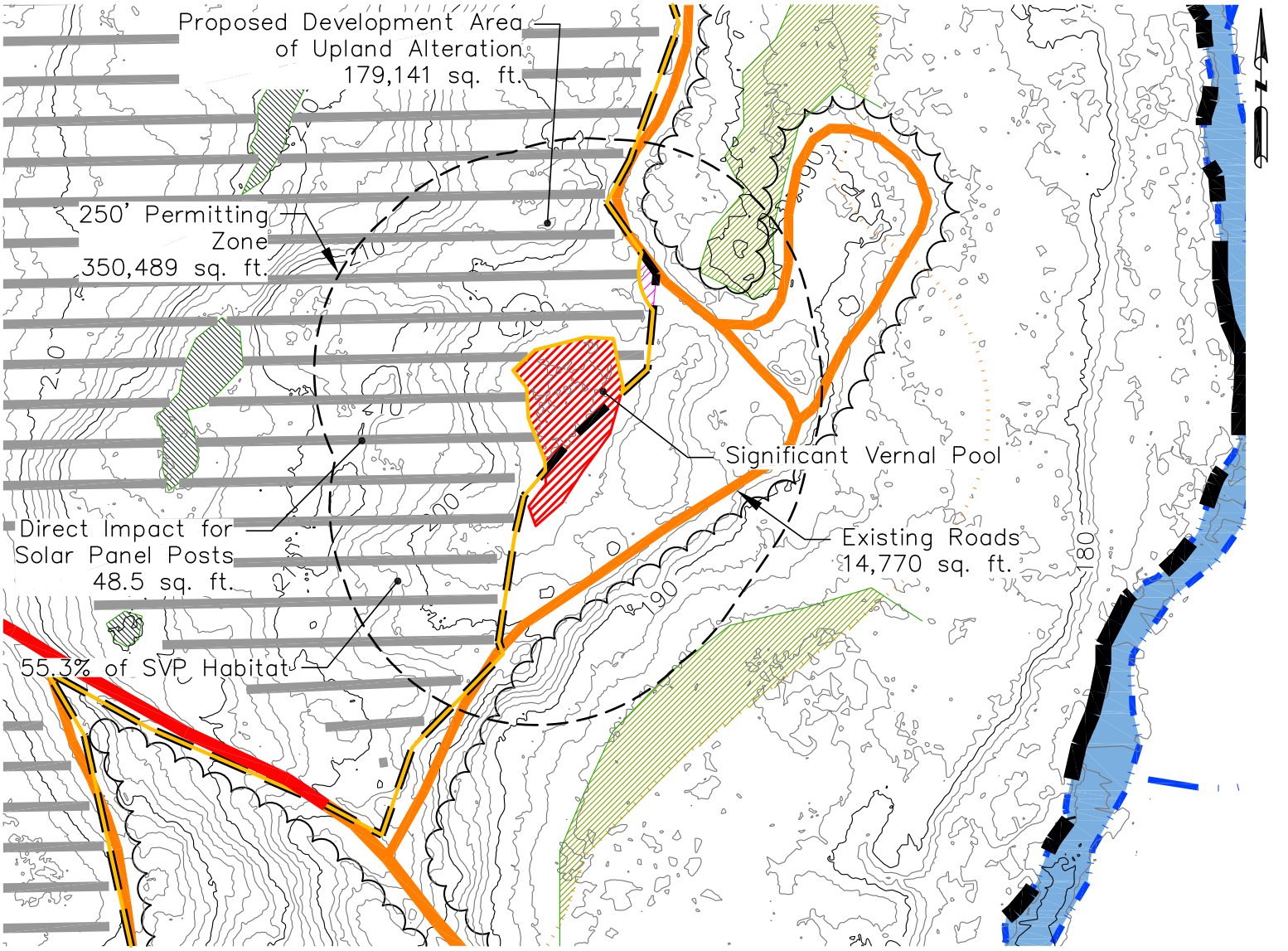
- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS
- R/W R/W - TRANSMISSION R.O.W. LINE

Do Not Use for Construction
For Regulatory Review Only

ARC
Atlantic Resource Co, LLC

Site Location Map
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 3000'
Date: 10-9-19	Sheet: 5-1



LEGEND

- PROPERTY LINE
- PROJECT BOUNDARY LINE
- EXISTING ROADS EXEMPT
- EXISTING ROADS OUTSIDE PROJECT AREA
- EXISTING ROADS TO BE REVEGETATED
- TREE LINE
- TRANSMISSION R.O.W. LINE (R/W)
- STREAM
- CONTOURS (600)
- SIGNIFICANT VERNAL POOL (SVP)
- WETLAND (SEE NOTE 5)
- WETLAND AREA FOR PROPOSED VEGETATION HEIGHT MAINTENANCE
- 75' WETLAND OF SPECIAL SIGNIFICANCE SETBACK
- 250' SIGNIFICANT VERNAL POOL SETBACK
- DEVELOPMENT BOUNDARY
- SOLAR PANELS

0 200 400 600

SCALE: 1" = 200'

ARC
Atlantic Resource Co, LLC

Significant Vernal Pool Habitat Alteration Plan
Three Rivers Solar Power, LLC.
Township 16 MD
Hancock County, ME.

Job No.: B18-006	Scale: 1" = 200'
Date: 10-9-19	Sheet: 5-2

APPENDIX C
Photographs

Photo 1: SVP P-RS-8. Photograph taken 05/22/19.

Photo 2: Spotted salamander egg mass in SVP P-RS-8. Photograph taken 05/22/19.

APPENDIX A

MDEP Visual Evaluation

APPENDIX A - MDEP VISUAL EVALUATION
FIELD SURVEY CHECKLIST
(Natural Resources Protection Act, 38 M.R.S.A. §§ 480 A - Z)

Name of Applicant: Three Rivers Solar Power, LLC Phone: (207) 461-0666

Application Type: NRPA Individual, SLODA, Stormwater

Activity Type: (brief activity description) Three Rivers Solar

Activity Location: Town: T16MD County: Hancock

GIS Coordinates, if known: UTM Northing: 4952571.75 UTM Easting: 571332.11

Date of Survey: 01/28/18 Observer: Aleita Burman Phone: (207) 825-4050

		Distance Between the Proposed Visibility Activity and Resource (in Miles)		
1. Would the activity be visible from:		0-¼	¼-1	1+
A. A National Natural Landmark or other outstanding natural feature?	**No**	☐	☐	X
B. A State or National Wildlife Refuge, Sanctuary, or Preserve or a State Game Refuge?	**No**	☐	☐	X
C. A state or federal trail?	**No**	☐	☐	X
D. A public site or structure listed on the National Register of Historic Places?	**No**	☐	☐	X
E. A National or State Park?	**No**	☐	☐	X
F. 1) A municipal park or public open space?	**No**	☐	☐	X
2) A publicly owned land visited, in part, for the use, observation, enjoyment and appreciation of natural or man-made visual qualities?	**No**	☐	☐	X
3) A public resource, such as the Atlantic Ocean, a great pond or a navigable river?	**Yes – West Branch Narraguagus River**	**X**	☐	☐
2. What is the closest estimated distance to a similar activity?	N/A	☐	☐	**X**
3. What is the closest distance to a public facility intended for a similar use?	N/A	☐	☐	X

4. Is the visibility of the activity seasonal? (i.e., screened by summer foliage, but visible during other seasons) ☐ Yes **X** No

5. Are any of the resources checked in question 1 used by the public during the time of year during which the activity will be visible? **X** Yes ☐ No

SEE ALSO VISUAL ASSESSMENT BY ATLANTIC RESOURCE CO, LLC AND COPLON ASSOCIATES SUBMITTED WITH THE SITE LAW APPLICATION

APPENDIX B

Evidence of Title, Right, and/or Interest

OR BK 6020 PGS 38 - 46
INSTR # 2013005316
HANCOCK COUNTY, ME

04/19/2013 12:33:07 PM
JULIE A. CURTIS
REGISTER OF DEEDS

QUITCLAIM DEED WITH COVENANT

LAKEVILLE SHORES, INC., a Maine corporation, with a mailing address of P.O. Box 96, Winn, Maine, 04495 ("Grantor"), for consideration paid, grants to **ELLIOTT JORDAN & SON, INC.**, a Maine corporation, with a mailing address of 382 Cave Hill Road, Waltham, Maine, 04605 ("Grantee"), with Quitclaim Covenant, the land, together with any improvements thereon, **in T16 M.D., Hancock County, Maine**, bounded and described as follows:

SEE EXHIBIT A ATTACHED HERETO

MAINE REAL ESTATE TRANSFER TAX PAID

Meaning and intending to convey a portion of the premises described in the quit-claim deed with covenant from Five Islands Land Corporation and Herbert C. Haynes, Inc., a/k/a H. C. Haynes, Inc., to Lakeville Shores, Inc., dated February 18, 2009 and recorded in Book 5141, Page 309 of the Hancock County Registry of Deeds.

This deed shall be construed according to the laws of the State of Maine.

Herbert C. Haynes, Inc., Grantor in the Easement to Lakeville Shores, Inc., dated January 6, 2011 and recorded in the Hancock County Registry of Deeds in Book 5555, Page 205, hereby joins in this deed for the purpose of acknowledging and consenting to the inclusion of the rights and easements set forth in said Easement as part of the easement interests conveyed herein.

IN WITNESS WHEREOF, Lakeville Shores, Inc., and Herbert C. Haynes, Inc., have caused this instrument to be executed by their representatives, hereunto duly authorized, as of the 11 day of April, 2013.

WITNESS:

LAKEVILLE SHORES, INC.

_____ By: _____
HERBERT C. HAYNES, JR.
Its President

2083/1733 - 00019397

STATE OF MAINE
COUNTY OF PENOBSCOT

April 11, 2013

Then personally appeared the above-named Herbert C. Haynes, Jr., President of Lakeville Shores, Inc., and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Corporation.

SEAL

Before me,

Kimberly J. Downs
NOTARY PUBLIC/~~ATTORNEY-AT-LAW~~
KIMBERLY J. DOWNS
MY COMMISSION EXPIRES JULY 9, 2014

TYPE OR PRINT NAME AS WRITTEN

WITNESS:

HERBERT C. HAYNES, INC.

By: Herbert C. Haynes
HERBERT C. HAYNES, JR.
Its President

STATE OF MAINE
COUNTY OF PENOBSCOT

April 11, 2013

Then personally appeared the above-named Herbert C. Haynes, Jr., President of Herbert C. Haynes, Inc., and acknowledged the foregoing instrument to be his free act and deed in his said capacity and the free act and deed of said Corporation.

SEAL

Before me,

Kimberly J. Downs
NOTARY PUBLIC/~~ATTORNEY-AT-LAW~~
KIMBERLY J. DOWNS
MY COMMISSION EXPIRES JULY 9, 2014

TYPE OR PRINT NAME AS WRITTEN

EXHIBIT A

The land, together with any improvements thereon, in T16 MD, Hancock County, Maine, bounded and described as follows:

> That tract or parcel of land consisting of 1,115 acres of land, more or less, and depicted as "land to be conveyed to Elliott Jordan & Son, Inc. 1115 acres ±" on a plan prepared by Plisga & Day Land Surveyors entitled "Boundary Survey of a 1,115 acre lot within the property of Lakeville Shores, Inc.", dated April 9, 2013, and recorded in the Hancock County Registry of Deeds in File 41, No. 145,

Grantor and Grantee acknowledge that this conveyance is exempt from subdivision review from the Maine Land Use Planning Commission and such exemption has been documented by the Commission's Advisory Ruling AR 13-4 dated March 26, 2013. Grantee, by acceptance of this deed, covenants and agrees that the tract conveyed herein shall be managed solely for forest management, agricultural management or conservation of natural resources unless and until any change of use is approved by the Maine Land Use Planning Commission, or any successor agency which succeeds to the Commission's land use jurisdiction over the parcel, or approval from the Commission for a change of use is not required under Maine law, or the Commission's rules and regulations. Grantee covenants and agrees to indemnify and hold Grantor and its successors and assigns harmless on account of any loss or harm incurred by Grantor or its successors and assigns by Grantee's failure to comply with this land use restriction.

Together with appurtenant easements and rights of way ("Easements and Rights of Way") over some of the roads depicted on above mentioned Plan and on another plan entitled "Bangor Hydro-Electric Company rights of way over the property of Lakeville Shores, Inc." prepared by Plisga & Day Land Surveyors dated December 21, 2012 and recorded in the Hancock County Registry of Deeds in File 41, No. 98.

Unless otherwise specified in the Easements and Rights of Way descriptions herein or on said Plans, the Easements and Rights of Way shall be sixty-six (66) feet in width and 33 feet on each side of the centerline of the existing travelled way of any road which is subject to the Easements and Rights of Way, reasonable deviations in the location of the Easements and Rights of Way being permitted in order to circumvent natural obstacles.

Grantor grants to Grantee appurtenant, nonexclusive Easements and Rights of Way for pedestrian and vehicular access to and from the conveyed property over the following roads as depicted the above mentioned Plans as follows:

Plan recorded in File 41, No. 98

(a) the road in T9 S.D., identified and depicted on said Plan as Point A to Point B and being the same rights conveyed in the Easement from Herbert C. Haynes, Inc., to Lakeville Shores, Inc., dated January 6, 2011 and recorded in said Registry in Book 5555, Page 205, subject to the terms and conditions set forth therein;

(b) an extension of the Molasses Pond, a/k/a Sugar Hill Road in Eastbrook from the termination of the public portion of said road to its intersection with the easterly line of the Town of Eastbrook identified and depicted on said Plan as Point A1 to Point Z to Point Q ***(segment A1 to Z being conveyed without covenant)***;

(c) road 73-00-0 located in the Town of Aurora leading from Route 9 southerly through Osborn and into T22 M.D. and identified and depicted on said Plan as Point F to Point E;

(d) roads 73-34-0 and 77-00-0 from T22 M.D. into T16 M.D. as identified and depicted on said Plan as Point E to Point D to Point Y;

(e) the roads located on the Grantor's property in T16 M.D. as identified and depicted on said Plan as:

(i) Point B to Point P;
(ii) Point Q to Point P;
(iii) Point P to Point R to Point T to Point S to Point U to Point C;
(iv) Point Y to Point W to Point C;
(v) Point C to Point J to Point E1 to Point I;
(vi) Point E1 to Point M1; and
(vii) Point Q1 to Point N to Point M to Point W1 to Point X1.

Plan recorded in File 41, No. 98 and Plan recorded in File ____, No. ____

The roads as identified and depicted on said Plans as:

(a) Point I on File 41, No. 98 to Point 1 on File 41, No. 145; and
(b) Point X1 on File 41, No. 98 to Point 2 on File 41, No. 145.

EXCEPTING AND RESERVING to Lakeville Shores, Inc., its successors and assigns, appurtenant, nonexclusive Easements and Rights of Way for pedestrian and vehicular access for the benefit of its remaining land in T16 M.D., over the roads crossing the premises conveyed herein as identified and depicted on said Plan recorded in File 41, Page 145 as Point 2 to Point L to Point 1.

The property conveyed by this deed and the Easements and Rights of Way herein granted are to be used in common with the Grantor and others authorized to use said roads and are **SUBJECT TO** the conditions and restrictions contained in the following instruments:

(a) Easement from Herbert C. Haynes, Inc., to Lakeville Shores, Inc., dated January 6, 2011 and recorded in said Registry in Book 5555, Page 205.

(b) Quitclaim Deed with Covenant from SP Forests L.L.C. to H. C. Haynes, Inc., dated May 20, 2004 and recorded in said Registry in Book 3934, Page 127 and instruments referenced therein.

(c) Lease between Lakeville Shores, Inc., as Lessor and Blue Sky East, LLC as Lessee, a Memorandum of which is recorded in said Registry in Book 5523, Page 201 as amended by Supplemental Memorandum of Lease recorded in said Registry in Book 5701, Page 307 and Amendment to Amended and Restated Land Lease Agreement (Bull Hill) recorded in said Registry in Book 5793, Page 129.

(d) Lease between Lakeville Shores, Inc., as Lessor and Hancock Wind, LLC as Lessee, a Memorandum of which is recorded said Registry in Book 5793, Page 270.

(e) Easement from Lakeville Shores, Inc., to Bangor Hydro Electric Company, dated October 19, 2011 and recorded in said Registry in Book 5706, Page 53.

(f) Access Easement (Bull Hill) from Lakeville Shores, Inc., to Blue Sky East, LLC dated April 2, 2012 and recorded in said Registry in Book 5793, Page 136.

(g) Property Easement (Bull Hill) from Lakeville Shores, Inc., to Blue Sky East, LLC dated April 2, 2012 and recorded in said Registry in Book 5793, Page 143.

(h) Easement Agreement between Lakeville Shores, Inc., Hancock Wind, LLC and Blue Sky East, LLC dated April 2, 2012 and recorded in said Registry in Book 5793, Page 276.

(i) Easement from Lakeville Shores, Inc., to Hancock County regarding a communications tower and access thereto dated September 21, 2012 and recorded in said Registry in Book 5908, Page 77.

(j) Easement Deed from Lakeville Shores, Inc., to Bangor Hydro Electric Company recorded in said Registry in Book 5963, Page 78.

(k) Property Easement from Lakeville Shores, Inc., to Hancock Wind, LLC to be recorded in said Registry.

GENERAL PROVISIONS

By acceptance of this deed, Grantor and Grantee agree that the Easements and Rights of Way reserved and conveyed herein shall be **SUBJECT TO** the following conditions:

(1) Grantor, and its successors and assigns, including its lessees, reserve the right to enter and use the roads and land subject to the Easements and Rights-of-Way, in common with Grantee, for any lawful purpose without the prior consent of Grantee so long as such use does not unreasonably interfere with Grantee's use hereof. Any and all improvements constructed or installed by Grantee upon the roads and land subject to the Easements and Rights of Way shall be and remain the property of Grantor, subject to Grantee's right to use such improvements in common with Grantor and others with the right to use such property. As used herein, "improvements" shall not mean any existing or future electrical power distribution or transmission lines installed, owned, operated or maintained by the Grantee on the property benefitted by the Easements and Rights of Way. Grantee shall be responsible for property taxes, including tree growth withdrawal penalties based on Grantee's use of the property, that may be separately assessed on the property interest created by the Easements and Rights of Way and any improvements or personal property of Grantee located on thereon. Grantee's use of the Easements and Rights of Way shall at all times be conducted so as not to unreasonably interfere with Grantor's, or any other person's, lawful use of the Easements and Rights of Way nor materially interfere with the ordinary conduct of operations and management of Grantor's land, including the harvesting and removal of forest products and other materials therefrom. Grantee's use of the Easements and Rights of Way shall be subject to rules and regulations which are generally applicable to commercial users of Grantor's roads and easements, and may also include rules and regulations designed to protect the safe use and enjoyment of the Easements and Rights of Way by others who may be entitled to use the Easements and Rights of Way for commercial, residential, recreational, and other purposes provided that such rules and regulations and amendments are reasonable. Such rules and regulations may provide for seasonal and temporary road closures for construction and maintenance purposes, speed limits, and other safety or trucking restrictions. Grantor shall make commercially reasonable efforts to provide notice to Grantee of such rules and regulations. Grantee shall not be required to observe an amendment to a rule or regulation until ten (10) days after notice from Grantor that a rule or regulation has been amended.

(2) Grantee's use of the Easements and Rights of Way shall be at the sole risk of Grantee. Grantee agrees that Grantor shall not be liable to Grantee for any claims arising from use of the Easements and Rights of Way by Grantee, its employees, agents, contractors, subcontractors, and their respective heirs, successors and assigns, including but not limited to claims for personal injury, death, damage to property or loss of business, except to the extent such damage is caused by gross negligence or the willful misconduct of Grantor, or Grantor's agents, contractors or employees.

(3) The Grantee, its successors and assigns shall have the following rights in common with the Grantor and others entitled thereto (subject to compliance with applicable laws, ordinances and regulations by the Grantee, its successors and assigns):

(a) the right to construct, improve, maintain, repair and reconstruct, any and all roads which are subject to the Easements and Rights of Way hereby conveyed, together with such ditches, culverts, bridges and other structures within the area of the Easements and Rights of Way as may be necessary or convenient in such construction, improvement, maintenance, repair or reconstruction provided that Grantee, its successors and assigns shall not be obligated to construct, improve, maintain, repair or reconstruct any road except as is specifically provided for herein; and

(b) the right to flow water from any road from ditches and culverts onto lands of the Grantor, provided that such right to flow does not unreasonably interfere with the use and enjoyment of such lands by the Grantor, its successors and assigns.

(4) Except as provided below, Grantor shall be under no obligation to maintain or improve the roads, or the improvements of Grantee, or to share in the costs of any improvements of Grantee (unless otherwise agreed in writing by the parties). When any road subject to the Easements and Rights of Way, or portions of such road, are being used by any one of the Grantor or the Grantee, and is not being used concurrently by any other party, then the user shall, during its sole use of any such road, or portions thereof so used, have no claim against any other party for contribution toward maintenance costs, unless otherwise agreed in writing by the parties. However, nothing in the above reduces the obligation of the party using the Easements and Rights of Way, to ensure that the condition of the road and improvements at the completion of such use is equal to or better than when such use commenced or to any other specifications that Grantor and Grantee have agreed to in writing.

When any road subject to the Easements and Rights of Way, or portions of such road, are being used by any one or more of Grantor and the Grantee concurrently, the users shall be responsible to maintain the same with the maintenance costs for such concurrent use being apportioned between the parties (and other third party users) based on the respective use of the road subject to the Easements and Rights of Way, or based on some other mutually agreed upon formula or method of apportionment. None of the agreements herein relative to maintenance costs and shared capital expenses shall limit or modify any right of contribution the parties may have against third parties relative to such costs and expenses. Neither the Grantor nor Grantee shall be required to maintain any roads to any particular standard for the use of unauthorized third parties, and any maintenance undertaken by Grantor or Grantee shall be sufficient among the parties if it results in conditions meeting the generally accepted standard of the day, in the northeast, for private timberland management roads.

For the purposes of the foregoing, "maintenance" or "maintain" shall mean undertaking the work necessary to preserve or keep, as nearly as possible, the roads or portions thereof, road surfaces, bridges, culverts, ditches or other appurtenant facilities or structures in a condition providing satisfactory transportation for the permitted uses in compliance with all applicable laws and regulations, and "improvements" or "improve" shall mean the reconditioning or

replacing of any existing road, bridge, culvert, ditch or other appurtenant facility or structure to a standard higher or greater than that prevailing as of the date of this Deed, or as subsequently improved.

Notwithstanding the foregoing, unless such undertaking is assumed by a party, neither Grantor nor Grantee shall be obligated under the above-stated maintenance obligations to undertake at such party's sole cost, significant repairs or replacement of bridges, culverts and structures, which are generally expected to have an extended useful life and likely to benefit all parties. The Grantor and Grantee and their successors and assigns, agree to negotiate in good faith to allocate shared costs of major capital improvements or repairs of bridges, culverts and other structures necessary for forest management purposes, unless any party opts to assume the entire costs of any such project. Negotiated cost allocations may be based upon the respective use of the road by the parties, including volume of products and distances hauled on the Right of Way, or on some other mutually agreed upon formula or method of apportionment, taking into account the burden of use by third parties which is not the responsibility of any party to this Agreement.

(5) Grantee will not suffer or permit any mechanic's or materialman's lien to be filed against the land of Grantor, for or purporting to be for, labor and materials supplied to, or at the instance of, or for the benefit of, Grantee or any contractor or subcontractor employed, or claiming to be employed by Grantee.

(6) All improvements constructed by Grantee will be constructed, kept and maintained in compliance with all applicable laws, rules and ordinances, at the expense of Grantee.

(7) All work done shall be performed with reasonable dispatch until fully completed, and Grantee shall promptly clean up and restore all portions of Grantor's land altered or damaged in connection with Grantee's construction, maintenance and repair to the same condition as it exists on the date hereof.

(8) Grantor shall retain title to all merchantable timber and forest products within the herein granted Easements and Rights of Way and Grantee will not remove merchantable timber or other forest products severed from the herein granted Easements and Rights of Way without the prior written agreement of Grantor.

(9) Grantor has the exclusive right to close, gate, lock or otherwise restrict access along or through the roads subject to the Easements and Rights of Way. In the event Grantor restricts access, Grantor agrees to provide Grantee and its assigns reasonable means (such as a key or lock combination) to pass through the restricted access point. Unless otherwise instructed by Grantor, Grantee agrees the gate or other barriers utilized to restrict access shall remain closed and locked when the Easements and Rights of Way are not in use by the Grantee, and shall be opened only for a period of time necessary to permit passage.

(10) Grantor reserves the right for itself, its invitees, employees, lessees, permittees, successors and assigns to cross and use the said Easements and Rights of Way for access and utility services to other lands of Grantor, and such uses shall be located so as to not materially interfere with Grantee's exercise of rights hereunder.

(11) Grantor further reserves the right to relocate, repair, reconstruct or improve and maintain the roadways to the extent that Grantor may deem appropriate, and in such case the right as needed to interrupt traffic to accomplish such purposes. Nothing herein shall restrict the Grantor's right to relocate the Easements and Rights of Way or portions thereof provided that the Easements and Rights of Way shall apply to the road or portions thereof as they may be relocated from time to time.

(12) Grantee shall at all times conduct its activities on and around the roads and land subject to this Easements and Rights of Way (including, without limitation, the cutting and removal of trees, vegetation and other undergrowth) in full compliance with all applicable federal, state and local laws and regulations and with any such governmental approvals. Without limiting the generality of the foregoing, Grantee shall not cause or permit any hazardous materials to be unlawfully released or disposed of at, or near the roads and land subject to this Easements and Rights of Way, and in the event of any unlawful release or disposal by Grantee of any hazardous materials within or near the roads and land subject to this Easements and Rights of Way, Grantee shall promptly clean up and remove the same at its cost in accordance with all applicable laws, rules and regulations of any government, authority, agency, commission, or regulatory body having jurisdiction over the same.

(13) The failure of either party to exercise any rights herein conveyed or reserved in any single instance shall not be considered a waiver of such rights and shall not bar either Grantor or Grantee from exercising any such rights, or if necessary, seeking an appropriate remedy in conjunction with such rights.

(14) The rights, title and privileges herein granted or reserved shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and permitted assigns. The Easements and Rights of Way granted under this Deed are to run with the land owned by the Grantee as specified above, and may not be assigned, except as part of a conveyance or lease, by whatever means, of all or any portion of the real estate now benefited by this Deed, without the express written consent of Grantor, its successors or assigns. Such consent shall not be required in the event of a merger of Grantee with another entity or in the event of acquisition by the Grantee of another entity.

Date: April 15, 2017

OPTION TO LEASE REAL ESTATE

A. Option: **ELLIOTT JORDAN & SON, INC.**, a Maine corporation with a mailing address of 381 Cave Hill Road, Waltham, Maine 04605 ("Grantor"), hereby grants to **NEXT PHASE ENERGY SERVICES, LLC**, a Maine limited liability company with a mailing address of 143 Highland Shores Road, Casco, Maine 04015 ("Optionee"), the exclusive, irrevocable right for a period ending at 5:00 pm, March 31, 2019 (the "Option Period") to lease certain real property located in Township 16 MD, Hancock County, Maine, being approximately 1,115 acres and more particularly described in the deed to Grantor recorded at the Hancock County Registry of Deeds in Book 6020, Page 38 (the "Property"). Any extension of the Option Period must be agreed upon in writing by Grantor and Optionee, for such Option Consideration payable by Optionee as may be agreed upon by the parties.

B. Lease: If this Option is exercised, the parties shall negotiate in good faith a ground lease agreement for the Property (the "Lease") for Optionee to develop, construct and operate a solar energy electric generating facility (the "Project"), with the following terms:

i. Initial Lease Term: Initial development period will be five (5) years commencing on the Lease execution date, plus an option to extend the development period for two (2) additional two (2) year terms (the "Development Term"). Once the Project is constructed, the lease term shall be thirty-five (35) years from the commercial operation date (the "Initial Lease Term").

ii. Leased Premises: Promptly after the commercial operation date, lease to be amended to reduce the leasehold interest in the Property to a contiguous leasehold area which is necessary for the Project, as reasonably determined by Optionee and as set forth on a survey plan commissioned by Optionee. The Leased Premises shall include all lands on which Optionee has constructed improvements together with lands which are subject to easements or other rights benefitting the Optionee (including restrictive easements for light or access) and lands which are either taken out of production for use as blueberry or forest lands or otherwise subject to land use restrictions as a result of the Optionee development. Property not within the Leasehold Premises shall be returned to a condition same/similar to that at the time the Option was exercised.

iii. Development Term Rent: $10,000.00 annually.

iv. Land Conversion Payment: One-time payment of $1,500/acre of estimated Leased Premises (based upon approved site plan for the Project), payable upon commencement of construction of foundations for Project.

v. Annual Rent after commercial operation date: $1,000/acre of Leased Premises, increased annually based upon the Consumer Price Index for All Urban Consumers (not seasonally adjusted, U.S. City average, all items, base period 1982-94 = 100) as published by the U.S. Bureau of Labor Statistics ("CPI").

vi. Renewal Term: One 25-year Lease renewal term, to commence immediately following the Initial Lease Term, if exercised by Tenant. Annual Rent for first lease year of the renewal term (if exercised) shall be determined by an appraisal, with CPI increases for each subsequent lease year.

vii. Permitting; Termination: During the Development Term, Optionee shall obtain any permits and approvals required for the Project ("Governmental Approvals"). In the event that (a) any such GovernmentalApprovals are denied, (b) any such GovernmentalApprovals issued to Optionee are canceled, expire, lapse or are otherwise withdrawn or terminated by the appropriate governmental authority, or (c) Optionee determines during the Development Term, in its sole discretion, that it will not move ahead with the Project, Optionee shall have the right to terminate this Agreement, in which event Grantor shall retain all rent and other payments previously made by Optionee.

viii. Taxes: Optionee will be responsible for all property taxes and assessments applicable to Optionee's improvements constructed on the Leased Premises, or resulting solely from Optionee's use of the Leased Premises, including any penalty and fees arising from withdrawal of the Leased Premises (or any portion thereof) from its current tax classification (i.e. open space or tree growth) and/or its change of use. Except as set forth above, Grantor shall be responsible for timely payment of all property taxes assessed in connection with the Property.

ix. Optionee's Improvements: Prior to the filing or submission of any application for any Governmental Approvals that have a bearing on the location of improvements for the Project, Grantee shall provide Grantor copies of all such applications. Optionee shall have the right, at its own cost and expense, to construct within the Leased Premises the improvements permitted by the Governmental Approvals, and to perform the reasonable work related thereto which is deemed by Optionee to be necessary or desirable for the Project, including (without limitation): grading, leveling and filling the land, clearing and removing trees and shrubs, and installing foundations and roadways (the "Site Preparation Work"); and installing solar arrays and related utilities, hardware and equipment; provided all of the foregoing are done in connection with the Project. Grantor shall have a right of first refusal to perform all Site Preparation Work necessary for initial installation of the Project. Optionee shall have the right to repair, replace, remove, add or otherwise modify its equipment or any portion thereof during the term of the Lease.

x. Financing and Assignment: The holder of any mortgage or other security interest granted by Grantor after the effective date of the Lease that encumbers the Property shall recognize the validity of the Lease, by non-disturbance agreement satisfactory to Grantor's mortgagee, Optionee and any financing party for the Project. In the event any portion of the Property is encumbered by a mortgage or other security interest on the effective date or on the date of recording of the Lease, Grantor shall promptly obtain and provide to Optionee a non-disturbance agreement for each such mortgage or other security interest in recordable form. Any such non-disturbance agreement shall include provisions to the effect that:

(i) in the event of foreclosure, sale pursuant to a foreclosure, or other action taken under the mortgage by the holder(s) thereof, the Lease and the rights and privileges ofOptionee thereunder shall not be interrupted or disturbed but shall continue in full force and effect subject, however, to the provisions of the Lease concerning Optionee defaults;

(ii) in the event the improvements upon the Leased Premises shall be damaged or destroyed by fire or other casualty, or ifa portion of the Leased Premises shall be taken by or under threat of eminent domain proceedings, all insurance proceeds and/or condemnation awards paid by reason of such damage, destruction or taking of Project improvements shall be paid and applied in accordance with the provisions of the Lease; and

(iii) the right of Optionee to construct improvements upon the Leased Premises shall be governed by the applicable provisions of the Lease and not by the provisions of the mortgage.

Optioneealso shall have the right, without Grantor's consent, to assign its rights in the Lease or sublease all or a portion of the Property, provided that (a) Optionee notifies Grantor of any such assignment, and (b) the assignee expressly assumes in writing the obligations of Optionee under the Lease. No assignment shall release the Optionee of its obligations, except following a release executed by Grantor, which shall not be unreasonably withheld, conditioned or delayed so long as the assignee has the financial capacity to meet the obligations of Optionee under the Lease.

xi. Right of First Refusal; Transfers by Grantor: During the term of the Lease as it may be extended, Grantor shall have the right to offer the Property for sale to third parties subject to the provisions of the Lease, and in such event Grantor hereby agrees to notify Optionee of the proposed price and terms of sale. Optionee shall then have the right, by written notice to Grantor within fifteen (15) business days thereafter, to purchase the Property at the price and terms specified, in which event a closing on the sale to Optionee shall occur within forty-five (45) days after Optionee's exercise of its right to purchase and otherwise in accordance with the terms and conditions of the offer made by the third party. The right of first refusal shall not be applicable to any foreclosure sale or deed in lieu of foreclosure but shall continue to encumber the Property following such foreclosure sale or deed in lieu of foreclosure, and Optionee and any Grantor mortgagee agree to execute a new Lease, on the same terms, following any foreclosure and if requested by Optionee to evidence the continuation of the Lease and right of first refusal. Provided, however, if Optionee does not exercise such right to purchase, Grantor may transfer its interests in the Propertyto a third party upon the same price and materially the same terms of sale offered to Optionee, without Optionee's consent, provided that (a) Grantor notifies Optionee of any such transfer, and (b) the transferee expressly assumes in writing the obligations of Grantor under the Lease but free and clear of the Right of First Refusal.

xii. Each party agrees to indemnify and hold harmless the other against any claim of liability or loss from personal injury or property damage (excluding consequential damages) arising in connection with the use of the Property to the extent caused by the negligence of the indemnifying party, its employees, agents, contractors and consultants

xiii. Grantor reserves the right to make use of the Property for any other purpose, except for development of a solar energy electric generating facility, provided that such use shall not interfere (as reasonably determined by Optionee) with the Project or the use, utility or exercise of the rights granted to Optionee under the Lease.

If Optionee elects to exercise this Option to lease the Property, such election shall be made by written notice to the above address given prior to the expiration of the Option Period as it may have been extended; provided, however, that in no event may this Option be exercised (1) prior to April 20, 2018; or (2) before Optionee shall have obtained an Advisory Ruling by the Maine Land Use Planning Commission ("LUPC"), or other writing by LUPC acceptable to the parties, indicating that the Lease will not create a subdivision under LUPC rules. At all times during the Option Period and before execution of the Lease, it is understood that Grantor will continue its agricultural or forest management activities at the Property. No Option Consideration paid shall be credited against the rent payable under the Lease. If Optionee does not exercise this Option, Grantor shall retain any Option Consideration paid. The parties agree to negotiate in good faith on a final form of the Lease prior to Optionee's exercise of the Option, and within sixty (60) days of the date of this Option, but no failure to agree on such a final form shall affect the validity of this Option. If Optionee exercises this Option, but the parties have not yet agreed upon the final form of the Lease and are not able to agree upon the final terms of the Lease (consistent with the terms hereinbefore set forth) within ninety (90) days after Grantor's receipt of Optionee's notice of exercise, then Grantor and Optionee shall jointly pay for mediation, with agreement to enter into good faith negotiations through a neutral mediator in order to attempt to resolve their differences on the final Lease terms. If, after completion of any such mediation the parties remainunable to agree upon the final terms of the Lease (consistent with the terms hereinbefore set forth), Grantor shall promptly return to Optionee any Option Consideration paid by Optionee, in which case this Option Agreement shall be canceled and terminated, and the parties shall be relieved of all duties and obligations hereunder.

C. Inspections: Grantor shall make available to Optioneecopies of all documents, reports, surveys, title policies or reports, and tenancy agreements as may exist with respect to the Property, its history and/or use, within five (5) business days after execution of this Option. Optionee and its representatives shall be permitted to visit the Property site on any number of occasions during the Option Period upon reasonable advance notice to Grantor, and to conduct any reasonable studies that Optionee determines are necessary for the evaluation of the Property. The parties understand and acknowledge that the consummation of the transactions contemplated by this Option is subject to the results of such due diligence process. All information, studies, reports and business documents relating to the Property obtained by Optionee, either by examination of its agents or representatives, or observation, or disclosed to it by Grantor, shall remain confidential. If the transaction contemplated herein fails to close for any reason, Optionee shall deliver to Grantor, at no cost to Grantor, copies of all such information, reports, studies and business documents, and Optionee shall make no further distributions or disclosures of any such information, reports, studies and business documents.

D. Governmental Approvals: Optionee is solely responsible for obtaining any and all permits and approvals in connection with this Option and, if exercised, the Lease. Grantor agrees to cooperate and join with Optionee or its designees, at no expense to Grantor, in obtaining any

GovernmentalApprovals or the like as Optioneedeems necessary or desirable for the Project, at Optionee's expense.

E. Closing: If Optionee elects to lease the Property, Grantor shall execute and deliver the mutually-agreeable Lease negotiated by the parties together with a memorandum of the Lease suitable for recording, demising good and marketable title to the Property, free and clear of all encumbrances (except all easements, covenants, restrictions and agreements of record that do not adversely affect Optionee's proposed construction and operation of the Project at the Property), liens, tenants and occupants, and possession shall be delivered to Optioneein accordance with the Lease. The execution and delivery of the Lease may occur after the Option Period so long as this Option shall have been exercised prior to the expiration of the Option Period. Grantor agrees to deliver such duly executed documents as are reasonably necessary to complete the closing on the Lease, including such customary and reasonable title affidavits regarding parties in possession and indemnities regarding mechanics' liens (arising from Grantor's activities only) as Optionee's title insurer may require in order to delete exceptions regarding such matters from its title insurance coverage, and such instruments as are necessary to discharge all mortgages, liens or other encumbrances or defects affecting the Property.

F. Title: If title is not good and marketable or is not free and clear as aforesaid, Optionee shall notify Grantor of such fact and Grantor shall have a reasonable period of time, but in no event longer than sixty (60) days, during which period Grantor shall, at its expense, make reasonable efforts to cure the objectionable title defectsto the reasonable satisfaction of counsel of Optionee. If Grantor fails to cure the objectionable title defects during said sixty (60) day period, Optionee may, at its option, either: (i) accept such title to the Property as Grantor may deliver without a reduction in the rent; or (ii) terminate this Option Agreement, in which case any Option Consideration paid shall be refunded to Optionee and this Option Agreement shall be canceled and terminated, and the parties shall be relieved of all duties and obligations hereunder.Grantor makes no representation or covenant as to title to the Property or its fitness for use in connection with the Grantor intended uses. Furthermore, the Property is subject to the restrictions and conditions set forth in the Quitclaim Deed with Covenant from Lakeville Shores, Inc. to Grantor, recorded on April 19, 2013 in the Hancock County Registry of Deeds, Book 6020, Page 38 (the "Restrictive Deed").

G. Broker: The parties agree that no broker has been involved in this transaction, and each party agrees to indemnify, defend and hold the other harmless from and against any losses, damages, costs or expenses (including reasonable attorney's fees) that either party may suffer as a result of claims made or suits brought by any broker in connection with this transaction, the obligated party hereunder to be the party whose conduct gives rise to such claims. This indemnity shall survive the closing and any termination of this Option Agreement.

H. Ownership: Grantorrepresents that, to the best of Grantor's information and belief,Grantor is the owner of the Property in fee simple, subject to the easements and rights-of-way set forth in the Restrictive Deed, with the full right and authority to grant the Option described in this Option Agreementand, that there is no other option, contract or other right to purchase or lease the Property in existence. Grantor further agrees that while this Option Agreement is in effect, Grantor shall not grant or convey any easement, lease, license, permit, lien or any other legal or beneficial interest in or to or encumbering the Property, without the prior written consent of Optionee; provided, however, that Grantor may mortgage the Property to an institutional lender provided that such lender agrees to provide an agreement to Optionee, specifying that the Lease

shall continue, and be recognized and not disturbed, in accordance with subparagraph B.x above, should the parties enter into the Lease.

I. Exclusive Right to Lease: Upon the execution of this Option until the termination of the later of (i) the termination of this Option, or (ii) the execution of the Lease, Grantor shall refrain from taking any action of any kind to solicit or entertain offers to sell or purchase, or lease, the Property, or any part thereof, to any person or entity for purposes of developing a Project, or any other activity that is likely to interfere with the development, construction and operation of the Project by Optionee.

J. Nondisclosure: Grantor shall not disclose the business terms of this Option Agreement to any third party or entity, except Grantor's duly retained attorneys, accountants, real estate professionals, and State of Maine officials deemed appropriate.

K. Miscellaneous: Grantor agreesto execute a memorandum of option with respect hereto in form suitable for recording purposes, which will include the terms, outlined herein except the Option Considerationand proposed Lease terms. All notices hereunder shall be in writing and shall be deemed given when a certified letter (return receipt requested) containing such notice, properly addressed to the party for which it is intended at the address first set forth above, is deposited in the U.S. Mails. Optionee shall have the right to assign its interest in this Option Agreement, and this Option Agreement shall be binding upon the parties and their heirs, administrators, successors and assigns.

ELLIOTT JORDAN & SON, INC.

Lisa R. Holmes
Witness

By: Duane H. Jordan
Duane Jordan
Its: Pres.

NEXT PHASE ENERGY SERVICES, LLC

Damon Priddy
Witness

By:
David Fowler
Its: President

8350685
10375213_1
10494050_1

BK: OR 6885 PAGE:215 # OF PGS:3
04/24/2018 09:39:36 AM INSTR# 2018004837
JULIE A. CURTIS, REGISTER OF DEEDS
HANCOCK COUNTY MAINE

MEMORANDUM OF LEASE OPTION AGREEMENT

1. Grantor: **ELLIOTT JORDAN & SON, INC.**
~~382~~ 381 DHJ Cave Hill Road, Waltham, Maine 04605

2. Optionee: **NEXT PHASE ENERGY SERVICES, LLC**
143 Highland Shores Road, Casco, Maine 04015

3. Effective Date of Option: April 15, 2017

4. Description of Option Property: Certain real property located in Township 16 MD, Hancock County, Maine, being approximately 1,115 acres and more particularly described in the deed to Grantor recorded at the Hancock County Registry of Deeds in Book 6020, Page 38, generally shown on the attached EXHIBIT A.

5. Term of Option: Expires March 31, 2019 DHJ

IN WITNESS WHEREOF, the undersigned ~~have~~ 3 executed this Memorandum as of this 25th day of April, 2017.

ELLIOTT JORDAN & SON, INC.

Lisa R. Holmes
Witness

By: Duane F. Jordan
Duane Jordan
President

STATE OF MAINE
COUNTY OF Hancock

The foregoing instrument was acknowledged before me this 25th day of April, 2017, by Duane Jordan, as President of Elliott Jordan & Son, Inc., a Maine corporation, on behalf of the corporation.

Notary Public

Printed Name SUELLEN D SPEED
NOTARY PUBLIC - MAINE
MY COMMISSION EXPIRES
FEBRUARY 12, 2023

My Commission Expires

ASSIGNMENT AND ASSUMPTION
OF OPTION TO LEASE REAL ESTATE

THIS ASSIGNMENT AND ASSUMPTION OF OPTION TO LEASE REAL ESTATE ("**Agreement**") is made as of the 1st day of December, 2018 ("**Effective Date**"), by and between Next Phase Energy Services, LLC ("**Assignor**"), and Three Rivers Solar Power, LLC, a Delaware limited liability company ("**Assignee**"). Grantor and Grantee are sometimes referred to herein individually as a "**Party**" or collectively as the "**Parties**."

RECITALS

WHEREAS, Assignor and Elliott Jordan & Son, Inc., a Maine corporation ("**Jordan**"), entered into that certain Option to Lease Real Estate dated April 15, 2017, a memorandum of which was recorded in the Hancock County Registry of Deeds on April 24, 2018 in Book 6885, Page 3 ("**Option Agreement**"), whereby Jordan granted to Assignor an exclusive, irrevocable right, for a period ending March 31, 2019, to lease certain property owned by Jordan and more particularly described in a deed recorded in the Hancock County Registry of Deeds in Book 6020, Page 38 ("**Property**").

WHEREAS, Assignor desires to bargain, sell, assign, transfer and convey to Assignee all of Assignor's right title and interest in and to the Option Agreement, and Assignee desires to assume and accept such right, title and interest in and to the Option Agreement, subject to the terms and conditions set forth in this Agreement.

AGREEMENT

NOW, THEREFORE, in consideration for the mutual covenants and obligations of the Parties herein contained, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Assignment. As of the Effective Date, Assignor hereby bargains, sells, assigns, transfers and conveys to Assignee all of Assignor's right, title and interest in and to the Option Agreement, subject to all terms, conditions, reservations and limitations set forth in the Option Agreement.

2. Assignee's Assumption of Obligations. Assignee agrees to accept this assignment and the Option Agreement and all terms and conditions thereof, and assumes and agrees to perform all obligations of Assignor under the Option Agreement for all periods from and after the Effective Date, and shall indemnify and hold Assignor harmless therefrom.

3. Binding Effect. The terms and provisions of this Agreement shall be binding upon and shall inure to the benefit of Assignor and Assignee and their respective successors and assigns.

4. Severability. If any clause or provision of this Agreement is held invalid or unenforceable, the remainder of this Agreement shall not be affected.

5. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Maine.

6. Further Assurances. Assignor agrees to execute, acknowledge and deliver to Assignee, from time to time, such other and additional instruments, notices, transfer orders and other documents, and to do all such other and further acts and things as may be reasonably necessary to grant, convey, and assign the Easement and Easement Agreement to Assignee.

7. Counterparts. This Agreement may be executed in multiple counterparts, all of which will constitute one and the same instrument.

[SIGNATURES AND ACKNOWLEDGMENTS FOLLOW]

IN WITNESS WHEREOF, Assignor and Assignee have executed this Agreement as of the Effective Date.

ASSIGNOR:

Next Phase Energy Services, LLC

By: _____
Name: David Fowler
Title: President

IN WITNESS WHEREOF, Assignor and Assignee have executed this Agreement as of the Effective Date.

ASSIGNEE:

Three Rivers Solar Power, LLC

By: _____
Name: William Havemeyer
Title: Manager