Planning Board Meeting
June 27, 2023 – 7:00 PM
Town Office Conference Room

Meeting Materials

Planning Board
Tuesday, June 27, 2023
7:00 PM – Town Office Conference Room

CALL TO ORDER

MINUTES
May 23, 2023

COMMUNICATIONS

OLD BUSINESS

NEW BUSINESS
Formal Site Plan – BD Solar Auburn, LLC - Northwest of Lewiston Junction Road
– Map 4 Lots 16 and 15-1

Minor Subdivision Application – Lawrence Roakes – Knoll Road – Map 13 Lots 33 and 33A

Findings of Fact and Conclusions of Law for:

Formal Site Plan Application – Richard Gill – 83 Bunting Lane – Map 17 Lot 11

ANY OTHER BUSINESS

ADJOURNMENT

POLAND PLANNING BOARD
MINUTES OF MEETING
May 23, 2023
Approved on _____, 2023

CALL TO ORDER – Chairperson George Greenwood called the meeting to order at 7:00pm with Members James Walker, Jon Gilson, James Porter, and CEO Scott Neal present. Member Cheryl Skilling is absent with notice.

MINUTES – April 25, 2023 – Member Porter moved to approve the minutes with a minor change. Member Walker seconded the motion. Discussion: None Vote: 4-yes 0-no

COMMUNICATIONS – None

OLD BUSINESS – None

NEW BUSINESS – Formal Site Plan Application – Richard Gill – 83 Bunting Lane – Map 17 Lot 11
Jim Seymour of Sebago technics and Richard gill presented the project to the Board. Mr. Gill would like to formally create a backlot drive on Bunting Lane by bringing a portion of Bunting Lane up to current backlot standards in terms of road width, shoulders, and a with a turnaround to create frontage for a new lot. The road will remain private.

The Board has concerns about the two neighbors who share the road being okay with this. Mr. Gill will need a letter of agreement with his neighbors stating they allow the expansion.

Member Porter moved to approve the checklist as complete. Member Walker seconded the motion. Discussion: None Vote: 4-yes 0-no

Member porter moved to approve the Formal Ste Plan Application with the following conditions: no public hearing, no site walk, a letter of agreement regarding the changes to the road must be given in to the Code Office. Member Gilson seconded the motion. Discussion: None Vote: 4-yes 0-no

Formal Site Plan Application – Tom and Corie Learned – Off Maine Street – Map 10 Lot 52
Wayne Wood of Wayne T. Wood & Co. and Tom Learned presented the project to the Board. Mr. Learned would like to create two lots for family members and a backlot driveway on a 23 acre parcel of land he owns. The backlot driveway would be off from Phillip Way and will need a waiver for the requirement that a backlot driveway must originate from a paved road. The remaining parcel of land will be retained by Mr. Learned.

The Board raised concerns about whether this would qualify as a 3 lot subdivision. After discussing this the consensus of the Board is that a note will be added to the site plan stating that the remaining land will be retained by Mr. Learned, and this will address the subdivision issue. The plan must be recorded at the Androscoggin County Registry of Deeds. If any other changes to the property happen, then the road will need to be brought up to private road standards. There must also be a note on the plan that the abutting property doesn't have any rights to use the backlot driveway.

Mr. Learned stated that there will be a gate at the beginning of the backlot driveway with a Knox box for emergency access by the police and fire/rescue.

Member Porter moved to approve the checklist as complete. Member Gilson seconded the motion. Discussion: None Vote: 4-yes 0-no

Member Porter moved to approve the Formal Site Plan Application with the following conditions: no public hearing, no site walk, the waiver for a backlot driveway originating from a paved road is approved, Mr. Learned is going to gate the backlot driveway and put in a Knox box for emergency use, the following notes shall be on the plan: the remaining land will be retained by Mr. Learned, the abutters have no rights to use the backlot driveway, and if there are any changes to the remaining land is must be reviewed by the Planning Board. The plan shall be recorded at the Androscoggin County Registry of Deeds. Member Walker seconded the motion.
Discussion: None Vote: 4-yes 0-no

<u>Road Name Application – Tom and Corie Learned – White Oak Hill Road – Map 10 Lot 55</u>
Member Porter moved to approve the road name of Rocky Acres Lane. Member Gilson seconded the motion. Discussion: None Vote: 4-yes 0-no

Findings of Fact and Conclusions of Law for:

> <u>Formal Shoreland Zoning Application – Kord and Pauline Veinote – 119 Chickadee Lane – Map 37 Lot 10</u>
> Member Porter moved to approve the Findings of Fact. Member Wlaker seconded the motion. Discussion: None Vote: 4-yes 0-no

<u>ANY OTHER BUSINESS</u> – CEO Neal reviewed the latest information he has been given as an update on the recently reviewed Savas project. The Board and CEO Neal agree there needs to be a new site plan application, the path needs to be moved outside of the

75' setback, and the path should be pinned by a surveyor to ensure that it stays outside of the 75' setback. CEO Neal will contact the contractor with this information.

ADJOURN – Member Porter moved to adjourn the meeting at 8:12 p.m. Member Gilson seconded the motion. Discussion: None Vote: 4-yes 0-no

Recorded by: Sarah Merrill

Planning Board

_____	_____
George Greenwood, Chairperson	James Porter, Vice Chairperson
Absent with Notice	_____
Cheryl Skilling, Secretary	James Walker, Member
_____	_____
Jonathan Gilson, Member	

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

SITE PLAN REVIEW

TO THE TOWN OF POLAND

BD SOLAR AUBURN, LLC AND
BD SOLAR LEWISTON JUNCTION, LLC
Map 4, Lots 16 and 15-1 | Poland, Maine

APPLICANT:
BD SOLAR AUBURN, LLC AND
BD SOLAR LEWISTON JUNCTION, LLC
ATTN: Nicholas Mazuroski
622 Congress Street, Suite 202
Portland, Maine 04101

STATE OF MAINE
SEAN M. THIES
No. 10139
05/30/2023
LICENSED
PROFESSIONAL ENGINEER

MAY 2023
JN: 12186.008

Report Prepared By:
Haley Ward
One Merchants Plaza, Suite 701 | Bangor, Maine 04401

Corporate Office
One Merchants Plaza
Suite 701
Bangor, ME 04401
T: 207.989.4824
F: 207.989.4881

HALEYWARD.COM

TABLE OF CONTENTS

SITE PLAN REVIEW APPLICATION AND CHECKLIST

Agent Authorization

Narrative

Chapter 16 Solar Energy Systems Supplemental Narrative

Town of Poland, Maine
Planning Board

Formal Site Plan Review

Instructions:

1. **Read every part of this document. Failure to follow requirements can and will delay the Planning Board's decisions.**
2. Fill out the forms on pages 1 through 6. Obtain or get copies of information as required by the application on these pages.
3. Use the "Submission Checklist" on pages 5 and 6 to make sure submission requirements are met.
   a. The checklist is a summary of the standard requirements in Section 509.8 of the Comprehensive Land Use Code.
      i. The actual Code wording may be found on-line at www.polandtownoffice.org. Go to the "Code Enforcement" page, select "Comprehensive Land Use Code" at that bottom of the page. Hardcopies are available for purchase at the town office.
   b. Make sure all waiver requests have a written statement for each request. Check with the Code Enforcement Office to make sure items stated as "On File" are indeed in the town office.
   c. Some requirements may need only a one paragraph or one sentence statement. Make sure all requests are answered.
4. **NUMBER OF COPIES OF THE APPLICATION AND DUE DATE**
   a. A total of at least ten (10) copies of the plans and one PDF copy (on either cd or usb) are needed. Be sure to make a copy for yourself.
   b. The Code Enforcement Office must receive the original application, an additional 9 copies, and a digital PDF copy (either cd or usb) with appropriate fees **by 1:00 p.m. eleven (11) days before** the stated meeting to be put on the upcoming agenda.
   c. If review for missing information by the Code Enforcement Officer is desired, a copy must be submitted to the CEO at least 14 days prior to the meeting.
   d. The application must be on file for public review for at least 10 days prior to the meeting. Applications received after the Agenda is posted may not be reviewed by the Board for your scheduled meeting date.
5. **Check with this office to make sure that all departments have responded to your application prior to the meeting.**

PROJECT NAME: BD Solar Auburn, LLC and BD Solar Lewiston Junction, LLC

Date of Planning Board Review: 06 / 13 / 2023 Application #_____

LOT INFORMATION:

Tax Assessor's Map # 4 Lot # 16 and 15-1 Sub lot #_____

Watershed: Little Androscoggin River

Property's Road Location: Northwest of Lewiston Junction Road

Lot Size: 16: 30 ac; 15-1: 16.4 ac Acres or Sq. Ft. Road Frontage: 0 Ft.

Year lot created:_____ *(If unknown, give best estimate with "est." after date)*

Zoning District(s): General Purpose 3 Flood Zone: X Aquifer Overlay: No

Current use of lot: None.

LAND OWNER(s):

Name(s)_____

Company Lot 16: Port of Auburn, LLC;

Mail Address: Lot 16: 54 Bartol Island Rd, Freeport, ME 04032 Main Phone_____

Town/State/Zip_____ Alternate Phone:_____

APPLICANT or CONTACT PERSON:

Applicant is: ____Landowner ____Contractor X Renter ____Buyer

If landowner, write "Same" below and continue to next block below. If not the landowner, submit a letter of permission to construct on or use the land, or copy of a contract to buy from the landowner, along with the following information:

Name(s): Attn: Nicholas Mazuroski

Company BD Solar Auburn, LLC and BD Solar Lewiston Junction, LLC

Mail Address: 254 Commercial St. Suite 101 Main Phone: 207 - 228 - 7375

Town/State/Zip Portland, ME 04101 Alternate Phone: - -

THIS APPLICATION IS FOR: (*Check all that apply*)

	Commercial		New Development
X	Industrial		Change In Use
	Institutional		Expansion of Use
	Governmental		Expansion of Structure(s)
	Open Space		Resumption of Use

Accessed from Lewiston Junction Road

EXISTING LOT CONDITIONS:

(This page is to describe what is on your lot currently)

1. **General**

   Does this lot have any development? *(If No, go to "Proposed Development")* _____Yes

   X No

   a. Is there an existing Well _____Yes

      _____No

   b. Is there an existing Septic System _____Yes

      _____No

      i) *If yes, submit a copy of a septic permit, or drawing(s) showing size & location.*

   c. Is there an existing Road Entry _____Yes

      _____No

      i) If yes, will there be any changes/modifications? _____Yes

      ____No

      ii) *(If no, submit copy of appropriate road entry application if entrance is onto a state or town road.)*

   d. Any structures to be removed _____Yes

      _____No

      i) *If yes, submit information about the structure to be removed and how any debris will be disposed of.*

2. **Existing Land Development & Improvements NOT Including Buildings**

   a. Size of lawns or Acres N/A Sq. Ft.

   b. Size of fields or Acres N/A Sq. Ft.

   c. Size of driveways/roads N/A Sq. Ft.

   d. Size of other non-vegetated areas N/A Sq. Ft.

   e. Wetlands already filled N/A Sq. Ft.

3. **Existing Main Structure**

   a. Ground Footprint N/A Sq. Ft.

   b. Total Gross Floor Space *(exterior dimensions of all floors)* N/A Sq. Ft.

   c. Road Frontage Setback N/A Ft.

d. Side Setback N/A Ft.
e. Rear Setback N/A Ft.
f. Distance to Great Pond _____Not applicable (over 250') N/A Ft.
g. Distance to Stream _____Not applicable (over 250') N/A Ft.
h. Distance to Wetlands _____Not applicable (over 250') N/A Ft.

4. **Foundation Type** _____Full Basement _____Frost Walls _____Slab _____Piers
5. **Existing Accessory Structure(s)**
   a. Total Number of Structures N/A
   b. Total Ground Footprint N/A Sq. Ft.
   c. Total Floor Space N/A Sq. Ft.
   d. Closest Road Setback N/A Ft.
   e. Closest Side Setback N/A Ft.
   f. Closest Rear Setback N/A Ft.
   g. Distance to Great Pond _____Not applicable (over 250') N/A Ft.
   h. Distance to Streams _____Not applicable (over 250') N/A Ft.
   i. Distance to Wetlands _____Not applicable (over 250') N/A Ft.
6. **Total Existing Impervious Surfaces** N/A Sq. Ft.
   a. *Add 2c +2d + 3a + 5b*

PROPOSED DEVELOPMENT:

1. Wetlands to be impacted 313,029 Sq. Ft.
2. New footprint(s) and developed area(s):
   a. Changes in building footprint(s) 0 Sq. Ft.
   b. Changes in driveway/roadway 61,964 Sq. Ft.
   c. Changes in patios, walkways, etc. 7,066 Sq. Ft.
   d. TOTAL *(2a+2b+2c)* 69,030 Sq. Ft.
3. Percentage of lot covered by impervious surfaces: 3.41 %
   a. *(Equals [areas on line 6 page 2 + line 2d above] / [Total lot area measured in sq. ft.] * 100%)*

SUBMISSIONS:

1. **Attach drawings and/or statements describing the following items, if applicable:**
   a. Provide a copy of deed and Tax Assessor's information card.
   b. Provide a map of the general area showing land features within at least ½ mile of this lot.
   c. Provide site plan(s) of your lot with existing development and its dimensions shown.
   d. Provide site plan(s) of your lot with proposed development and its dimensions shown.
      i. *(May be combined on existing development drawing.)*
   e. Provide detailed plans of proposed structural development and changes.
   f. Provide statements or drawings of methods of infrastructure:
      i. Water supply
      ii. Sewage disposal
      iii. Fire protection
      iv. Electricity
      v. Solid waste disposal
   g. Type, size, and location of signs.
   h. Number of parking spaces.
   i. Provide phosphorus loading calculation if in a great pond watershed area.
   j. Anticipated date for start of construction.
   k. Anticipated date for completion of construction.
   l. Standard submissions requirements shall follow Section 509.8 of the Comprehensive Land Use Code. Copies of the Code are available for viewing at the Town Office and Library. Copies are available for purchase ($25.00) in the Code Enforcement Office.
      i. *(Use checklist starting on page 6 for summary of usual requirements.)*
   m. Other requirements unique to your project added by the Planning Board.

2. **List all state and federal approvals, permits, and licenses required, if any, for the project:**
   This includes but is not limited to the following:
   1. State highway entrance permit.
   2. Soil disturbances involving more than one acre.
   3. Impact on more than 4,300 square feet of any type wetland.
   4. Soil disturbances within 100 feet of lakes, rivers or streams.
   5. Activity within 75 feet, over the water, or in the water of lakes, rivers, or streams.
   6. Timber harvesting.
   7. Flood zones.
   8. Discharges and emissions

DISCLOSURE: *(READ BEFORE SIGNING)*

1. I hereby acknowledge that I have read this application and pertinent sections of the ordinances, and state that the information in this document is to the best of my knowledge true and accurate. I agree to comply with all the Town of Poland's ordinances and the State of Maine's statutes regulating the activities sought in this application as well as any permit(s) approved for this application.
2. I understand that all construction of structures shall conform to or exceed the minimum requirements of the Maine Uniform Building and Energy Code, and the NFPA-101 Life Safety Code, 2009
3. I understand that any approval is valid for only the use(s) as specified in this application. The permitting authority must approve any change(s) made to the use(s) sought in the application. Any approval issued for this application is approved on the basis of truthful information provided by the applicant(s), and as allowed by the ordinances of the town.
4. I understand that it is my responsibility to assure that the lot description herein accurately describes its ownership, its boundary lines, and the setback measurements from the legal boundary lines.
5. I understand that I have the burden of proof as to the legal right to use the property, and that approval of this application in no way relieves me of this burden. Any approval issued does not constitute a resolution in favor of me or the landowner in any matters regarding the property boundaries, ownership, or similar titles.
6. I understand that all necessary **Building and Use Permits** shall be secured from the Code Enforcement Office after the Planning Board grants approval of this application.
7. I understand that a **Certificate of Occupancy or Compliance** shall be required prior to the start of any use or occupancy associated with this application unless a signed written waiver is issued with the permit. Fines and penalties may be issued if use or occupancy is started prior to the issuance of the certificate.
8. I understand that the **approval becomes invalid if** construction or use has not commenced within twelve (12) months of the Planning Board's approval date, construction is suspended for more than six (6) months and no notice for just cause is submitted prior to the end of the six (6) months, or it is found that false statements have been furnished in this application.
9. I understand that if I fail to comply with the aforementioned statements, a "STOP WORK" order may be issued for which I will immediately halt any construction and/or use(s) that are approved for this application. This failure may also require that I return the property to its natural state or as closely thereto before the use(s) was/were approved.
10. I understand that failure to follow these requirements will lead to Violation Notices and Citations that have fines and penalties. This in turn can lead to civil proceedings in District and/or Superior Court.
11. I understand that **all state and federal permits** are my responsibility as the applicant and/or owner and will secure the same prior to the start of the project.

x May 30, 2023

Applicant's Signature(s) *Date*

Submission CHECKLIST

The following list is a short summary of the information required in Chapter 509.8 of the Comprehensive Land Use Code for the Town of Poland, Maine. Please checkmark or place an "X" in the left-hand columns if the information has been provided, if you request a waiver from submitting the information, or you believe the information is not applicable to your application. If a waiver(s) is requested, or the information is not applicable, a written explanation is required. Columns on the right are for the Planning Board's use.

For Applicant Use				For Planning Board Use			
Provided	**Waiver Request**	**Not Applicable**	**Section 509.8.A Submission requirements**	**Received**	**On File**	**Waived**	**Not Applicable**
X			1. Site Plan Drawings				
X			2. Signed copy of application				
X			3.a. Name & address of owner				
X			Name of development				
X			Name & address of abutters within 500' of lot for development				
X			Map of general location				
X			Show all contiguous properties				
X			Names, Map, & lot #'s on drawings				
X			Copy of deeds, agreements				
X			Engineer/ designer of plans				
X			**Existing Conditions (Site Plan)**				
X			Zoning Districts on and/or abutting project's lot shown				
X			Bearings & Distances shown on drawings				
X			Location of utilities, culverts, drains				
		X	Location, name of existing r/w				
		X	Location, dimensions of existing structures				
		X	Location, dimensions of existing roads, walks, parking, loading, etc.				
		X	Location of intersection within 200'				
X			Location of open drains, wetlands, wildlife areas, historic sites, etc.				
X			Direction of surface drainage				
X			100-yr. Floodplain				
		X	Signs				
		X	Easement, covenants, restrictions				
X			**Proposed Development (Site Plan)**				
X			Location & dimensions of all new structures. New development delineated from existing development				
X			Setback dimensions shown & met				
		X	Exterior lighting (Will meet full cutoff requirements)				
		X	Incineration devices				
X			Noise of machinery and operations				
		X	Type of odors generated				
		X	Septic system and other soils reports				
		X	Water supply				
		X	Raw & finished materials stored outside				
X			Contours shown at PB specified intervals				
X			Curbs, sidewalks, drives, fences, retaining walls, parking, etc.				
		X	Landscaping plan				
		X	Easements, r/w, legal restrictions				
X			Abutters' property lines, names				
X			**TRAFFIC DATA**				

For Applicant Use				For Planning Board Use			
Provided	**Waiver Request**	**Not Applicable**	**Section 509.8.A Submission requirements**	**Received**	**On File**	**Waived**	**Not Applicable**
		X	Peak hour traffic				
		X	Traffic counts				
		X	Traffic accident data				
		X	Road capacities				
		X	Traffic signs, signals				
X			**STORMWATER & EROSION**				
X			Method for handling stormwater shown				
X			Flow direction				
		X	Catch basins, dry wells, ditches, etc.				
X			Engineering Analysis of stormwater				
X			Erosion control measures				
		X	Hydrologist groundwater impact				
X			Utility plans for all utilities				
X			Cross-section profile of roads, walks				
			Construction drawings of roads, utilities				
X			Cost analysis of project and financial capability demonstrated				
		X	Phosphorus control plan if in watershed of a great pond				
		X	Submission of waiver requests				
		X	Copies of state, federal applications, permits, &/or licenses required for this project.				
			Condition A.				
			Condition B.				
			Condition C.				
			Condition D.				
			Condition E.				

This application was first looked at by the Planning Board on____/ /___but does not create vested rights in the initiation of the review process.

By vote of the Board this application requires an on-site inspection: _____Yes _____No
If yes, an onsite inspection is scheduled for _____/_____/_____at_____:_____ ___AM ___PM

By vote of the Board this application requires a public hearing: _____Yes _____No
If yes, public hearing is scheduled for _____/_____/_____at_____:_____ ___AM ___PM

Conditions of Approval for Formal Site Review: _____

_____ _____/_____/_____
Planning Board Chair ***Date***

Site Review and Shoreland Zoning Review Fees:

Type of fee	Fee	Units or Comments
Application – sketch plans, Rough design	$75.00	Each application (no other fees)
Application – formal	$150.00	Each application + fees below
Notification of Abutters	$0.75 per	All abutters within 500 ft. of the property must be notified.
Approval extension, Planning Board Approval only	$50.00	One extension only (no other fees)
Escrow, minimum amount	$700.00	When required by Planning Board
Extension of approval	$100.00	Before approval expires
Auto graveyards, recycle business	$5.00	Per vehicle storage slot (parking space)
Junkyard, Storage Lots	$1.50	Per ft of outside storage
Residential Towers	$20.00 + $5.00 per $1,000.00	Based on Cost of Work
Commercial Towers	$20.00 + $10.00 per $1,000.00	Based on Cost of Work
Notifications	$.75	Each Notification, First Class Mail sent by Town

1. Building and Structures may include up to five times the footprint area of the building for grounds improvements, exclusive of the building footprint, as part of the building review fee.
2. Building and Grounds Improvement Fees. The sum of these two fees may be limited to $2,500.00 per application at the discretion of the Planning Board. (Junkyards, auto graveyards, recycling business, and towers excluded.
3. Reduced Fees: The Planning Board may, upon application therefore, allow a reduced total site review fees to $50.00 in any case which it determines that the work for which the permit is sought will be performed within the Shoreland Zone. The project shall be intended solely for the purpose of protecting a Great Pond, Stream, River, or other Natural Resources through the implementation of Conservation, Best Management Practices, or other environmental safeguards. Also, the project shall not result in the enlargement of any building or structure or an intensification of the existing use of the property.
4. Review Escrow Funds may be used by the Town to pay for professional reviews an advice requested by the Planning Board or Code Enforcement Officer related to the applicant's proposed development. Review escrow funds deposited by the applicant not spent during the course of the Town's review shall be returned to the developer within sixty days after the Planning Board's decision on the application is final. If Professional review and advice fees exceed the amount deposited, the developer shall pay the amount outstanding before final approval or any permit is granted.

Town of Poland, Maine
PLANNING BOARD AGENDA REQUEST

Date of meeting you are requesting to be scheduled for: 06 / 13 / 2023 Meetings are normally conducted from 7:00 to 10:00 PM in the Municipal Conference Room at the Town Office

Map 4 Lot 16 Sub-lot _____

Applicant's Name: BD Solar Auburn, LLC and BD Solar Lewiston Junction, LLC
Mailing Address: 622 Congress Street, Suite 202 Attn: Nicholas Mazuroski
Town, State, Zip: Portland, ME 04104

Home Phone: _____ Hours: _____
Work Phone: 207 - 228 - 7375 Hours: _____

Type of application: ____ **Sketch Plan** X **Site Review** ____ **Shoreland** ____ **Subdivision** ____ **Informational**

Road location for project: _____

Zoning: General Purpose 3 Lake Watershed: No Nature of business to be discussed *(Brief description)*: Solar Farm

IMPORTANT - READ CAREFULLY:

This Office must receive the original application, plus nine (9) copies, a digital PDF copy (on either cd or usb), and appropriate fees by Friday at 1:00 p.m., eleven (11) days before the stated meeting to be put on the upcoming agenda.

- New business is scheduled on the agenda in the order this office receives this form.
- If you want your application reviewed for contents prior to the meeting, it must be in this office 14 days before the meeting.
- Should the Board choose to adjourn before all business is addressed, all remaining business will be tabled until the next available meeting.
- Unfinished business is conducted before new business is addressed.

Applicant's Signature: _____ Date: 05 / 30 / 2023

OFFICE USE ONLY:
Request Taken By: _____ Date: ____/____/____ Time: ____:____ a.m. p.m.

HALEY WARD

ENGINEERING | ENVIRONMENTAL | SURVEYING

January 31, 2022

To Whom It May Concern:

Please be advised that Haley Ward, Inc. is hereby authorized to act on behalf of BD Solar regarding Local, State, and Federal permitting for our proposed solar projects.

Robert Cleaves, Manager

Printed Name and Title

Signature

1/31/2022

Date

One Merchants Plaza, Suite 701, Bangor, ME 04401
T: 207.989.4824 | HALEYWARD.COM

SITE PLAN REVIEW NARRATIVE

PROJECT DESCRIPTION

BD Solar Auburn, LLC and BD Solar Lewiston Junction, LLC (BD Solar) is proposing to develop a solar energy farm in the municipalities of Auburn and Poland in Androscoggin County, Maine. The original permit was approved solely under BD Solar Auburn, LLC, which operated under the parent company Dirigo Solar, LLC. Dirigo Solar, LLC has assigned their purchase and sale agreement to TGL Auburn, LLC. Both companies are owned and operated by the same individuals. Please see attached letters of assignment, which describe these transactions. A solar array consists of photovoltaic panels that transform sunlight into usable energy. The facility will have approximately 36,504 individual panels transforming sunlight each day into energy that is fed into the regional electric grid. This application has been prepared in correspondence with the Town of Poland Code of Ordinances.

The project consists of two adjacent 4.99 Megawatt ("MW") solar arrays to generate power that will be sold under a power purchase agreement to Central Maine Power (CMP).

The property currently consists primarily of wooded area, wetlands, and some open meadow surfaces. The area that will not be within the limits of the solar array will be left to remain in its existing land cover except for vegetation management to avoid shading of the panels. The overall topography of the site is generally flat and drains to the southeast. The ground slopes from 0 to 8 percent. The topography will not be significantly altered after development.

Construction will entail the placement of solar panels within an approximately 42.6-acre area. In the proposed location of the solar array, wooded areas will be turned to meadow, which will be maintained to the standards of Maine Department of Environmental Protection meadow buffers. In summary, they will be mowed no more than twice per year and have motorized vehicle traffic limited to maintenance of the panels, as specified in the deed restrictions for meadow buffers. The direction of all stormwater will continue along existing flow paths. The project will create approximately 1.58 acres of new impervious area from the access road, concrete equipment pads, and panel piles.

SITE PLAN REVIEW REQUIREMENTS

The information hereafter is numbered in correspondence with the Town of Poland Formal Site Plan Review submission requirements. Submission criteria is written in italics, followed by a description of how the criteria was addressed.

a. *Provide a copy of deed and Tax Assessor's information card.*
   Please see the attached deeds.

b. *Provide a map of the general area showing land features within at least ½ mile of this lot.*
   Please see the attached Location Map.

c. *Provide site plan(s) of your lot with existing development and its dimensions shown.*
   Existing conditions are depicted in the attached Site Plan and Pre-Development Hydrology Plan.

d. *Provide site plan(s) of your lot with proposed development and its dimensions shown.*
   Proposed conditions are shown in the attached Site Plan.

e. *Provide detailed plans of proposed structural development and changes.*
   Details of the proposed roadway, solar panels and more are shown on C501 Details.

f. *Provide statements or drawings of methods of infrastructure:*
   a. *Water Supply*
      The solar array will be an unmanned operation and will not require a water supply.

   b. *Sewage Disposal*
      Similarly, a wastewater disposal system will not be required for the development.

   c. *Fire Protection*
      The solar array will be enclosed by a chain link fence. The local fire department will have access to the solar array by use of a Knox Box to be installed at the entrance gate.

   d. *Electricity*
      Please refer to the enclosed Site Plan for the solar panel layout and the point of interconnection to the electric grid on Lewiston Junction Road in Auburn.

e. *Solid Waste Disposal*
Once operational, the development will not produce Municipal Solid Waste (MSW).

g. *Type, size, and location of signs.*
Signage will be limited to required safety related signage fixed to the solar array boundary fence.

h. *Number of parking spaces.*
Parking spaces are not being proposed as a part of this development.

i. *Provide phosphorus loading calculation if in a great pond watershed area.*
The development is in the Little Androscoggin River watershed and is not within the watershed of a great pond. This requirement does not apply.

j. *Anticipated date for start and completion of construction.*

Description	Date (time frame)
Establishing Erosion Control	Summer 2024
Panel Support Posts Installation	Summer 2024
Access Road Construction	Summer 2024
Panel Support Posts Installation	Summer 2024
Racking/Panel Installation	Summer 2024
Inverter Installation	Summer/Fall 2024
Seed Land Cover	Summer/Fall 2024
Project Completion	Fall 2024

k. *Standard submissions requirements shall follow Section 509.8 of the Comprehensive Land Use Code.*
The proposed development complies with Section 509.8 of the Comprehensive Land Use Code.

l. *Other requirements unique to your project added by the Planning Board.*
There are no other known requirements unique to the proposed development.

m. *List all state and federal approvals, permits, and licenses required, if any, for the project.*
BD Solar has obtained a SLODA permit from the Maine Department of Environmental Protection as well as a Natural Resource Protection Act Permit from MDEP and the U.S. Army Corps of Engineers. Permits can be provided to the Town of Poland upon request.

GENERAL REVIEW STANDARDS

The following information is numbered in correspondence with Town of Poland Code of Ordinances Section 509.9.

A. Preservation of Landscape

The proposed project utilizes the existing landscape to the greatest extent possible. For example, the solar panels will be mounted on pilings, which are screwed into the earth, causing minimal disturbance. The existing topography will be generally unchanged, as the site will require little to no grading for panel installation. Furthermore, clearing will be limited to the limits of the solar array and for shade management of the panels. Areas outside of these extents with remain in its existing land cover. A representative from Haley Ward, Inc. (Formerly CES, Inc.) (Haley ward) visited the project site to delineate wetlands, which are shown on the Site Plan in **Appendix 11.**

Please refer to the enclosed correspondence **(Appendix 10)** with the Maine Department of Inland Fisheries and Wildlife, the Maine Natural Areas Program, and the Maine Historic Preservation Commission.

There are no known scenic impacts nearby that will be impacted by the project. The site is surrounded by woodland, which will provide a visual buffer for the solar array.

B. Relation of Proposed Buildings to the Environment

The project will not involve the construction of a building and thus, this section does not apply.

C. Compatibility with Residential Areas

The proposed project is not expected to increase traffic, create odors, or cause glares that will adversely affect residential areas. As previously stated, the solar array will be visually buffered by the surrounding woodland. Please refer to **Section S** of this narrative for more information on noise levels.

D. Vehicular Access

The site will be accessed by a 20-foot-wide gravel road from an existing driveway off Lewiston Junction Road. There are several spurs to be used as turnarounds if necessary. This access road does not extend into the lots in Poland. The access road will generally be used for inspection and maintenance purposes, expected to occur no more than once per month. The traffic from these visits is not expected to impact adjacent street traffic on Lewiston Junction Road.

E. Vehicular Access on Routes 11, 26, 121, and 122

The site will not be access from Routes 11, 26, 121, or 122. This section does not apply.

F. Surface Water

Contours are shown on the Site Plan. Additionally, a location map with USGS topographic information is enclosed. The project will not result in undue surface water pollution. Overall drainage patterns will remain the same in pre- and post-development conditions, as the project requires minimal grading.

G. Conservation, Erosion and Sediment Control

Please refer to the enclosed Erosion and Sedimentation Control Pan in **Appendix 8.**

H. Phosphorus Export

The development is in the Little Androscoggin River watershed and is not within the watershed of a great pond. This requirement does not apply.

I. Site Conditions

The site will be maintained and left each day in a safe and sanitary manner throughout construction, as described in **509.9.I General Review Standards**.

J. Signs

Signs, other than the required safety and warning signage, are not being proposed as a part of this development. This section does not apply.

K. Special Features

As shown on the Site Plan, the project complies with all required setbacks. Furthermore, the project is surrounded by forest to limit visual impacts to surrounding properties.

L. Exterior Lighting

Exterior lighting is not being proposed for this development.

M. Emergency Vehicle Access

The solar array will be accessible to emergency personnel through use of a Knox Box at the gate. Once installed, the Applicant will coordinate accessibility with local emergency personnel.

N. Municipal Services

The internal access road will be maintained by the Applicant. The project is not expected to have any adverse impacts on other municipal services.

O. Water Supply

A water supply is not required for this project. This section does not apply.

P. *Ground Water*

The project is not expected to impact ground water quality, or quantity. The storage of fuels, hazardous substances, chemicals, industrial wastes, and flammable or combustible liquids or other potentially harmful raw materials will not occur.

Q. Air Emissions

The proposed project will have no point or non-point source air emissions. The access way is gravel, but vehicular traffic associated with the project is minimal and associated with inspection and maintenance of the development.

R. Odor Control

There will be no odor generation on the site.

S. Noise

The Town of Poland limits noise to 65 dBa between 7:00 a.m. and 10:00 p.m. and 55 dBa between 10:00 p.m. and 7:00 a.m. Noise generated from this project includes noise produced from the inverters and converters, located several hundred feet away from the property lines. Please see the enclosed correspondence from the Sungrow manufacturer's representative, confirming that noise generated from these inverters is less than 80 decibels (dBa) at one meter away. At the nearest property line, the sound level will be approximately 45 dBa as calculated by the inverse square law, which does not exceed the Town's limitation of 55 dBa. The transformers generate up to 68 dBa depending on the size, as shown in the enclosed Cooper Distribution Transformers 21012 specifications. At the nearest property line, the transformers are anticipated to generate approximately 37 dBa, also within Town regulations.

T. Sewage Disposal

Sewage disposal is not required as the solar array will be an unmanned operation.

U. Waste Disposal

There is no generation of solid waste associated with the operation of a solar farm. Once the panels are installed, this will be an unmanned operation.

V. Buffer Areas

The site will be visually buffered by the existing woodland. Please refer to **Appendix 7** for more information on vegetative buffers proposed for stormwater management.

W. Financial and Technical Capacity

Please refer to **Appendix 9** for supporting documents for financial and technical capacity.

X. *Conformance with Comprehensive Plan*

The solar facility has been designed in conformance with the Town of Poland Comprehensive Plan.

SUPPLEMENTAL SITE PLAN REVIEW NARRATIVE

CHAPTER 16 SOLAR ENERGY SYSTEMS

The proposed 42.6-acre solar energy system (SES) was previously approved by the Town of Poland's Planning Board in January of 2022. Since this approval, the Town has adopted a Solar Energy Systems Ordinance. The following supplemental narrative has been prepared in accordance with Chapter 16 – Solar Energy Systems. Submission criteria have been provided in italics, followed by a description of how the criteria was addressed.

1605 SUBMISSION REQUIREMENTS

a. *Plans and elevations depictions of a typical panel and mounting and any other structures proposed as part of the SES.*
   Please refer to **Appendix 11** for typical panel and mounting assembly.

b. *General specifications of the system including dimensions and number of panels, estimated power generation, description of mountings, and any other information needed to evaluate compliance with this ordinance.*
   The proposed solar system includes two adjacent 4.99 Megawatt (MW) solar arrays. The array will include approximately 36,504 individual panels. Please refer to **Appendix 11** for proposed Site Plan and Detail Drawings for mounting locations and panel dimensions.

c. *Certification that the SES is compliant with the National Electrical Code and State Electrical Code as applicable.*
   It is an industry standard that solar arrays meet the National Electrical Code and State Electrical Codes. The proposed solar array is designed in accordance with these industry standards. Work will be carried out and completed under a State Electrical Permit, signed off by the State Electrical Inspector prior to completion. The proposed project is not allowed to energize without the State Electrical Inspector sign off which is obtained once the site is mechanically completed.

d. *As site plan that meets the requirements of Section 509 of the Poland Comprehensive Land Use Ordinance with the added requirement of:*
   1. *The location of the proposed SES and any, fencing, screening, access roads and turnout locations, substation(s), accessory equipment to the system, and all electrical cabling from the system to other structures, or utility grid connections.*

   Please refer to **Appendix 11,** proposed Site Plan for the location of the above requested items.

e. *The applicant shall provide a copy of the site plan review application to the Fire Chief for review and comment. The Fire Chief shall base any recommendation for approval or denial of the application upon review of the fire safety of the proposed system. Upon request, the owner or operator shall cooperate with the Fire Department in developing an emergency response plan.*
   The applicant has provided a copy of this site plan review application to the Fire Chief for review and comment.

f. *Any other approvals from local, regional, State, or Federal agencies that may be required. Letters, permits, or approvals from these agencies shall be included as part of the application and/or review.*
   Please see **Appendix 12** for approvals from Maine Department of Environmental Protection, Army Core of Engineers, and City of Auburn.

g. *Ground Mounted SES with a physical size based on projected total airspace over the ground that is greater than 10,000 square feet shall also submit a decommissioning plan including an estimated cost and a guarantee suitable to ensure decommissioning comparable with the performance guarantee format Section 614 of this ordinance.*
   Please see **Appendix 13** for the Decommissioning Plan.

1606 REQUIRED NOTIFICATION

a. *All SES located within 2 miles of the Auburn Lewiston Municipal Airport must notify the airport via certified mail that an application has been submitted to the town. This notification must include the location and size of the proposed system.*
   Please see **Appendix 9** for a copy of correspondence sent to Auburn Lewiston Municipal Airport.

b. *All Ground Mounted SES with a physical size based on projected total airspace over the ground that is greater than 10,000 square feet shall notify abutters in accordance with the requirements of Section 509.7 Application Procedure G. Notice to Abutters.*
   Please see **Appendix 4** for an abutter list.

1607 VISUAL IMPACT ASSESSMENT

a. *When necessary, based on a project's overall size, location, surrounding uses, or other characteristics of the proposed use or the site, the Planning Board may require submittal of a Visual Impact Assessment.*
   If requested, the Applicant will submit a Visual Impact Assessment.

1608 DIMENSIONAL STANDARDS

a. *Height*
The proposed ground mounted solar panels height is approximately 8 to 10 feet tall. This adheres to the General Purpose 3 District's maximum structure height of 12 feet.

b. *Setbacks*
Due to the location of the solar array being abutted by other industrial uses, the Applicant would like to request that the setback requirements for the solar array be reduced to the structure setback of the General Purpose 3 District. Reduction of these setbacks will not impact visibility along a travel-way or have any visual impact to any adjacent residence or business building occupying abutting properties.

c. *Impervious Surface Ratio*
The proposed project will result in a new impervious surface ratio of approximately 4%. The ground mounted solar panels were not considered impervious surface since the panels will be positioned to allow water to run off their surfaces, soil with adequate vegetative cover will be maintained under and around panels, and the area around the panels is adequate to ensure proper vegetative growth under and around the panels.

1609 OTHER STANDARDS

a. *A licensed electrician shall connect SES to transmission lines, electrical equipment, or any residence or other structure which power is being provided.*
A licensed electrician will connect SES to transmission lines, electrical equipment and any other structure which power is being provided.

b. *SES must meet all applicable Building and Fire Codes.*
The proposed SES meets all applicable Building and Fire Codes.

c. *Solar panels are designed to absorb (not reflect) sunlight; and , as such, solar panels are generally less reflective than other varnished or glass exterior housing pieces. However, SES design and placement should be prioritized to minimize or negate any solar glare onto nearby properties, roadways, or flightpaths to the extent practicable.*
The proposed solar array and placement has been designed to minimize any solar glare onto nearby properties, roadways, or flightpaths to the maximum extent practicable.

d. *Exterior lighting shall be limited to fully shielded or cutoff style fixtures, so as not to contribute to light pollution, sky glow, and glare.*
There are no proposed exterior lighting fixtures.
There is no exterior lighting proposed as part of the solar array.

e. *For Ground Mounted SES, all on-site electrical wires connecting the system to other structures or to utility connections shall be installed underground except for 'tie-ins' to public utility company transmission poles, towers and lines. This standard may be modified by the Planning Board during site plan review if the project terrain is determined to be unsuitable due to reasons of need such as excessive excavation, grading or similar factors.*
   All on-site electrical wires connecting the system to other structures or to utility connections are proposed to be underground, except for tie-ins.

f. *For Ground Mounted SES all means of shutting down the system shall be clearly marked. The owner or operator shall provide to the Code Enforcement Officer and the Fire Department the name and contact information of a responsible person for public inquiries throughout the life of the installation. The owner or operator shall cooperate with the Fire Department to ensure there is safe emergency access to the site.*
   The Applicant will clearly mark all means of shutting down the system on the site. The Applicant will provide the name and contact information of a responsible person for public inquiries to the Code Enforcement Officer and the Fire Department.

1610 DECOMISSIONING AND ABANDONMENT

a. *A Ground Mounted SES with a physical size based on projected total airspace over the ground that is greater than 10,000 square feet, that has reached the end of its useful life or has been abandoned consistent with this ordinance shall be removed. The owner or operator shall physically remove the installation no more than 180 days after the date of discontinued operations. The owner shall notify the Code Enforcement Officer, using 2-day mail of the proposed date of discontinued operations and plans for removal. The Code Enforcement Officer may grant a one-time extension of up to an additional 180 days at the request of the owner or operator of the system. Decommissioning shall consist of:*
   1. *Physical removal of all SES, structures, equipment, security barriers, and transmission lines from the site that will not be used by other approved uses on the site.*
   2. *Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.*
   3. *Stabilization and/or re-vegetation of the site, as necessary, to minimize erosion. The Code Enforcement Officer may allow the owner or operator to leave landscaping or designated below-frost level foundations in order to minimize erosion and disruption to vegetation. The plan shall provide for the restoration of the land upon decommissioning sufficient to support farming, agricultural, or forestry activities.*

b. *A ground mounted SES with a physical size based on projected total airspace over the ground that is greater than 10,000 square feet shall be considered abandoned when it fails to operate for more than one year. The Planning Board may extend this initial period for an additional twenty-four months at the request of the owner of the system and with the consent of the landowner and/or operator, if different from the system owner.*

c. *Unless waived by the Planning Board as allowed under Section 509.10, an applicant for Site Plan Review of a ground mounted SES with a physical size based on projected total airspace over the ground is greater than 10,000 square feet shall submit a method for ensuring the decommissioning of the system. This may take one of the following forms:*

   1. *A performance guarantee in the amount of 125% of the expected decommissioning costs, including inflation over the expected life of the system, in the form of a certified check payable to the Town of Poland, a performance bond running to the Town of Poland, an irrevocable letter of credit in the name of the Town of Poland, or some other form of surety that is acceptable to the Board of Selectpersons.*
   2. *A binding, contractual guarantee such as in a lease agreement between a system owner and landowner which requires that the SES be decommissioned in accordance with this ordinance and identifies a party responsible for the decommissioning. Such financial obligations for the decommissioning shall be unaffected by the owner's or operators' future financial condition and shall be held specifically to support the decommission plan and resumption of farming, agricultural, or farming activities.*
   3. *Other legally enforceable agreement acceptable to the Planning Board.*

d. *The decommission Plan shall be required that the financial assurance be updated 15 years after the approval of the plan, and no less frequently than 5 years thereafter. Updates to financial assurances required under this subsection must be submitted to the Town of Poland, on or before Dec 31st, of the year in which such updates are required.*

e. *If the owner or operator of the SES fails to remove the installation in accordance with this section within 180 days of abandonment or the proposed date of decommissioning as approved by the Code Enforcement Officer, the Town retains the right to use the performance guarantee or other available means to cause an abandoned, hazardous, or decommissioned ground mounted SES to be removed.*

   Please refer to **Appendix 13** for the proposed decommissioning plan.

APPENDIX 1

TITLE, RIGHT OR INTEREST

Purchase and Sale Agreement
Original Deeds
Tax Assessor's Information Cards

PURCHASE AND SALE AGREEMENT

This Purchase and Sale Agreement (the "**Agreement**") is dated effective as of April 25, 2019 (the "**Effective Date**"), by and between **Port of Auburn, LLC**, a Maine limited liability company, with a mailing address of 54 Bartol Island Road, Freeport, Maine 04032 ("**Seller**") and **DIRIGO SOLAR, LLC**, a Maine limited liability company with a mailing address of Attn: Robert E. Cleaves, 100 Middle Street, West Tower, 6th Floor, Portland, Maine 04101 ("**Buyer**").

RECITALS:

A. Seller owns certain real property consisting of approximately 131.04+/- acres located along Lewiston Junction Road in the Towns of Auburn and Poland, County of Androscoggin, and State of Maine, more specifically described in two deeds recorded in Androscoggin County's Registry of Deeds in Book 6421 at Pages 120 and 135, (but excluding the premises conveyed out in Book 7839, Page 28), including all right, title and interest of Seller in and to any rights of way, privileges and appurtenances pertaining thereto, including, without limitation, any street adjoining any portion of the land and any air and development rights related to the land (the "**Property**") (reference is made to a plan entitled "Port of Auburn – PUD I, Lewiston Junction Road – Auburn, ME, Overall Boundary Plan" prepared by Planit Mapping and recorded in Androscoggin County Registry of Deeds in Plan Book 48, Pages 2 and 3); and

"The "Property," however does not include the strip of land on Lewiston Junction Rd. shown in Green on Exhibit A, attached hereto.

B. Seller wishes to sell to Buyer, and Buyer wishes to purchase from Seller, upon the terms and conditions of this Agreement, the Property.

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, Seller and Buyer hereby agree as follows:

1. AGREEMENT OF PURCHASE AND SALE: PURCHASE PRICE

1.1 **Agreement of Purchase and Sale**. In accordance with and subject to the terms and conditions of this Agreement, Seller agrees to sell and convey the Property to Buyer and Buyer agrees to purchase and accept the Property from Seller. Seller agrees to execute a Quitclaim with Covenant Deed and other necessary documentation to convey fee simple title to Buyer as set forth herein.

1.2 **Purchase Price**. The purchase price (the "**Purchase Price**") for the Property shall be [redacted] subject to credits, prorations and other adjustments as provided elsewhere in this Agreement.

1.3 **Payment of the Purchase Price**. Buyer will pay to Seller the sum of [redacted] as its initial Earnest Money Deposit upon full execution hereof. Buyer shall further pay to Seller the sum [redacted] each quarter (on January 1, April 1, July 1, and October 1 of each year during the term of this Agreement) following the Effective Date as additional Earnest Money Deposits, and shall pay [redacted] to Seller within ten (10) days of receipt of Buyer's requisite permits from the US Army Corp of Engineers and the Maine Department of

Environmental Protection (the Initial Earnest Money Deposit and subsequent additional Earnest Money Deposits, as made, the "Earnest Money Deposits"). Buyer shall pay the Purchase Price to Seller in immediately available funds via federal wire transfer to the Seller's designated account on the Closing Date (as defined below), subject to the credits and prorations set forth in this Agreement. For the avoidance of doubt, the Earnest Money Deposits become non-refundable on the date that is Ninety (90) days from the Effective Date.

2. CONDITIONS OF TITLE

2.1 **Permitted Exceptions**. Buyer agrees to accept title to the Property subject only to those matters approved by Buyer pursuant to Section 2.2 below (collectively, the "**Permitted Exceptions**").

2.2 **Approval of Title**. No later than Ninety (90) days after the Effective Date, Buyer shall obtain from a title insurance company of its choice (the "**Title Company**") a title commitment for an ALTA Form 2006 Owner's Policy of Title Insurance, together with full copies of all documents shown as exceptions therein (the "**Title Commitment**"). Within Thirty (30) days after the Effective Date, Seller shall provide Buyer with copies of any title policies, commitments or certifications in the possession or control of Seller about which it has actual knowledge. Buyer shall have Thirty (30) days after the date it receives the Title Commitment to disapprove, by written notice delivered to Seller, any of the exceptions to title shown therein and the form and content of the Title Commitment. If Buyer does not so disapprove the Title Commitment within Thirty (30) days after its receipt thereof, then Buyer shall be deemed to have approved such exceptions and such Title Commitment. Seller shall have the right, but not the obligation, to commit to remove all of the exceptions disapproved by Buyer and to cure all of Buyer's title objections pursuant to this Section 2.2 by delivering written notice of such commitment to Buyer within ten (10) days after receipt by Seller of Buyer's notice of disapproval, in which case Seller shall be obligated to use its reasonable efforts to remove such exceptions and to cure all of Buyer's title objections no later than sixty (60) days from delivery of Seller's notice that it shall attempt to remove such exceptions. If Seller fails to remove or cure the same as and when required hereby, then Buyer may, at Buyer's sole option: (1) terminate this Agreement, in which event the provisions of Section 3.2 below shall apply, or (ii) waive the disapproval of such exception, in which case such exceptions shall be deemed approved, in either case by giving written notice of such election to Seller within fifteen (15) days thereafter. Notwithstanding the foregoing, Seller shall remove, by the Closing Date (utilizing proceeds received from Buyer at Closing, if it so elects), all monetary encumbrances on the Property (other than liens for current real property taxes which are not yet due and payable) and such monetary encumbrances shall not be Permitted Exceptions under any circumstances.

2.3 **Survey**. Buyer may arrange for the preparation of a survey of the Property (the "**Survey**"), which may be certified to Buyer and the Title Company. Buyer shall pay the cost of the Survey. Seller shall at no additional cost to Seller cooperate with Buyer and the surveyor to enable the surveyor to prepare the Survey, including, without limitation, providing the surveyor and Buyer with any and all

surveys of the Property in the possession or control of Seller about which it has actual knowledge and permitting the surveyor to have access to the Property. Buyer shall have five (5) days after receipt of the Survey (should it elect to obtain such survey) to approve or disapprove of any objections to the form and content of the survey or any survey related exceptions and any exceptions that the Title Company indicates will appear on the Title Policy because of the Survey. Any such exceptions or survey matters not disapproved by Buyer in writing within said five (5) day period shall be deemed approved. Seller shall have the right, but not the obligation, to commit to remove any such exceptions disapproved by Buyer or objections to the Survey pursuant to this Section 2.3 within ten (10) days after receipt by Seller of Buyer's notice of disapproval, in which case Seller shall be obligated to use its reasonable efforts to remove such exceptions no later than sixty (60) days from the Seller's notice it shall attempt to remove such exception(s). If Seller fails or refuses to commit to remove a disapproved exception within such sixty (60) day period or fails to remove such objections or exceptions as and when required hereby, Buyer may, at Buyer's sole option: (i) terminate this Agreement, in which event the provisions of Sections 3.2 shall apply, or (ii) waive the disapproval of such exception, in which case such exception or objections shall be deemed approved, in either case by giving written notice of such election to Seller within five (5) days thereafter. If Buyer fails to provide written notice of termination, then Buyer shall be deemed to have elected to waive the disapproval of such exception.

2.4 **Supplements**. Notwithstanding anything to the contrary contained herein, within five (5) business days following receipt by Buyer of any supplement to the Title Commitment or any supplement to the Survey, Buyer may approve or disapprove by written notice delivered to Seller any exceptions or items shown on such supplement to the Title Commitment or supplement to the Survey. Any such exceptions not disapproved by Buyer in writing within said five (5) business day period shall be deemed approved. Seller shall have the right, but not the obligation, to commit to remove any such objections disapproved by Buyer within five (5) days after receipt by Seller of Buyer's notice of disapproval, in which case Seller shall be obligated to use its best efforts to remove such exception no later than five (5) business days prior to the Closing Date. If Seller fails or refuses to commit to remove any such disapproved exception or fails to remove such objection within the time required herein, Buyer may, at Buyer's sole option: (i) terminate this Agreement, in which event the provisions of Section 3.2 shall apply, or (ii) waive the disapproval of such exception or objection, in which case such exception or objection shall be deemed approved, in either case by giving written notice of such election to Seller within ten (10) days thereafter. If Buyer fails to waive, in writing, any such exception or objection as provided above, then Buyer shall be deemed to have elected to terminate this Agreement.

2.5 **Title Policy**. An ALTA Owner's, and a Lender's Title Insurance Policy should Buyer elect to finance its purchase, (the "**Title Policy**") shall be issued by the Title Company at the closing. The cost of the Owner's Title Policy and Lender's Title Policy (if applicable) shall be paid by Buyer. The Owner's Title Policy shall be in the amount of Five Hundred Thousand Dollars ($500,000.00) for the protection of Buyer as fee owner of the Property subject only to the Permitted

Exceptions. The title policy shall be acceptable to Buyer's lender if applicable. Such Title Policy shall include the following endorsements (or their local equivalents):

(1) In the event Buyer obtains the Survey and furnishes it to the Title Company, an endorsement deleting the standard exceptions including exceptions for survey matters, and providing extended coverage;

(2) Any other endorsements which are offered by Seller and accepted by Buyer as the cure for any other title matter which is not a Permitted Exception; and

(3) At Buyer's expense, such further endorsements as may be available and requested by Buyer at least ten (10) days prior to the Closing Date.

3. APPROVALS AND CONDITIONS

3.1 **Conditions**. The obligations of Buyer under this Agreement shall be subject to and contingent upon the satisfaction of the following conditions within the time periods specified below.

(1) **Approval of Title**. Buyer shall have approved the condition of title pursuant to Sections 2.2 through 2.5 above;

(2) **Title Policy**. Buyer and Buyer's lender (if applicable) shall have received the title insurance described in Section 2.5 above;

(3) **Inspection of Property and Operations**. Buyer shall have approved, in Buyer's sole, absolute and subjective discretion, the physical condition and suitability of the Property for Buyer's specific purposes (collectively the "**Due Diligence Items**"), and satisfied itself, in its sole, absolute and subjective discretion, as to the feasibility of acquiring, owning and operating the Property, on or before 5:00 P.M., Eastern Time, on the date Ninety (90) days from the Effective Date (the "**Inspection Period**"), unless extended by mutual written agreement. During such Inspection Period, Buyer shall have access to the Property for the purpose of making inspections, investigations, and tests thereof. Within ten (10) days after the Effective Date, Seller shall provide Buyer with copies of any geologic, wetlands, environmental or other property conditions reports in the possession or control of Seller about which it has actual knowledge. Buyer shall comply with all applicable laws, rules and regulations in connection with its inspections and/or investigations of the Property and all matters related thereto. Any and all costs and expenses arising out of or connected with Buyer's inspection/investigation of the Property and all matters related thereto shall be borne by Buyer. Buyer shall restore the Property, as nearly as practicable, to its original condition subsequent to the completion of all of Buyer's investigations or inspections of the Property or upon the conclusion of the Inspection Period, whichever shall first

occur. Buyer shall indemnify and hold Seller harmless against any and all liability, including without limitation, damage to the Property, liability for mechanic's liens or personal injury, arising out of or in connection with Buyer's inspections and investigations of the Property and all matters related thereto and the work of its agents, representatives or consultants in connection therewith, which indemnity shall also include the payment of reasonable attorneys' fees. It is expressly agreed that the foregoing indemnity shall be deemed to survive the closing or the termination of this Agreement.

If Buyer fails to deliver written approval of the Property inspection to Seller prior to the end of the Inspection Period, then Buyer shall be deemed to have disapproved the findings of such inspections and investigations and the condition of the Property, in which event Section 3.2 below shall apply.

(4) Buyer shall have obtained a mortgage commitment to assist in the financing of its purchase of the Property, subject to such terms and conditions as are acceptable to Buyer in its discretion. Buyer shall be deemed to have waived this condition unless it notifies Seller in writing not later than three (3) months from the Effective Date unless extended by mutual agreement;

(5) At Closing, Seller shall deliver full possession of the Property to Buyer, free of all tenants, parties in possession by lease or otherwise. At such Closing, the Property shall not be in violation of any applicable law or regulation of any governmental authority. The physical condition of the Property at such closing shall be in substantially similar condition as compared to such condition as of the close of the Inspection Period. The effect of this subparagraph shall be limited to creating a condition for Buyer's obligation to close. All due diligence investigations shall be performed by Buyer at the expense of and to the satisfaction of Buyer, and Buyer shall solely rely on its investigations. This subparagraph shall not constitute any type of representation or warranty on behalf of Seller.

3.2 **Consequences of Termination of this Agreement.** If this Agreement is terminated by Buyer pursuant to Sections 2.1, 2.2, 2.3, 2.4, 2.5, 3.1, 6.7 or any other section specifically referring to this Section 3.2, then the following shall occur: (i) Buyer shall return to Seller all documents delivered by Seller to Buyer pursuant to this Agreement; (ii) Buyer shall deliver to Seller copies of all studies, tests, surveys and engineering reports conducted on the Property; and (iii) if this Agreement has been terminated within ninety (90) days from the Effective Date, Seller shall promptly cause the return of the Earnest Money Deposit to Buyer. Upon completion of all of the foregoing, this Agreement shall be deemed terminated and neither party shall have any further rights against nor obligations to the other hereunder or in connection herewith, except to the extent that any provision of this Agreement specifically states its survives termination. Notwithstanding anything to the contrary, the Earnest Money Deposits become non-refundable on the date that is Ninety (90) days from the Effective Date.

4. WARRANTIES.

4.1 **Representations and Warranties of Buyer**. Buyer represents and warrants for the benefit of Seller that the following facts are true and correct as of the execution of this Agreement and shall be true and correct as of the Closing Date.

(1) **Binding Effect of Documents**. This Agreement and the other documents to be executed by Buyer hereunder, upon execution and delivery thereof by Buyer, will have been duly entered into by Buyer, and will constitute legal, valid and binding obligations of Buyer, enforceable against Buyer in accordance with their terms. Neither this Agreement nor anything provided to be done under this Agreement violates or shall violate any contract, document, understanding, agreement or instrument to which Buyer is a party or by which it is bound.

All warranties and representations of Buyer set forth in this Agreement shall survive the Closing Date.

4.2 **Representations and Warranties of Seller**. Seller represents and warrants for the benefit of Buyer and Buyer's successors and assigns that the following facts are true and correct as of the execution of this Agreement and shall be true and correct as of the Closing Date and shall survive the Closing Date.

(1) **Organization**. Seller is a limited liability company duly organized and validly existing under the laws of the State of Maine with full power to enter into this Agreement;

(2) **Authority**. The execution and delivery of this Agreement and the consummation of the transactions contemplated hereby have been duly authorized and approved by all requisite action of Seller, and no other authorizations or approvals, whether of governmental bodies or otherwise, are necessary in order to enable Seller to enter into or to comply with the terms of this Agreement;

(3) **Binding Effect of Documents**. This Agreement and the other documents to be executed by Seller hereunder, upon execution and delivery thereof by Seller, will have been duly entered into by Seller, and will constitute legal, valid and binding obligations of Seller, enforceable against Seller in accordance with their terms;

(4) **Condemnation Proceedings**. Seller has received no written notice of any condemnation proceedings, eminent domain proceedings or similar actions or proceedings against the Property; and

(5) **Foreign Person**. Seller is not a foreign person and is a "United States Person" as defined in Section 7701(a)(30) of the Internal Revenue Code, as amended.

All warranties and representations of Seller set forth in this Agreement shall survive the Closing Date.

4.3 **No Warranties or Representations**. Except as expressly stated in this Agreement, Buyer agrees that the Property is being conveyed to Buyer in "As-Is, Where-Is" condition, and that Seller has not made, does not make and specifically negates and disclaims any representations, warranties, promises, covenants, or agreements of any kind or character, whether express or implied, oral or written, past, present or future, of, as to, concerning or with respect to the value, nature, quality or condition of the Property, including but not limited to any environmental conditions and the suitability of the Property for any and all activities and uses which Buyer may conduct thereon. This Section 4.3 shall expressly survive the Closing.

4.4 **Documents Provided by Seller**. Buyer agrees that any information, documentation, studies, permits and/or analysis which are in Seller's possession that pertain to the Property, including but not limited to, those items referred to in Sections 2.2, 2.3 and 3.1(3) which Seller makes available to Buyer are provided for Buyer's convenience only and Seller makes no representation or warranty whatsoever as to the accuracy or the completeness thereof or information contained therein or as to the condition of the Property or any rights related to the possible development of the Property.

4.5 **Confidentiality**. Buyer agrees that all written materials obtained by Buyer from Seller with respect to the Property and all information obtained by Buyer from sources other than Seller with respect to the Property that is not already public information or that is obtained pursuant to any agreement of confidentiality shall be held in strict confidence and shall not be disclosed to any third party except in connection with the transaction specifically contemplated by this Agreement (and then only to the extent necessary to accomplish the transaction set forth herein) to Buyer's employees, agents, contractors, subcontractors, consultants, attorneys, appraisers and other representatives in which event Buyer shall direct such recipient of such information to maintain the confidentiality of such information. Further Buyer shall be permitted to disclose such information to the extent required by law or court order provided that Buyer shall notify Seller prior to any such disclosure to allow Seller to obtain a protective order or similar protection.

5. ADDITIONAL AGREEMENTS OF BUYER AND SELLER

5.1 **Right of Entry**. Buyer and its representatives, employees, contractors, agents and designees shall have the right to enter upon the Property upon twenty-four (24) hours' advance notice, at Buyer's sole cost and expense, prior to the Closing Date, in order to inspect and investigate the Property or its environmental condition and, subject to Section 3.1(3) hereinbefore, to conduct any and all tests and studies Buyer deems necessary or convenient. Buyer shall indemnify Seller against and hold Seller and the Property free and harmless from any loss or damage to the Property or third persons arising out of any such entry, testing, and investigation by Buyer or its representatives, employees, agents, contractors, or designees. Should Buyer conduct or cause environmental studies to be

conducted, Buyer shall cause all residue or product relating thereto to be disposed of in full compliance with applicable law. Buyer shall restore the Property, as nearly as practical, to its original condition subsequent to the completion of all of Buyer's investigations or inspections of the Property or upon the conclusion of the Inspection Period, whichever shall first occur.

5.2 **Representations and Warranties**. Neither Buyer nor Seller will cause any action to be taken that would cause any of the representations or warranties made by such party in this Agreement to be false as of the Closing Date. Each party shall promptly notify the other party in writing of the occurrence of any event or condition which occurs prior to the Closing Date which causes a change in the facts related to the truth of any of the representations or warranties made in Article 4 of this Agreement.

6. CLOSING DATE.

6.1 **Closing**. The date of closing (**"Closing Date"**) shall be no later than twenty four (24) months from the Effective Date.

6.2 **Buyer's Obligations**. On or before the Closing Date, Buyer shall deliver to Seller:

(1) The balance of the Purchase Price in immediately available funds;

(2) All costs and fees required to be paid by Buyer pursuant to Section 6.5 below;

(3) Such other documents and instruments as may be reasonably requested by the Seller in order to consummate this transaction; and

(4) An executed Closing Statement.

6.3 **Seller's Obligations**. On or before the Closing Date, Seller shall deliver to Buyer all of the following:

(1) quitclaim with covenant deed, in form and substance acceptable to Buyer's counsel, executed and acknowledged by Seller, conveying the Property to Buyer, in its AS-IS condition, free of all liens and encumbrances except as are approved or deemed approved by Buyer under this Agreement;

(2) An executed Maine Real Estate Transfer Tax Form;

(3) A copy of the resolution of the Members and Managers of Seller authorizing the execution, delivery and performance by Seller of this Agreement, and designating one or more officers or representatives to execute documents in Seller's name in connection herewith, certified as correct and complete by the Secretary of the Seller or Registered Agent of Seller, together with an incumbency certificate for each person executing documents on behalf of Seller (or other evidence of authority acceptable to

Buyer's counsel and Title Company and, if applicable, lender,) a good standing certificate for each entity making up Seller, certified by the Maine Secretary of State, a Certificate of Formation or Articles of Organization, as applicable, for each entity making up Seller, certified by the Maine Secretary of State, and a true copy of the Operating Agreement or Limited Liability Agreement, as applicable, of each entity making up Seller;

(4) A Non-Foreign Affidavit executed by Seller in the standard form;

(5) A standard Seller's Affidavit or other affidavit required by the Title Company to issue a title policy to Buyer and Buyer's lender, if applicable, without exception as to parties in possession and as to liens;

(6) An affidavit certifying that Seller is a Maine "resident" for purposes of Maine's Real Estate Withholding Tax; and

(7) Such other documents and instruments as may be required herein or by the Buyer in order to consummate this transaction and issue the Title Policy to Buyer, including a 1099 Form and W-9 Form.

6.4 **Prorations and Adjustments**. Seller shall be responsible for and pay all accrued expenses with respect to the Property accruing up to 11:59 P.M. on the day prior to the Closing Date (the "**Adjustment Date**") and shall be entitled to receive and retain all revenue from the Property accruing up to such time. On the Closing Date, the following adjustments and apportionments shall be made in cash as of the Closing Date;

i. Any applicable business park fees or assessments shall be provided; and

ii. Real Estate Taxes shall be prorated. *Buyer acknowledges that all or some of the Property is enrolled in the Tree Growth Tax Program and Buyer assumes any and all risk of penalty for any withdrawal from said tax program by Buyer.*

6.5 **Closing Costs**.

(1) Seller shall pay:

i. Preparation charges for Seller's documents;

ii. The cost of any Seller's other obligations under this Agreement;

iii. Seller's share (50%) of the transfer tax due to the State of Maine; and

iv. Recording costs relating to discharging any liens of record.

(2) Buyer shall pay:

i. Recording costs for the deed;

ii. The premium for its requested Title Insurance Policy, including that of its lender, if applicable, together with any title search fee;

iii. The cost of any of Buyer's other obligations under this Agreement; and

iv. Buyer's share (50%) of the transfer tax due to the State of Maine.

(c) Withholding: Seller acknowledges it has been informed that Maine law requires a two and one-half percent (2.50%) real estate tax withholding as to non-resident sellers as defined in such law. In the event Seller fails to submit an affidavit stating that it qualifies as a "resident" for the purposes of such law, or otherwise obtains an exemption from the State Tax Assessor, Buyer shall withhold two and one-half percent (2.50%) of the Purchase Price and cause such amount to be remitted to the State Tax Assessor as required by law.

6.6 **Additional Conditions to Buyer's Obligation to Purchase the Property**. In addition to the conditions set forth in Section 3.1, Buyer's obligation to purchase the Property from Seller pursuant to this Agreement is subject to and conditioned upon the fulfillment of each and all of the following conditions precedent, unless waived in writing by Buyer, in Buyer's sole and absolute discretion:

(1) Each and every representation and warranty of Seller contained in this Agreement shall be true and correct in all material respects on the Closing Date; and

(2) The Title Company shall be unconditionally obligated and committed to issuing the Title Policy to Buyer in the full amount of the Purchase Price, and to Buyer's Lender for its loan amount, if applicable, showing fee title vested as Buyer may instruct, and for Lender's policy, if applicable, showing the first priority mortgage, subject only to the Permitted Exceptions.

6.7 **Additional Conditions to Seller's Obligation to Convey the Property**. Seller's obligation to convey the Property to Buyer pursuant to this Agreement is subject to and conditioned upon the fulfillment of each and all of the following conditions precedent, unless waived in writing by Seller: (a) each and every representation and warranty of Buyer contained in this Agreement shall be true and correct in all material respects on the Closing Date; and (b) Buyer shall have performed the requirements and delivered the documents described in Section 6.2 hereof on or prior to the Closing Date.

7. REMEDIES

7.1 **Remedies**. If Seller defaults on a material term under this Agreement, then Buyer may, at Buyer's option, terminate the Agreement and receive a return of its Earnest Money Deposit or pursue a claim for specific performance of this Agreement. If Buyer defaults under this Agreement, Seller's sole and exclusive remedy shall be as provided in Section 7.2.

Notwithstanding the foregoing, the Earnest Money Deposits are non-refundable unless (i) Buyer terminates this Agreement within Ninety (90) days from the Effective Date or (ii) Buyer is not in default under this Agreement, Buyer is willing and able to perform all of Buyer's obligations, and Seller refuses to convey title by Quitclaim with Covenant Deed to Buyer in accordance with the terms of this Agreement.

7.2 **Liquidated Damages**. BUYER AND SELLER ACKNOWLEDGE AND AGREE THAT: (a) IT WOULD BE IMPRACTICAL OR EXTREMELY DIFFICULT TO DETERMINE SELLER'S ACTUAL DAMAGES IN THE EVENT OF BUYER'S DEFAULT UNDER THIS AGREEMENT, AND (b) TAKING INTO ACCOUNT ALL OF THE CIRCUMSTANCES EXISTING ON THE DATE OF THIS AGREEMENT, THE AMOUNT OF THE EARNEST MONEY DEPOSIT IS A REASONABLE ESTIMATE OF SELLER'S ACTUAL DAMAGES IN SUCH EVENT. CONSEQUENTLY, IN THE EVENT OF BUYER'S DEFAULT UNDER THIS AGREEMENT, SELLER'S SOLE AND EXCLUSIVE REMEDY SHALL BE TO TERMINATE THIS AGREEMENT AND RETAIN THE EARNEST MONEY DEPOSIT. Notwithstanding the foregoing, Seller shall also have the right to recover its attorney's fees and costs as set forth in Section 10.4 below.

8. EMINENT DOMAIN

8.1 **Election to Terminate**. If on or before the Closing Date either: (a) all or a material part of the Property is taken or threatened to be taken by condemnation or other power of eminent domain, Buyer may, by written notice given to Seller within thirty (30) days after Buyer shall have notice of such taking or threatened taking (and the Closing Date shall be extended if necessary to allow Buyer said thirty (30) day period) elect, in Buyer's sole and absolute discretion, to terminate this Agreement or proceed with the transaction contemplated hereby in accordance with the terms and conditions set forth herein. If Buyer fails to deliver written notice to Seller of its election to terminate this Agreement, then Buyer shall be deemed to have elected to proceed with this Agreement, whereupon Section 8.2 below shall apply.

8.2 **Election Not to Terminate.**

(1) If on or before the Closing Date any part of the Property is taken or threatened to be taken by condemnation or other power of eminent domain but this Agreement is not terminated by Buyer pursuant to Section 8.1 above, then the Purchase Price shall be reduced by an amount equal to the sum, if any, that was paid to Seller for such taking and Seller shall assign, transfer and set over to Buyer all of Seller's right, title and interest in and

to any awards that may in the future be made for such taking or threatened taking.

9. INDEMNIFICATION.

9.1 **Breach of Warranty and Representation**. Each party shall hold harmless, indemnify, protect and defend the other from and against any and all claims, liability and losses, and expenses related thereto (including reasonable attorneys' fees), which the indemnified party incurs by reason of a breach of any of the warranties, representations or covenants of the indemnifying party contained in Sections 4.1 and 4.2.

10. MISCELLANEOUS PROVISIONS.

10.1 **Brokerage Commissions**. Seller hereby represents and warrants to Buyer that Seller has made no statement or representation nor entered into any agreement with a broker, salesman or finder in connection with the transactions contemplated by this Agreement, except with NAI the Dunham Group, agreed to by Seller. Buyer hereby represents and warrants to Seller that Buyer has made no statement or representation nor entered into any agreement with a broker, salesman or finder in connection with the transactions contemplated by this Agreement. In the event of a claim for any brokers' or finders' fees or commissions in connection with the negotiation or execution of this Agreement or the transactions contemplated hereby, Seller shall indemnify, hold harmless and defend Buyer from and against such claim if such claim shall be based upon any statement or representation or agreement alleged to have been made by Seller, and Buyer shall indemnify, hold harmless and defend Seller from and against such claim if such claim shall be based upon any statement, representation or agreement alleged to have been made by Buyer.

10.2 **Notices**. Any notice, demand, approval, consent or other communication required or desired to be given under this Agreement in writing shall be directed to the party involved at the address indicated below:

Seller: Port of Auburn, LLC
Attn: Ford S. Reiche, Manager
54 Bartol Island Road
Freeport, Maine 04032

Copy to: Charles Katz-Leavy, Esq.
Jensen Baird Gardner & Henry
10 Free Street
Portland, Maine 04101

Buyer:	Dirigo Solar, LLC Attn: Robert E. Cleaves, IV 100 Middle Street P.O. Box 9729 Portland, Maine 04104-5029
With copy to:	Thomas G. Leahy, Esq. Monaghan Leahy, LLP 95 Exchange Street P.O. Box 7046 Portland, Maine 04112-7046

Any notice, demand, approval, consent or other communication may be given by personal service, fax (with hard copy to follow immediately), recognized overnight air courier or by mail. Any notice, demand, approval, consent or other communication given (a) personally shall be deemed delivered upon receipt, (b) by fax shall be deemed delivered upon being transmitted and received on the facsimile machine of the addressee, provided a "hard copy" has been deposited in the U.S. mail within twenty-four (24) hours of transmission by fax, (c) by recognized air courier, freight prepaid, shall be deemed delivered on the next business day, and (d) by mail shall be deemed to have been given when two (2) business days have elapsed from the date it was deposited in the United States mail, certified and postage prepaid, addressed to the party to be served at said address or at such other address of which that party may have given notice under the provisions of this Section 10.2.

10.3 **Modification**. This Agreement may not be modified or amended except by a written agreement executed by Seller and Buyer, and only to the extent set forth therein.

10.4 **Attorneys' Fees**. If any party to this Agreement shall bring any action or proceeding for any relief against the other, declaratory or otherwise, arising out of this Agreement, the losing party shall pay to the prevailing party a reasonable sum for attorneys' fees and costs incurred in bringing or defending such action or proceeding and/or enforcing any judgment granted therein, all of which shall be deemed to have accrued upon the commencement of such action or proceeding and shall be paid whether or not such action or proceeding is prosecuted to final judgment. Any judgment or order entered in such action or proceeding shall contain a specific provision providing for the recovery of attorneys' fees and costs, separate from the judgment, incurred in enforcing such judgment. The prevailing party shall be determined by the trier of fact based upon an assessment of which party's major arguments or positions taken in the proceedings could fairly be said to have prevailed over the other party's major arguments or positions on major disputed issues.

10.5 **Form of Documents**. All instruments and documents to be executed and delivered under this Agreement by any party to any other party shall be in form reasonably satisfactory to the other party.

10.6 **Successors and Assigns**. This Agreement shall be binding upon, and shall inure to the benefit of, the successors and assigns of the parties. Buyer may not assign its rights or duties under this Agreement without the prior written consent of Seller; provided however, the Buyer may assign its rights and duties under this Agreement to any corporation, limited liability company, or entity, in which Buyer owns a majority interest, without any consent required from Seller.

10.7 **Duplicate Counterparts**. This Agreement may be executed in duplicate counterparts, all of which together shall constitute a single instrument, and each of which shall be deemed an original of this Agreement for all purposes, notwithstanding that less than all signatures appear on any one counterpart.

10.8 **Section Headings**. The various section headings in this Agreement are inserted for convenience of reference only, and shall not affect the meaning or interpretation of this Agreement or any provision hereof.

10.9 **Exhibits**. All Exhibits attached to, and to which reference is made in, this Agreement are incorporated into, and shall be deemed a part of, this Agreement.

10.10 **Entire Agreement**. This Agreement is the entire agreement of Seller and Buyer with respect to the Property and the transaction contemplated hereby, containing all of the terms and conditions to which Seller and Buyer have agreed. This Agreement supersedes and replaces entirely all previous oral and written understandings, if any, of Seller and Buyer respecting the Property and the transaction contemplated hereby.

10.11 **Time**. Time is of the essence in this Agreement and each and every provision of this Agreement.

10.12 **Governing Law**. This Agreement shall be governed by the laws of the State of Maine.

10.13 **Severability**. If any paragraph, section, sentence, clause or phrase contained in this Agreement becomes or is held by any court of competent jurisdiction to be illegal, null or void or against public policy, the remaining paragraphs, sections, sentences, clauses or phrases contained in this Agreement shall not be affected thereby.

10.14 **Ambiguities Not to be Construed Against Drafting Party**. The doctrine that any ambiguity contained in a contract shall be construed against the party whose counsel has drafted the contract is expressly waived by each of the parties hereto with respect to this Agreement.

10.15 **Signers' Warranty**. Each individual executing and delivering this Agreement on behalf of a corporate party hereby warrants and represents to the other party that he or she has been duly authorized and empowered to do so.

10.16 **Facsimile Signatures**. The parties agree that facsimile signatures hereto will be accepted as original signatures hereto.

10.17 **I.R.C. Section 1031 Exchange**. Seller or Buyer may, at Closing, elect to effectuate a like-kind exchange of the Property, with respect to all or a portion of the Purchase Price, with a view toward such exchange qualifying for tax deferred treatment under Section 1031 of the Internal Revenue Code, as amended (the "**Code**") (the "**1031 Election**"), by notifying Buyer (or Seller, as the case may be) in writing, at or prior to the Closing, that it is making the 1031 Election. In the event of a 1031 Election, Seller (or Buyer, as the case may be) may, in accordance with the Treasury Department regulations, assign this Agreement to a qualified exchange intermediary ("**Qualified Intermediary**") of Seller's (or Buyer's, as the case may be) choice to effectuate the exchange. Seller and Buyer agree to cooperate with each other in qualifying for such like-kind exchange and in accordance with and subject to the terms, provisions, and limitations of this Agreement, including, but not limited to, the terms, provisions and limitations of this Section 10.17; provided, however, the party being asked to cooperation shall not have any responsibility, obligation or liability with respect to any such transaction or the effectiveness of the same; and provided, further, the exchange does not delay or postpone the Closing Date. The parties agree to execute such documents and instruments as are reasonably necessary to implement such an exchange, provided such documents and instruments are in form and substance reasonably acceptable to the party executing the same. In no event, however, shall Buyer's (or Seller's, as the case may be) obligations under any other provision of this Agreement be diminished as a result of the 1031 Election or the effectuation of the like-kind exchange contemplated thereby. Similarly, Buyer's (or Seller's, as the case may be) rights under any other provision of this Agreement shall not be diminished nor shall Buyer's (or Seller's, as the case may be) obligations under this Agreement be increased as a result of such election of the effectuation of the like-kind exchange contemplated thereby. Buyer's (or Seller's, as the case may be) sole obligation as to the like-kind exchange shall be to cooperate in good faith with Seller's (or Buyer's as the case may be) efforts to effectuate such an exchange in accordance with and subject to the terms, provisions and limitations of this Section 10.17 and at no cost or expense to Buyer (or Seller, as the case may be).

10.18 **Risk of Loss**. All risk of loss with respect to the Property shall remain with Seller pending closing.

[NO FURTHER TEXT ON THIS PAGE]

IN WITNESS WHEREOF, this Agreement is executed by the parties on the dates set next to their signatures below, and the Effective Date of this Agreement shall be the last date signed by a party as set forth below.

WITNESS:

_____

SELLER:
PORT OF AUBURN, LLC_____

By: Ford S. Reiche
Its: Manager
Date signed: 4/25/19

WITNESS:

NICHOLAS MAZUROSKI

BUYER:
DIRIGO SOLAR, LLC

By: Robert E. Cleaves, IV
Its: Manager
Date signed:

January 23, 2020

To Whom It May Concern:

Purchase and Sale Agreement of Commercial Real Estate with Port of Auburn LLC dated May 7, 2019 was assigned from Dirigo Solar LLC to TGL Auburn LLC as of December 13, 2019.

This is to confirm that we have entered into an agreement with BD Solar Auburn LLC (the "Project Company") whereby we are contractually obliged to grant the Project Company a long-term Lease for the purpose of constructing and operating a solar energy farm.

TGL Auburn, LLC

Signature

Nicholas Mazuroski / Manager

May 19, 2021

To Whom It May Concern:

Purchase and Sale Agreement of Commercial Real Estate with Port of Auburn LLC dated May 7, 2019 was assigned from Dirigo Solar LLC to TGL Auburn LLC as of December 13, 2019.

This is to confirm that we have entered into an agreement with BD Solar Lewiston Junction LLC (the "Project Company") whereby we are contractually obliged to grant the Project Company a long-term Lease for the purpose of constructing and operating a solar energy farm.

TGL Auburn, LLC

DocuSigned by:
Nicholas Mazuroski
D1BF887C53474AE...
Signature

Nicholas Mazuroski / Manager

RECORDING DATA

STATE OF MAINE
ANDROSCOGGIN COUNTY REGISTRY OF DEEDS
RECEIVED _____
AT___ h____ m ____M. RECORDED IN
FILE NUMBER _____
ATTEST _____
REGISTRAR

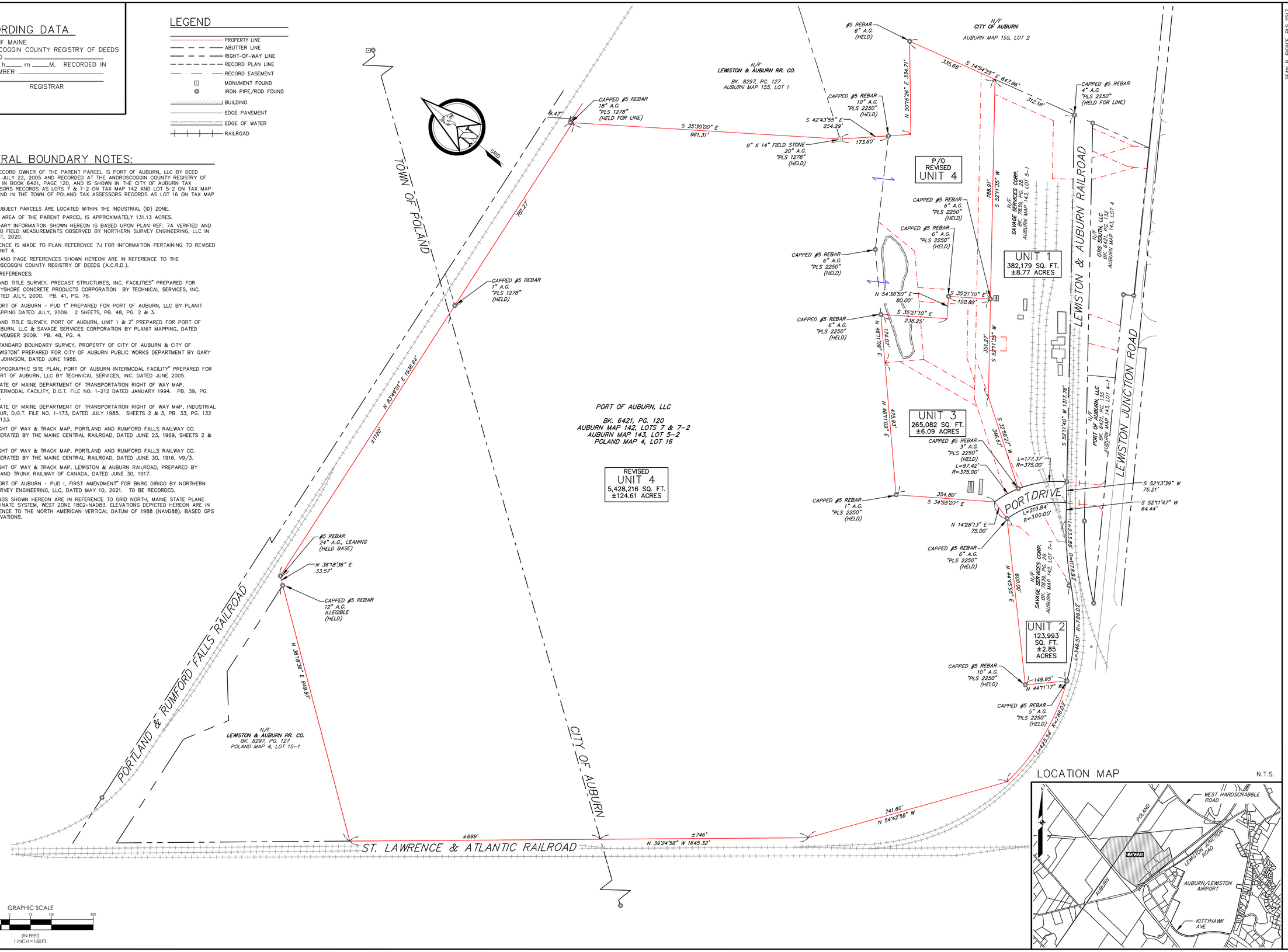
LEGEND

- PROPERTY LINE
- ABUTTER LINE
- RIGHT-OF-WAY LINE
- RECORD PLAN LINE
- RECORD EASEMENT
- MONUMENT FOUND
- IRON PIPE/ROD FOUND
- BUILDING
- EDGE PAVEMENT
- EDGE OF WATER
- RAILROAD

GENERAL BOUNDARY NOTES:

1. THE RECORD OWNER OF THE PARENT PARCEL IS PORT OF AUBURN, LLC BY DEED DATED JULY 22, 2005 AND RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 6421, PAGE 120, AND IS SHOWN IN THE CITY OF AUBURN TAX ASSESSORS RECORDS AS LOTS 7 & 7-2 ON TAX MAP 142 AND LOT 5-2 ON TAX MAP 143, AND IN THE TOWN OF POLAND TAX ASSESSORS RECORDS AS LOT 16 ON TAX MAP 4.
2. THE SUBJECT PARCELS ARE LOCATED WITHIN THE INDUSTRIAL (ID) ZONE.
3. TOTAL AREA OF THE PARENT PARCEL IS APPROXIMATELY 131.13 ACRES.
4. BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON PLAN REF. 7A VERIFIED AND TIED TO FIELD MEASUREMENTS OBSERVED BY NORTHERN SURVEY ENGINEERING, LLC IN AUGUST, 2020.

   REFERENCE IS MADE TO PLAN REFERENCE 7J FOR INFORMATION PERTAINING TO REVISED PUD UNIT 4.
5. BOOK AND PAGE REFERENCES SHOWN HEREON ARE IN REFERENCE TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS (A.C.R.D.).
6. PLAN REFERENCES:
   - A. "LAND TITLE SURVEY, PRECAST STRUCTURES, INC. FACILITIES" PREPARED FOR BAYSHORE CONCRETE PRODUCTS CORPORATION BY TECHNICAL SERVICES, INC. DATED JULY, 2000. PB. 41, PG. 76.
   - B. "PORT OF AUBURN - PUD 1" PREPARED FOR PORT OF AUBURN, LLC BY PLANIT MAPPING DATED JULY, 2009. 2 SHEETS, PB. 48, PG. 2 & 3.
   - C. "LAND TITLE SURVEY, PORT OF AUBURN, UNIT 1 & 2" PREPARED FOR PORT OF AUBURN, LLC & SAVAGE SERVICES CORPORATION BY PLANIT MAPPING, DATED NOVEMBER 2009. PB. 48, PG. 4.
   - D. "STANDARD BOUNDARY SURVEY, PROPERTY OF CITY OF AUBURN & CITY OF LEWISTON" PREPARED FOR CITY OF AUBURN PUBLIC WORKS DEPARTMENT BY GARY E. JOHNSON, DATED JUNE 1988.
   - E. "TOPOGRAPHIC SITE PLAN, PORT OF AUBURN INTERMODAL FACILITY" PREPARED FOR PORT OF AUBURN, LLC BY TECHNICAL SERVICES, INC. DATED JUNE 2005.
   - F. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, INTERMODAL FACILITY, D.O.T. FILE NO. 1-212 DATED JANUARY 1994. PB. 39, PG. 59.
   - G. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, INDUSTRIAL SPUR, D.O.T. FILE NO. 1-173, DATED JULY 1985. SHEETS 2 & 3, PB. 33, PG. 132 & 133.
   - H. RIGHT OF WAY & TRACK MAP, PORTLAND AND RUMFORD FALLS RAILWAY CO. OPERATED BY THE MAINE CENTRAL RAILROAD, DATED JUNE 23, 1969, SHEETS 2 & 3.
   - H. RIGHT OF WAY & TRACK MAP, PORTLAND AND RUMFORD FALLS RAILWAY CO. OPERATED BY THE MAINE CENTRAL RAILROAD, DATED JUNE 30, 1916, V9/3.
   - I. RIGHT OF WAY & TRACK MAP, LEWISTON & AUBURN RAILROAD, PREPARED BY GRAND TRUNK RAILWAY OF CANADA, DATED JUNE 30, 1917.
   - J. "PORT OF AUBURN - PUD I, FIRST AMENDMENT" FOR BNRG DIRIGO BY NORTHERN SURVEY ENGINEERING, LLC, DATED MAY 10, 2021. TO BE RECORDED.
7. BEARINGS SHOWN HEREON ARE IN REFERENCE TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE IN REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED GPS OBSERVATIONS.



LOCATION MAP N.T.S.

SEAN P. PIERCE, PLS 2517

REV:	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION AND ALTERATIONS, APPROVED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK.

NORSE
NORTHERN SURVEY ENGINEERING
207.440.3487
22 PARKERS WAY, BRUNSWICK, MAINE 04011
www.northernsurveyengineering.com

OVERALL BOUNDARY PLAN
ALTA/NSPS LAND TITLE SURVEY
BD SOLAR AUBURN LLC &
BD SOLAR LEWISTON JUNCTION LLC
LEWISTON JUNCTION ROAD - AUBURN, ME
FOR:
BNRG – DIRIGO
1 CONGRESS STREET, SUITE 202
PORTLAND, MAINE 04101

RECORD OWNER:
PORT OF AUBURN, LLC
BK. 6421, PG. 120

DRAWN	CHECKED
SPP	TMM
PROJECT NO.	DATE
20113	05/19/21
SHEET SIZE	SCALE
24" X 36"	1" = 150'

SHEET 1 OF 5

RECORDING DATA

STATE OF MAINE
ANDROSCOGGIN COUNTY REGISTRY OF DEEDS
RECEIVED _____
AT___ h____ m ____M. RECORDED IN
FILE NUMBER _____
ATTEST _____
REGISTRAR

LEGEND

- PROPERTY LINE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT LINE
- ABUTTER LINE
- RIGHT-OF-WAY LINE
- RECORD PLAN LINE
- RECORD EASEMENT
- MONUMENT FOUND
- IRON PIPE/ROD FOUND
- IRON ROD W/CAP SET
- BUILDING
- EDGE WETLAND
- STREAM
- WETLANDS
- EDGE PAVEMENT
- EDGE OF WATER
- TREELINE
- BRUSHLINE
- CHAIN LINK FENCE
- RAILROAD
- SOLAR MODULES
- ACCESS ROAD

25FT ACCESS & UTILITY EASEMENT LINE TABLE

LINE/CURVE#	LENGTH	BEARING/CHORD	RADIUS	ARC
L52	354.03	N33° 06' 57"E		
C2	14.34	N12° 05' 54"E	19.76	14.68
L53	226.44	N08° 54' 52"W		
C3	21.88	N32° 02' 57"W	27.85	22.49
L54	141.76	N55° 11' 03"W		
C4	18.01	N72° 38' 56"W	30.00	18.29
L55	301.19	S89° 53' 11"W		
C5	39.98	N49° 08' 18"W	30.00	43.75
L56	135.12	N07° 21' 28"W		
C6	20.37	N27° 12' 17"W	30.00	20.78
L57	159.39	N47° 03' 07"W		
C7	11.73	N58° 19' 50"W	30.00	11.81
L58	214.97	N69° 36' 34"W		
C8	14.66	N54° 22' 36"W	27.90	14.83
L59	133.25	N39° 08' 38"W		

BD SOLAR AUBURN LEASE AREA LINE TABLE

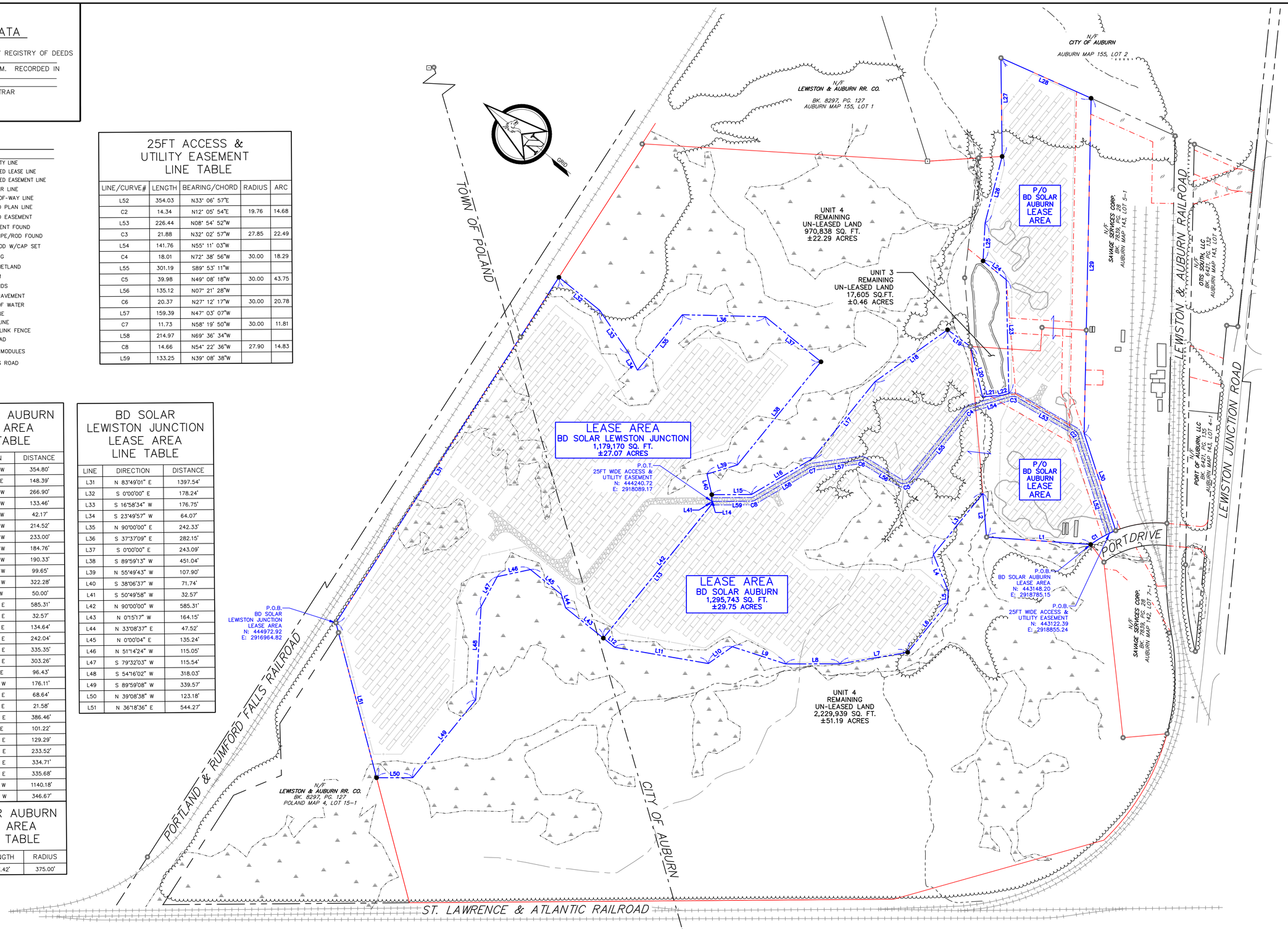
LINE	DIRECTION	DISTANCE
L1	N 34°55'07" W	354.80'
L2	N 46°11'09" E	148.39'
L3	N 90°00'00" W	266.90'
L4	S 28°44'03" W	133.46'
L5	S 54°56'41" W	42.17'
L6	N 90°00'00" W	214.52'
L7	N 48°38'05" W	233.00'
L8	N 39°08'38" W	184.76'
L9	N 21°04'42" W	190.33'
L10	N 74°00'55" W	99.65'
L11	N 29°08'33" W	322.28'
L12	N 0°15'17" W	50.00'
L13	N 90°00'00" E	585.31'
L14	N 50°49'58" E	32.57'
L15	S 39°15'49" E	134.64'
L16	S 69°27'35" E	242.04'
L17	N 90°00'00" E	335.35'
L18	S 74°37'58" E	303.26'
L19	S 2°49'47" E	96.43'
L20	S 37°26'27" W	176.11'
L21	S 43°48'51" E	68.64'
L22	S 55°11'03" E	21.58'
L23	N 49°39'40" E	386.46'
L24	N 0°10'14" E	101.22'
L25	N 53°59'01" E	129.29'
L26	N 65°23'05" E	233.52'
L27	N 50°16'26" E	334.71'
L28	S 14°54'25" E	335.68'
L29	S 52°11'35" W	1140.18'
L30	S 32°58'27" W	346.67'

BD SOLAR AUBURN LEASE AREA CURVE TABLE

CURVE#	LENGTH	RADIUS
C1	97.42'	375.00'

BD SOLAR LEWISTON JUNCTION LEASE AREA LINE TABLE

LINE	DIRECTION	DISTANCE
L31	N 83°49'01" E	1397.54'
L32	S 0°00'00" E	178.24'
L33	S 16°58'34" W	176.75'
L34	S 23°49'57" W	64.07'
L35	N 90°00'00" E	242.33'
L36	S 37°37'09" E	282.15'
L37	S 0°00'00" E	243.09'
L38	S 89°59'13" W	451.04'
L39	N 55°49'43" W	107.90'
L40	S 38°06'37" W	71.74'
L41	S 50°49'58" W	32.57'
L42	N 90°00'00" W	585.31'
L43	N 0°15'17" W	164.15'
L44	N 33°08'37" E	47.52'
L45	N 0°00'04" E	135.24'
L46	N 51°14'24" W	115.05'
L47	S 79°32'03" W	115.54'
L48	S 54°16'02" W	318.03'
L49	S 89°59'08" W	339.57'
L50	N 39°08'38" W	123.18'
L51	N 36°18'36" E	544.27'



GRAPHIC SCALE
150 0 75 150 300
(IN FEET)
1 INCH = 150FT.

SEAN P. PIERCE, PLS 2517

REV.:	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION ANY ALTERATIONS, APPROVED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK.

NORSE
NORTHERN SURVEY ENGINEERING
22 PARKERS WAY, BRUNSWICK, MAINE 04011
207.440.3487
www.northernsurveyengineering.com

RECORD OWNER:
PORT OF AUBURN, LLC
BK. 6421, PG. 123

OVERALL LEASE PLAN
ALTA/NSPS LAND TITLE SURVEY
BD SOLAR AUBURN LLC &
BD SOLAR LEWISTON JUNCTION LLC
LEWISTON JUNCTION ROAD - AUBURN, ME
FOR:
BNRG - DIRIGO
477 CONGRESS STREET, SUITE 202
PORTLAND, MAINE 04101

DRAWN	CHECKED
SPP	TMM
PROJECT NO.	DATE
20113	05/19/21
SHEET SIZE	SCALE
24" X 36"	1" = 150'

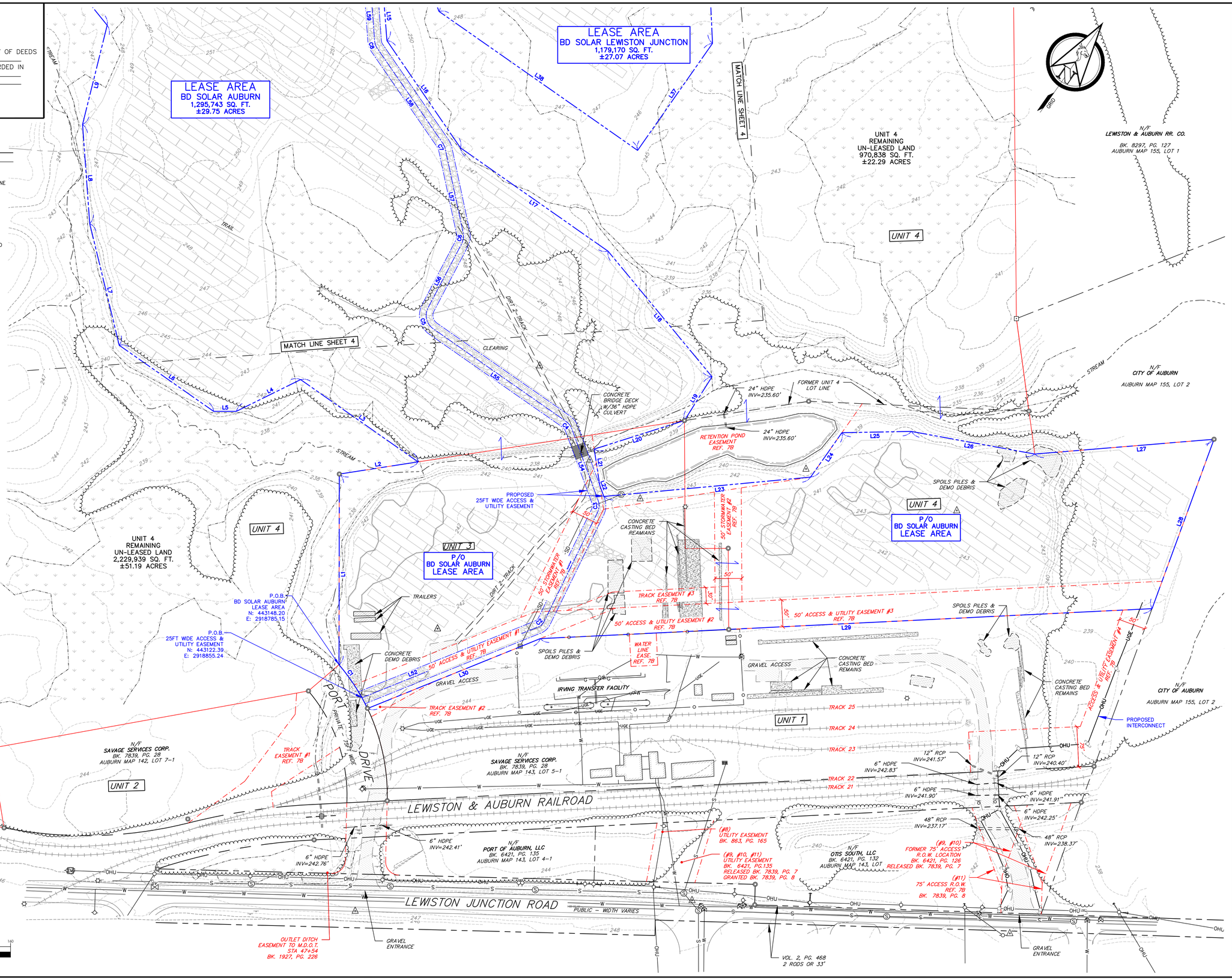
SHEET 2 OF 5

RECORDING DATA

STATE OF MAINE
ANDROSCOGGIN COUNTY REGISTRY OF DEEDS
RECEIVED _____
AT ___ h ___ m ___ M. RECORDED IN
FILE NUMBER _____
ATTEST _____
REGISTRAR

LEGEND

- PROPERTY LINE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT LINE
- ABUTTER LINE
- RIGHT-OF-WAY LINE
- RECORD PLAN LINE
- RECORD EASEMENT
- CENTERLINE
- MONUMENT FOUND
- IRON PIPE/ROD FOUND
- SURVEY CONTROL
- BUILDING
- WETLANDS
- STREAM
- EDGE PAVEMENT
- EDGE CONCRETE
- PAVEMENT PAINT
- EDGE GRAVEL
- EDGE OF WATER
- TREELINE
- BRUSHLINE
- CONTOURS
- CHAIN LINK FENCE
- SIGN
- RAILROAD
- GAS
- GAS GATE VALVE
- WATER
- WATER GATE VALVE
- HYDRANT
- SANITARY SEWER
- SANITARY MANHOLE
- CULVERT
- CATCH BASIN
- OVERHEAD UTILITY
- UNDERGROUND UTILITY
- ELECTRIC METER
- LIGHT POLE
- UTILITY POLE
- GUY WIRE
- SOLAR MODULES
- ACCESS ROAD



SEAN P. PIERCE, PLS 2517

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207.440.3487
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RECORD OWNER:
PORT OF AUBURN, LLC
BK. 6421, PG. 120

LEASE AREA DETAIL
ALTA/NSPS LAND TITLE SURVEY
BD SOLAR AUBURN LLC &
BD SOLAR LEWISTON JUNCTION LLC
LEWISTON JUNCTION ROAD - AUBURN, ME
FOR:
BNRG – DIRIGO
100 CONGRESS STREET, SUITE 202
PORTLAND, MAINE 04101

DRAWN	CHECKED
SPP	TMM
PROJECT NO.	DATE
20113	05/19/21
SHEET SIZE	SCALE
24" X 36"	1" = 80'

SHEET 3 OF 5

RECORDING DATA

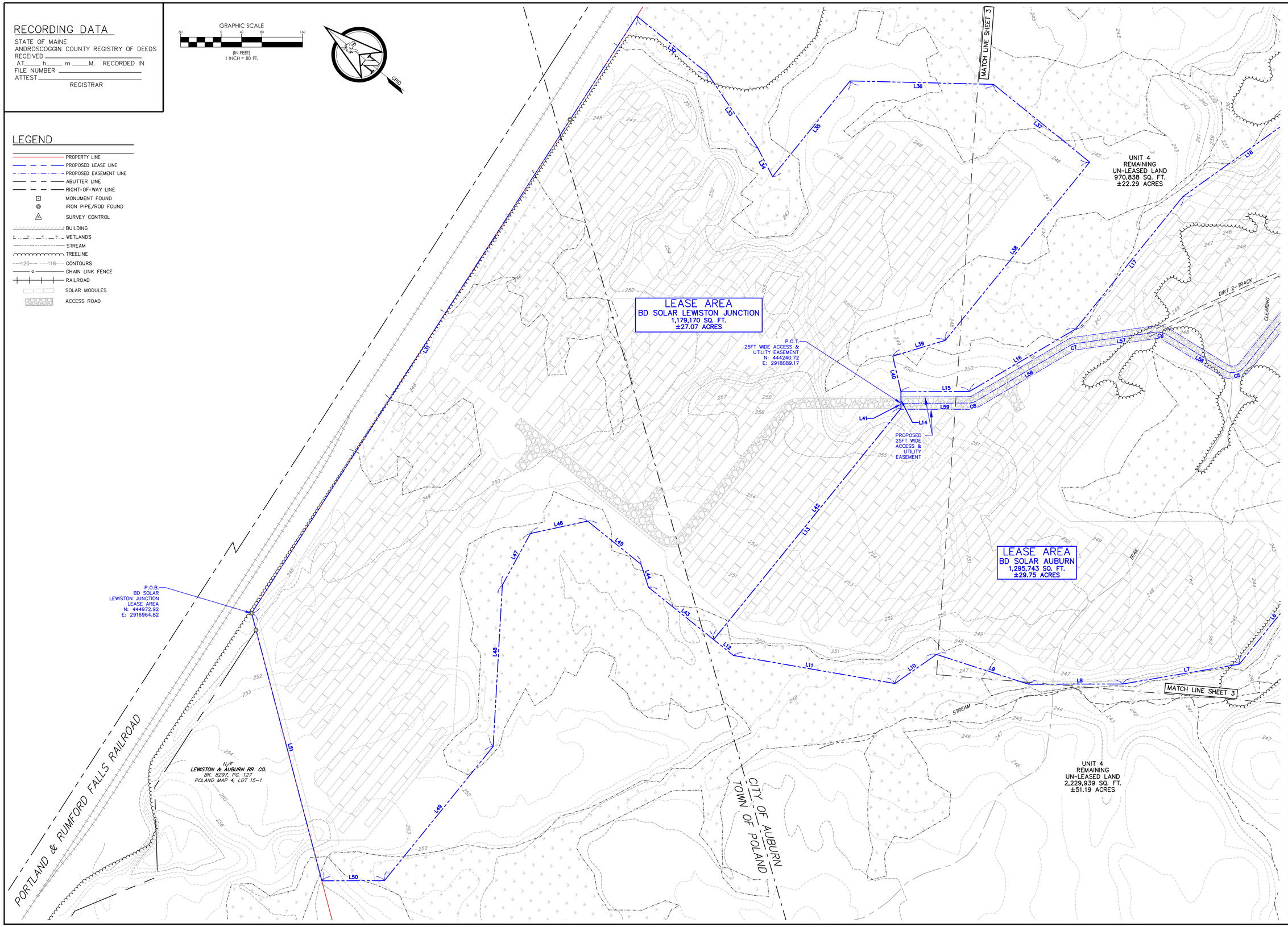
STATE OF MAINE
ANDROSCOGGIN COUNTY REGISTRY OF DEEDS
RECEIVED _____
AT____ h____ m ____M. RECORDED IN
FILE NUMBER _____
ATTEST _____
REGISTRAR

GRAPHIC SCALE
80 0 40 80 140
(IN FEET)
1 INCH = 80 FT.

GRID

LEGEND

- PROPERTY LINE
- PROPOSED LEASE LINE
- PROPOSED EASEMENT LINE
- ABUTTER LINE
- RIGHT-OF-WAY LINE
- MONUMENT FOUND
- IRON PIPE/ROD FOUND
- SURVEY CONTROL
- BUILDING
- WETLANDS
- STREAM
- TREELINE
- 120 118 CONTOURS
- CHAIN LINK FENCE
- RAILROAD
- SOLAR MODULES
- ACCESS ROAD



SEAN P. PIERCE, PLS 2517

REV'S BY:	DATE:	STATUS:

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RECORD OWNER:
PORT OF AUBURN, LLC
BK. 6421, PG. 123

LEASE AREA DETAIL
ALTA/NSPS LAND TITLE SURVEY
BD SOLAR AUBURN LLC &
BD SOLAR LEWISTON JUNCTION LLC
LEWISTON JUNCTION ROAD - AUBURN, ME
FOR:
BNRG - DIRIGO
100 CONGRESS STREET, SUITE 202
PORTLAND, MAINE 04101

DRAWN	CHECKED
SPP	TMM
PROJECT NO.	DATE
20113	05/19/21
SHEET SIZE	SCALE
24" X 36"	1" = 80'

SHEET 4 OF 5

RECORDING DATA

STATE OF MAINE
ANDROSCOGGIN COUNTY REGISTRY OF DEEDS
RECEIVED ____________________
AT____ h____ m ____M. RECORDED IN
FILE NUMBER ____________________
ATTEST ____________________
REGISTRAR

ALTA/NSPS GENERAL NOTES:

1. THE RECORD OWNER OF THE PARENT PARCEL IS PORT OF AUBURN, LLC BY DEED DATED JULY 22, 2005 AND RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 6421, PAGE 120, AND IS SHOWN IN THE CITY OF AUBURN TAX ASSESSORS RECORDS AS LOTS 7 & 7-2 ON TAX MAP 142 AND LOT 5-2 ON TAX MAP 143, AND IN THE TOWN OF POLAND TAX ASSESSORS RECORDS AS LOT 16 ON TAX MAP 4.
2. THE SUBJECT PARCELS (LEASE AREAS) ARE LOCATED WITHIN THE INDUSTRIAL (ID) ZONE. A ZONING REPORT HAS NOT BEEN PROVIDED TO THIS SURVEYOR.
3. TOTAL AREA OF THE BD SOLAR LEWISTON JUNCTION LLC LEASE AREA IS APPROXIMATELY 27.07 ACRES. TOTAL AREA OF THE BD SOLAR AUBURN LLC LEASE AREA IS APPROXIMATELY 29.75 ACRES.
4. TOPOGRAPHIC INFORMATION SHOWN HEREON IS BASED UPON PUBLICLY AVAILABLE LIDAR DATA SOURCED THROUGH NOAA, DATED 2009 WITH A PUBLISHED VERTICAL ACCURACY OF 10CM, GROUND TRUTHED TO FIELD MEASUREMENTS IN IMPROVED AREAS OBSERVED BY NORTHERN SURVEY ENGINEERING, LLC IN AUGUST, 2020.
5. IMPROVEMENTS SHOWN WERE LOCATED BY A COMBINATION OF GROUND SURVEY MEASUREMENTS AND UAS (UNMANNED AERIAL SYSTEMS) RECTIFIED ORTHOIMAGERY COLLECTED IN AUGUST 2020 FOR THIS PROJECT, TIED TO GROUND CONTROL TARGETS OBSERVED BY THIS SURVEY.
6. BOOK AND PAGE REFERENCES SHOWN HEREON ARE IN REFERENCE TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS (A.C.R.D.).
9. BEARINGS SHOWN HEREON ARE IN REFERENCE TO GRID NORTH, MAINE STATE PLANE COORDINATE SYSTEM, WEST ZONE 1802-NAD83. ELEVATIONS DEPICTED HEREON ARE IN REFERENCE TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), BASED GPS OBSERVATIONS.
10. UTILITY INFORMATION DEPICTED HEREON IS COMPILED USING PHYSICAL SURFACE EVIDENCE LOCATED IN THE FIELD IN CONJUNCTION WITH ANY RECORD INFORMATION AVAILABLE AT THE TIME OF THIS SURVEY (SUE LEVEL C), AND MAY NOT NECESSARILY REPRESENT ALL EXISTING UTILITIES. CONTRACTORS AND/OR DESIGNERS NEED TO CONTACT DIG-SAFE SYSTEMS, INC. (1-888-DIG-SAFE) AND FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION AND/OR EXCAVATION.
11. THE LOCUS PROPERTY AS DEPICTED HEREON DOES NOT FALL WITHIN A SPECIAL FLOOD HAZARD AREA AS DELINEATED ON THE FLOOD INSURANCE RATE MAP FOR ANDROSCOGGIN COUNTY, COMMUNITY-PANEL NUMBER 23001C0316E, HAVING AN EFFECTIVE DATE OF JULY 8, 2013. THE LOCUS FALLS WITHIN AN AREA IDENTIFIED AS ZONE X, AREAS OUTSIDE THE 0.2% ANNUAL CHANCE OF FLOOD.
12. WETLAND INFORMATION SHOWN IS BASED UPON CAD FILES DELIVERED TO THIS SURVEYOR. NO WETLAND FLAGS WERE OBSERVED IN THE FIELD AT THE TIME OF THE SURVEY, AND NO CERTIFICATION IS MADE TO THEIR ACCURACY.
13. NUMBER OF PARKING SPACES: NONE
14. A ZONING REPORT WAS NOT PROVIDED TO THIS SURVEYOR.
15. THERE WAS NO EVIDENCE OF ENCROACHMENT OBSERVED DURING THE COURSE OF THIS SURVEY.
16. THERE IS NO EVIDENCE OF RECENT EARTHWORK OBSERVED DURING THE COURSE OF THIS SURVEY. SPOILS PILES FROM THE DEMOLITION OF THE OLD PRECAST CONCRETE FACILITY ARE SHOWN.
17. THERE WERE NO BUILDINGS OBSERVED ON THE SUBJECT PREMISES.
18. THE PARENT PARCEL SHOWN IS THE SAME AS DESCRIBED IN TITLE COMMITMENT ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NUMBER 2019-09-002 DATED AUGUST 22, 2019 AT 08:00 AM. DIFFERENCES IN BEARINGS AND DISTANCES ARE DUE TO INDEPENDENT MEASUREMENTS AND A BASIS OF BEARING CHANGE FROM MAGNETIC TO GRID NORTH.

SURVEYORS CERTIFICATION:

TO BD SOLAR AUBURN LLC, ITS SUCCESSORS AND/OR ASSIGNS; TO BD SOLAR LEWISTON JUNCTION LLC, ITS SUCCESSORS AND/OR ASSIGNS; HSBC BANK USA, N.A., AS COLLATERAL AGENT FOR THE SECURED PARTIES AND THEIR SUCCESSORS AN/OR ASSIGNS AS THEIR INTERESTS MAY APPEAR; FIRST AMERICAN TITLE INSURANCE COMPANY:

TITLE COMMITMENT FOR PROPERTY ON LEWISTON JUNCTION ROAD, AUBURN, ME, ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, COMMITMENT NUMBER 2019-09-002 DATED AUGUST 22, 2019 AT 08:00 AM.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDED ITEMS OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED IN FEBRUARY 2020, AND INCLUDES ITEMS 1 (LEASE AREA ONLY), 2, 3, 4, 5 (LIDAR), 6, 6A, 7A, 8, 9, 11 (SUE LEVEL C), 13, 14, 16, 17, 18, 19 & 20.

SEAN P. PIERCE, MAINE PLS 2517 DATE

SCHEDULE A LEGAL DESCRIPTION:

(PARENT PARCEL)

ALL THAT LAND DESCRIBED IN DEED FROM BAYSHORE CONCRETE PRODUCTS/MAINE, INC. TO PORT OF AUBURN, LLC, DATED JULY 22, 2005, RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 6421, PAGE 120, EXCEPTING THAT LAND CONVEYED BY DEED FROM PORT OF AUBURN, LLC, TO SAVAGE SERVICES CORPORATION, DATED NOVEMBER 30, 2009, AND RECORDED IN BOOK 7839, PAGE 28.

(LEGAL DESCRIPTION FROM BOOK 6421, PAGE 120)

BEGINNING AT AN IRON ROD SET WITH SURVEYOR CAP #2250 ON THE APPARENT NORTHWESTERLY SIDELINE OF THE LEWISTON & AUBURN RAILROAD, SAID IRON ROD SET BEING NORTH 04° 17' 09" EAST SEVENTY-ONE AND THIRTY-FOUR HUNDREDTHS (71.34) FEET, AS MEASURED ACROSS SAID RAILROAD RIGHT-OF-WAY, FROM AN IRON ROD FOUND WITH SURVEYOR'S CAP #1206, LOCATED AT THE NORTHWESTERLY CORNER OF LAND NOW OR FORMERLY OF DEAD RIVER COMPANY EVIDENCED BY DEED RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 2933, PAGE 211; THENCE SOUTH 71° 58' 33" WEST ALONG THE APPARENT NORTHWESTERLY SIDELINE OF SAID LEWISTON & AUBURN RAILROAD ONE THOUSAND FOUR HUNDRED FIFTY-SIX AND SIXTY-ONE HUNDREDTHS (1,456.61) FEET TO AN IRON ROD SET; THENCE SOUTHWESTERLY CONTINUING ALONG SAID APPARENT NORTHWESTERLY SIDELINE OF SAID LEWISTON & AUBURN RAILROAD BY A TANGENT ONE THOUSAND ONE HUNDRED SEVENTY-EIGHT AND NINETY-TWO HUNDREDTHS (1,178.92) FOOT RADIUS CURVE TO THE LEFT AN ARC LENGTH OF TWO HUNDRED THIRTY-THREE AND TWELVE HUNDREDTHS (233.12) FEET TO AN IRON ROD SET; THENCE SOUTHWESTERLY CONTINUING ALONG THE APPARENT NORTHWESTERLY SIDELINE OF SAID LEWISTON & AUBURN RAILROAD BY A TANGENT SEVEN HUNDRED EIGHTY-SIX AND TWO HUNDREDTHS (786.02) FOOT RADIUS CURVE TO THE RIGHT AN ARC LENGTH OF SEVEN HUNDRED SEVENTY-TWO AND FIVE HUNDREDTHS (772.05) FEET TO AN IRON ROD FOUND ON THE NORTHEASTERLY LINE OF LAND NOW OR FORMERLY OF LEWISTON & AUBURN RAILROAD COMPANY; THENCE NORTH 34° 56' 12" WEST ALONG SAID NORTHEASTERLY LINE OF LAND NOW OR FORMERLY OF LEWISTON & AUBURN RAILROAD COMPANY SEVEN HUNDRED FORTY-ONE AND SIXTY HUNDREDTHS (741.60) FEET TO AN IRON ROD FOUND ON THE APPARENT NORTHEASTERLY SIDELINE OF LAND OF ST. LAWRENCE & ATLANTIC RAILROAD COMPANY EVIDENCED BY DEED RECORDED IN SAID REGISTRY IN BOOK 2409, PAGE 130; THENCE NORTH 19° 38' 12" WEST ALONG SAID APPARENT NORTHEASTERLY SIDELINE OF LAND OF ST. LAWRENCE & ATLANTIC RAILROAD COMPANY ONE THOUSAND SIX HUNDRED FORTY-SIX AND ONE HUNDREDTH (1,646.01) FEET TO AN IRON ROD FOUND AT THE SOUTHERLY CORNER OF LAND NOW OR FORMERLY OF NO. 224, LLC, DESCRIBED AS PARCEL 2 EVIDENCED BY DEED RECORDED IN SAID REGISTRY IN BOOK 4156, PAGE 28; THENCE NORTH 56° 06' 46" EAST ALONG THE SOUTHEASTERLY LINE OF SAID NO. 224, LLC LAND NINE HUNDRED FORTY-NINE AND FIFTY HUNDREDTHS (949.50) FEET TO AN IRON ROD FOUND; THENCE CONTINUING NORTH 56° 06' 46" EAST ALONG OTHER LAND NOW OR FORMERLY OF NO. 224, LLC, EVIDENCED BY DEED RECORDED IN SAID REGISTRY IN BOOK 3813, PAGE 1 THIRTY-THREE AND FIFTY-SEVEN HUNDREDTHS (33.57) FEET TO AN IRON ROD SET; THENCE SOUTH 76° 23' 38" EAST ALONG THE SOUTHERLY LINE OF SAID OTHER LAND OF NO. 224, LLC ONE THOUSAND ONE HUNDRED FIFTY-FIVE AND FIFTY-FOUR HUNDREDTHS (1,155.54) FEET TO AN IRON ROD FOUND; THENCE CONTINUING SOUTH 76° 23' 38" EAST ALONG THE SOUTHERLY LINE OF LAND FORMERLY OF THE PORTLAND AND RUMFORD FALLS RAILROAD SEVEN HUNDRED EIGHTY-ONE AND TEN HUNDREDTHS (781.10) FEET TO THE SOUTHWESTERLY LINE OF LAND NOW OR FORMERLY OF BENJAMIN P. HAWKINS AND TIMOTHY MORSE DESCRIBED AS PARCEL TWO IN A CERTAIN DEED RECORDED IN SAID REGISTRY IN BOOK 3813, PAGE 13; THENCE SOUTH 15° 43' 56" EAST ALONG SAID SOUTHWESTERLY LINE OF HAWKINS AND MORSE LAND NINE HUNDRED SIXTY-ONE AND SEVEN HUNDREDTHS (961.07) FEET TO A MONUMENT FOUND AT THE SOUTHERLY CORNER OF SAID HAWKINS/MORSE LAND; THENCE SOUTH 23° 00' 38" EAST ALONG THE SOUTHWESTERLY LINE OF LAND OF THE CITY OF AUBURN INTERMODAL FACILITY EVIDENCED BY DEED RECORDED IN SAID REGISTRY IN BOOK 4047, PAGE 146 TWO HUNDRED FIFTY-FOUR AND TWENTY-NINE HUNDREDTHS (254.29) FEET TO AN IRON ROD SET; THENCE NORTH 70° 03' 38" EAST ALONG THE SOUTHEASTERLY LINE OF SAID CITY OF AUBURN LAND THREE HUNDRED THIRTY-FOUR AND EIGHTY-ONE HUNDREDTHS (334.81) FEET TO AN IRON ROD FOUND; THENCE SOUTH 04° 56' 08" WEST ALONG THE SOUTHWESTERLY LINE OR SAID CITY OF AUBURN LAND SIX HUNDRED FORTY-EIGHT AND TWENTY-NINE HUNDREDTHS (648.29) FEET TO THE POINT OF BEGINNING.

SCHEDULE B-II EXCEPTIONS:

1\. - 6. INTENTIONALLY OMITTED.

7\. EASEMENTS, RESTRICTIONS, EXCEPTIONS AND RESERVATIONS SET FORTH IN DEED FROM BAYSHORE CONCRETE PRODUCTS/MAINE, INC. TO PORT OF AUBURN, LLC, DATED JULY 22, 2005, RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 6421, PAGE 120.
SURVEY FINDINGS: PARENT PARCEL AND LEASE AREAS BENEFITS FROM A PERPETUAL ACCESS EASEMENT ALONG THE COMMON BOUNDARY WITH LEWISTON - AUBURN RAILROAD. ANY ENCUMBRANCES ARE SHOWN HEREON AND/OR LISTED BELOW.

1) EASEMENTS TO CENTRAL MAINE POWER (SEE EXCEPTION 8)
2) RESTRICTIONS IN BOOK 1041, PAGE 180 (SEE EXCEPTION 19)
3) AVIGATION RIGHTS (SEE EXCEPTION 20)
4) FACTS SHOWN ON PLAN BOOK 41, PAGE 76 (SEE EXCEPTION 17)
5) EASEMENT DEED & CROSSING AGREEMENT FROM ST. LAWRENCE & ATLANTIC RAILROAD (BOOK 6421, PAGE 126) (SEE EXCEPTION 14)
6) EASEMENT DEED FROM LEWISTON AND AUBURN RAILROAD IN BOOK 4521, PAGE 270

8\. EASEMENTS TO CENTRAL MAINE POWER COMPANY (TO THE EXTENT THE SAME AFFEST THE INSURED PROPERTY) DATED JULY 24, 1961, RECORDED IN BOOK 863, PAGE 171, DATED AUGUST 7, 1961, RECORDED IN BOOK 863, PAGE 165, DATED OCTOBER 19, 1966, RECORDED IN BOOK 966, PAGE 290; DATED AUGUST 7, 1969, RECORDED IN BOOK 1010, PAGE 760.
SURVEY FINDINGS: DOES NOT ENCUMBER EITHER LEASE AREA. BK. 863, PG 165 - BENEFITS UNIT 1; DOES NOT APPEAR TO ENCUMBER THE PARENT PARCEL. POLE LINE SHOWN HEREON. BK. 966, PG. 290 - LOCATION UNKNOWN. ALL POLES SERVING PREMISES ARE SHOWN. BK. 1010, PG. 760 - REFERENCED AS THE "AIRPORT TAP LINE"; LOCATION UNKNOWN.

9\. EASEMENTS, RESTRICTIONS, EXCEPTIONS AND RESERVATIONS SET FORTH IN DEED FROM OTIS SOUTH, LLC, DATED JULY 22, 2005, RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 6421, PAGE 135.
SURVEY FINDINGS: ACCESS & UTILITY EASEMENT IS SHOWN HEREON. DOES NOT ENCUMBER EITHER LEASE AREA.

10\. RELEASE OF EASEMENT RIGHTS FROM PORT OF AUBURN, LLC, TO OTIS SOUTH, LLC, DATED NOVEMBER 30, 2009, RECORDED IN BOOK 7839, PAGE 7.
SURVEY FINDINGS: LOCATION OF FORMER ACCESS UTILITY EASEMENTS IS SHOWN. THERE IS A NEW ACCESS EASEMENT BENEFITING THE PARENT PARCEL WHICH IS ALSO SHOWN.

11\. RIGHTS OF OTHERS AND RIGHTS RESERVED IN EASEMENT DEED FROM OTIS SOUTH, LLC, TO PORT OF AUBURN, LLC, DATED NOVEMBER 30, 2009, RECORDED IN BOOK 7839, PAGE 8.
SURVEY FINDINGS: BENEFITS THE PARENT PARCEL. ACCESS & UTILITY EASEMENTS SHOWN HEREON. ALSO BENEFITS UNIT 1 SHOWN HEREON. ENCUMBERS THE UTILITY EASEMENT.

12\. SUBJECT TO TERMS AND CONDITIONS OF THE DECLARATION OF COVENANTS AND EASEMENTS BY PORT OF AUBURN, LLC, DATED NOVEMBER 30, 2009, RECORDED IN BOOK 7839, PAGE 11.
SURVEY FINDINGS: DOES NOT ENCUMBERS THE BD SOLAR AUBURN LEASE AREA; DOES NOT ENCUMBER THE BD SOLAR LEWISTON JUNCTION LEASE AREA; ENCUMBERS THE PROPOSED ACCESS & UTILITY EASEMENT; ENCUMBERS PARENT PARCEL. RIGHTS GRANTED AND RESERVED TO COMMON FACILITIES INCLUDING ACCESS & UTILITY EASEMENTS FROM OTIS SOUTH, LLC (SHOWN), PORT DRIVE (SHOWN), ACCESS & UTILITY EASEMENTS 1 - 4 (SHOWN), STORMWATER EASEMENTS 1 & 2 (SHOWN), TRACK EASEMENTS 1 - 3 (SHOWN) AND WATER EASEMENT (SHOWN). RIGHTS RESERVED TO RELOCATE PORT DRIVE WHERE IT DOES NOT ABUT UNITS 1 & 2.

13\. EASEMENTS, RESTRICTIONS AND CONDITIONS SET FORTH IN DEED FROM PORT OF AUBURN, LLC, TO SAVAGE SERVICES CORPORATION, DATED NOVEMBER 30, 2009, AND RECORDED IN BOOK 7839, PAGE 28.
SURVEY FINDINGS: ENCUMBERS THE BD SOLAR AUBURN LEASE AREA; DOES NOT ENCUMBER THE BD SOLAR LEWISTON JUNCTION LEASE AREA; ENCUMBERS THE PROPOSED ACCESS & UTILITY EASEMENT; ENCUMBERS PARENT PARCEL. RIGHTS TO EASEMENTS LISTED IN EXCEPTION 12 AND SHOWN HEREON AS THEY PERTAIN TO UNITS 1 & 2 SHOWN.

14\. AMENDMENT TO EASEMENT DEED AND CROSSING AGREEMENT BETWEEN ST. LAWRENCE & ATLANTIC RAILROAD COMPANY AND PORT OF AUBURN, LLC, DATED NOVEMBER 27, 2009, RECORDED IN BOOK 7847, PAGE 225.
SURVEY FINDINGS: BENEFITS THE PARENT PARCEL. TRACK ID'S ARE SHOWN.

15\. EASEMENTS RESERVED AND EXCEPTED IN CONFIRMATORY DEED FROM THE CITY OF AUBURN AND THE CITY OF LEWISTON TO BAYSHORE CONCRETE PRODUCTS/MAINE, INC., DATED OCTOBER 25, 2000, RECORDED IN BOOK 4534, PAGE 48.
SURVEY FINDINGS: ENCUMBERS BOTH LEASE AREAS AND THE PARENT PARCEL. AVIGATION EASEMENT RESTRICTING STRUCTURES TO BELOW 389' AMSL.

16\. THIS POLICY INSURES ACCESS TO THE INSURED PREMISES SUBJECT TO THE TERMS AND CONDITIONS OF A LICENSE AGREEMENT BETWEEN ST. LAWRENCE &ATLANTIC RAILROAD COMPANY AND BAYSHORE CONCRETE PRODUCTS/MAINE, INC., DATED SEPTEMBER _, 2001, RECORDED IN BOOK 4585, PAGE 157 AND THE TERMS AND CONDITIONS OF TERMS AND CONDITIONS AND RIGHTS OF OTHERS IN AND TO THE EASEMENT DEED FROM LEWISTON AUBURN RAILROAD COMPANY TO BAYSHORE CONCRETE PRODUCTS/MAINE, INC., DATED OCTOBER 2, 2000, RECORDED IN BOOK 4521, PAGE 270, AS AMENDED BY AMENDMENT TO EASEMENT DEED DATED JULY 22, 2005, RECORDED IN BOOK 6421, PAGE 124 AND FURTHER BY AMENDMENT TO EASEMENT DEED AND CROSSING AGREEMENT BETWEEN ST. LAWRENCE & ATLANTIC RAILROAD COMPANY AND PORT OF AUBURN, LLC, DATED NOVEMBER 2009, RECORDED IN BOOK 7847, PAGE 225.
SURVEY FINDINGS: BENEFITS THE PARENT PARCEL. ALL ACCESS IS SHOWN.

17\. SUCH STATE OF FACTS AS SET FORTH IN LAND TITLE SURVEY, PRECAST STRUCTURES, INC. FACILITY, 445 LEWISTON JUNCTION ROAD -AUBURN, MAINE, PREPARED FOR BAYSHORE CONCRETE PRODUCTS CORPORATION, DATED SEPTEMBER 21, 2000, RECORDED IN PLAN BOOK 41, PAGE 76.
SURVEY FINDINGS: ALL RELEVANT FACTS ON SAID PLAN ARE SHOWN.

18\. SUCH STATE OF FACTS AS SET FORTH IN PLANNED UNIT DEVELOPMENT - SUBDIVISION PLAN, DATED JULY 2009, AS REVISED, PREPARED FOR PORT OF AUBURN, LLC BY PLANIT MAPPING, RECORDED IN PLAN BOOK 48, PAGES 2, 3 & 4.
SURVEY FINDINGS: ALL RELEVANT FACTS ON SAID PLAN ARE SHOWN. EASEMENTS SHOWN ON SAID PLAN ENCUMBER THE PROPOSED ACCESS & UTILITY EASEMENT.

19\. RESTRICTIONS SET FORTH IN DEED FROM SAMUEL L. SARGENT, TRUSTEE IN BANKRUPTCY OF THE ESTATE OF STRUCTURAL CONCRETE CORPORATION OF MAINE TO RAYMOND CROWLEY AND NELLY F. FLEISCHHACKER DATED SEPTEMBER 7, 1971, RECORDED IN BOOK 1041, PAGE 180.
SURVEY FINDINGS: RESTRICTIONS STATE THAT ANY DEVELOPMENT IS SUBJECT TO THE PERMITTED USES IN THE AUBURN INDUSTRIAL ZONE. ENCUMBERS UNITS 1 & 2; DOES NOT APPEAR TO ENCUMBER THE PARENT PARCEL.

20\. EXCEPTIONS, RESERVATIONS, RESTRICTIONS AND COVENANTS SET FORTH IN DEED OF RELEASE FROM THE UNITED STATES OF AMERICA TO THE CITY OF AUBURN AND THE CITY OF LEWISTON DATED JULY 25, 1988, RECORDED IN BOOK 2362, PAGE 18, AND AVIGATION RIGHTS AND EASEMENTS RESERVED IN DEED FROM THE CITY OF AUBURN AND THE CITY OF LEWISTON TO M.A. CROWLEY TRUCKING, INC. DATED OCTOBER 31, 1988, AND RECORDED IN BOOK 2360, PAGE 23, AS CORRECTED BY DEED DATED SEPTEMBER 27, 2000, RECORDED IN BOOK 4521, PAGE 255, AND FURTHER CORRECTED AND CONFIRMED BY DEED FROM THE CITY OF AUBURN AND THE CITY OF LEWISTON TO BAYSHORE CONCRETE PRODUCTS/MAINE, INC. DATED OCTOBER 25, 2000 AND RECORDED IN BOOK 4534, PAGE 48.
SURVEY FINDINGS: BLANKET IN NATURE. RESTRICTIONS TO HEIGHT OF STRUCTURES, LIMITED TO 389' AMSL. RIGHTS OF ENTRY TO CLEAR OBSTRUCTIONS.

21\. INTENTIONALLY OMITTED.

22\. STATE OF MAINE DEPARTMENT OF TRANSPORTATION RIGHT OF WAY MAP, INDUSTRIAL SPUR, DATED JUNE, 1985, RECORDED IN PLAN BOOK 33, PAGES 132 AND 133.
SURVEY FINDINGS: ALL RELEVANT FACTS ON SAID PLAN ARE SHOWN. DOES NOT APPEAR TO ENCUMBER THE PARENT PARCEL.

23\. EASEMENT FROM AUBURN-LEWISTON AIRPORT TO THE STATE OF MAINE DATED APRIL 16, 196, RECORDED IN BOOK 1927, PAGE 226.
SURVEY FINDINGS: RIGHTS GRANTED TO A DRAINAGE DITCH ENCUMBERING UNIT 2 (SHOWN), DOES NOT APPEAR TO ENCUMBER THE PARENT PARCEL.

AS-SURVEYED LEGAL DESCRIPTION:

(LEASE AREA & EASEMENTS)

BD SOLAR LEWISTON JUNCTION LEASE AREA

A CERTAIN LEASE AREA WITHOUT ROAD FRONTAGE, SITUATED NORTHWESTERLY OF BUT NOT ADJOINING LEWISTON JUNCTION ROAD, SO CALLED, PARTLY IN THE TOWN OF POLAND AND PARTLY IN THE CITY OF AUBURN, COUNTY OF ANDROSCOGGIN, AND STATE OF MAINE, BEING SHOWN ON A PLAN TITLED "OVERALL LEASE PLAN OF PORT OF AUBURN - PUD I FIRST AMENDMENT" PREPARED FOR BNRG - DIRIGO BY NORTHERN SURVEY ENGINEERING, LLC, DATED MAY 10, 2021, PROJECT NO. 20113, AND BEING FURTHER DESCRIBED AS FOLLOWS:

BEGINNING (P.O.B.) AT A #5 REBAR FOUND ON THE SOUTHERLY LINE OF THE PORTLAND AND RUMFORD FALLS RAILROAD IN THE TOWN OF POLAND, BEARING N 36°18'36" E FROM A CAPPED #5 REBAR FOUND AT THE NORTHEAST CORNER OF LAND NOW OR FORMERLY OF THE LEWISTON & AUBURN RAILROAD CO. (DEED REFERENCE: BOOK 8297, PAGE 127), AND BEING THE NORTHWEST CORNER OF LAND HEREIN DESCRIBED, HAVING MAINE STATE PLANE WEST ZONE NAD83 COORDINATES OF N 444972.92, E: 2916969.82; THENCE BY THE FOLLOWING COURSES:

1. N 83°49'01" E 1397.54' BY THE SOUTHERLY LINE OF SAID PORTLAND & RUMFORD FALLS RAILROAD AND CROSSING INTO THE CITY OF AUBURN, TO A CAPPED IRON ROD SET AT REMAINING LAND OF THE GRANTOR HEREIN;
2. S 0°00'00" E 178.24' CROSSING THROUGH LAND OF THE GRANTOR, TO A POINT;
3. S 16°58'34" W 176.75' TO A POINT;
4. S 23°49'57" W 64.07' TO A POINT;
5. N 90°00'00" E 242.33' TO A POINT;
6. S 37°37'09" E 282.15' TO A POINT;
7. S 0°00'00" E 243.09' TO A CAPPED IRON ROD SET;
8. S 89°59'13" W 451.04' TO A POINT;
9. N 55°49'43" W 107.90' TO A POINT;
10. S 38°06'37" W 71.74' TO A CAPPED IRON ROD SET IN THE NORTHERLY LINE OF A LEASE AREA GRANTED TO BD SOLAR AUBURN LLC;
11. S 50°49'58" W 32.57' BY SAID BD SOLAR AUBURN LEASE AREA AND THE END OF A 25-FOOT WIDE ACCESS & UTILITY EASEMENT TO A POINT;
12. N 90°00'00" W 585.31' CONTINUING BY SAID BD SOLAR AUBURN LEASE AREA TO A CAPPED IRON ROD SET AND REMAINING LAND OF THE GRANTOR HEREIN:
13. N 0°15'17" W 164.15' LEAVING SAID BD SOLAR AUBURN LEASE AREA AND CROSSING INTO THE TOWN OF POLAND TO A POINT;
14. N 33°08'37" E 47.52' TO A POINT;
15. N 0°00'04" E 135.24' TO A POINT;
16. N 51°14'24" W 115.05' TO A POINT;
17. S 79°32'03" W 115.54' TO A POINT;
18. S 54°16'02" W 318.03' TO A POINT;
19. S 89°59'08" W 339.57' TO A POINT;
20. N 39°08'38" W 123.18' TO A CAPPED IRON ROD SET IN THE SOUTHEASTERLY LINE OF SAID LEWISTON & AUBURN RAILROAD CO.;
21. N 36°18'36" E 544.27' BY LAND OF SAID LEWISTON & AUBURN RAILROAD CO. TO THE POINT OF BEGINNING.

CONTAINING 1,179,170 SQUARE FEET OR 27.07 ACRES, MORE OR LESS, AND BEING A PORTION OF LAND DESCRIBED IN A DEED TO PORT OF AUBURN, LLC RECORDED IN BOOK 6421, PAGE 120.

BD SOLAR AUBURN LEASE AREA

A CERTAIN LEASE AREA SITUATED ON THE NORTHERLY SIDE OF A PRIVATE WAY KNOWN AS PORT DRIVE, AND ALSO BEING LOCATED NORTHWESTERLY OF BUT NOT ADJOINING LEWISTON JUNCTION ROAD, SO CALLED, IN THE CITY OF AUBURN, COUNTY OF ANDROSCOGGIN, AND STATE OF MAINE, BEING SHOWN ON A PLAN TITLED "OVERALL LEASE PLAN OF PORT OF AUBURN - PUD I FIRST AMENDMENT" PREPARED FOR BNRG - DIRIGO BY NORTHERN SURVEY ENGINEERING, LLC, DATED MAY 10, 2021, PROJECT NO. 20113, AND BEING FURTHER DESCRIBED AS FOLLOWS:

BEGINNING (P.O.B.) AT CAPPED IRON ROD SET AT THE NORTHERLY END OF SAID PORT DRIVE AT ITS INTERSECTION WITH THE SOUTHWESTERLY LINE OF "UNIT 3" AS SHOWN ON SAID PLAN, HAVING MAINE STATE PLANE WEST ZONE NAD83 COORDINATES OF N 443148.20, E: 2918785.15; THENCE BY THE FOLLOWING COURSES:

1. N 34°55'07" W 354.80' BY THE WESTERLY LINE OF SAID UNIT 3 TO A CAPPED #5 REBAR WITH ID CAP MARKED "PLS 2250" FOUND AT THE NORTHWESTERLY CORNER OF SAID UNIT 3;
2. N 46°11'09" E 148.39' BY THE NORTHERLY LINE OF SAID UNIT 3 TO A POINT;
3. N 90°00'00" W 266.90' TO A POINT;
4. S 28°44'03" W 133.46' TO A POINT;
5. S 54°56'41" W 42.17' TO A POINT;
6. N 90°00'00" W 214.52' TO A CAPPED IRON ROD SET;
7. N 48°38'05" W 233.00' TO A POINT;
8. N 39°08'38" W 184.76' TO A POINT;
9. N 21°04'42" W 190.33' TO A POINT;
10. N 74°00'55" W 99.65' TO A POINT;
11. N 29°08'33" W 322.28' TO A POINT;
12. N 0°15'17" W 50.00' TO A CAPPED IRON ROD SET IN THE SOUTHERLY LINE OF LEASE AREA GRANTED TO BD SOLAR LEWISTON JUNCTION LLC AND THE NORTHWEST CORNER OF LAND DESCRIBED HEREIN AS SHOWN ON SAID PLAN;
13. N 90°00'00" E 585.31' BY THE SOUTHERLY LINE OF SAID BD SOLAR LEWISTON JUNCTION LLC LEASE AREA TO A POINT IN THE END OF A 25-FOOT WIDE ACCESS & UTILITY EASEMENT;
14. N 50°49'58" E 32.57' BY THE END OF SAID ACCESS & UTILITY EASEMENT TO A CAPPED IRON ROD SET IN THE SOUTHERLY LINE OF SAID BD SOLAR LEWISTON JUNCTION LLC LEASE AREA;
15. S 39°15'49" E 134.64' TO A POINT;
16. S 69°27'35" E 242.04' TO A POINT;
17. N 90°00'00" E 335.35' TO A POINT;
18. S 74°37'58" E 303.26' TO A CAPPED IRON ROD SET;
19. S 2°49'47" E 96.43' TO A CAPPED #5 REBAR WITH ID CAP MARKED "PLS 2250" FOUND AT THE NORTHEAST CORNER OF SAID UNIT 3;
20. S 37°26'27" W 176.11' CROSSING THROUGH SAID UNIT 3 TO A POINT;
21. S 43°48'51" E 68.64' TO A POINT IN THE EASTERLY LINE OF SAID 25-FOOT WIDE ACCESS & UTILITY EASEMENT;
22. S 55°11'03" E 21.58' BY THE EASTERLY LINE OF SAID ACCESS & UTILITY EASEMENT TO A POINT;
23. N 49°39'40" E 386.46' CROSSING INTO UNIT 4 SHOWN ON SAID PLAN TO A POINT;
24. N 0°10'14" E 101.22' TO A CAPPED IRON ROD SET;
25. N 53°59'01" E 129.29' TO A POINT;
26. N 65°23'05" E 233.52' TO A CAPPED IRON ROD SET AND LAND NOW OR FORMERLY OF CITY OF AUBURN;
27. N 50°16'26" E 334.71' BY LAND OF SAID CITY OF AUBURN TO A #5 REBAR FOUND;
28. S 14°54'25" E 335.68' CONTINUING BY LAND OF SAID CITY OF AUBURN TO A CAPPED IRON ROD SET AT THE NORTHEAST CORNER OF "UNIT 1"SHOWN ON SAID PLAN AND LAND NOW OR FORMERLY OF SAVAGE SERVICES CORP. (DEED REF: BOOK 7839, PAGE 28);
29. S 52°11'35" W 1140.18' BY THE NORTHERLY LINE OF SAID UNIT 1 AND LAND OF SAVAGE SERVICES CORP., AND THE SOUTHERN LINE OF SAID UNITS 3 & 4, TO A POINT;
30. S 32°58'27" W 346.67' CONTINUING BY THE SOUTHERLY LINE OF SAID UNIT 3 AND LAND OF SAVAGE SERVICES CORP., TO A CAPPED #5 REBAR WITH ID CAP MARKED "PLS 2250" FOUND ON THE NORTHEASTERLY SIDELINE OF SAID PORT DRIVE;
31. BY THE NORTHEASTERLY SIDELINE OF SAID PORT DRIVE ON A NON-TANGENTIAL CURVE TO THE LEFT, HAVING A RADIUS OF 375.00 AND AN ARC LENGTH OF 97.42' TO THE POINT OF BEGINNING.

CONTAINING 1,1295,743SQUARE FEET OR 29.75 ACRES, MORE OR LESS, AND BEING A PORTION OF LAND DESCRIBED IN A DEED TO PORT OF AUBURN, LLC RECORDED IN BOOK 6421, PAGE 120.

AS-SURVEYED LEGAL DESCRIPTION:

(CONTINUED)

25-FOOT-WIDE ACCESS & UTILITY EASEMENT

AN EASEMENT BEING 25-FEET WIDTH, FOR ALL PURPOSES ASSOCIATED WITH ACCESS, EGRESS, AND THE INSTALLATION AND MAINTENANCE OF UTILITIES, LEADING FROM THE NORTHEASTERLY SIDELINE OF PORT DRIVE, A PRIVATE WAY SHOWN ON A PLAN TITLED "OVERALL LEASE PLAN OF PORT OF AUBURN - PUD I FIRST AMENDMENT" PREPARED FOR BNRG - DIRIGO BY NORTHERN SURVEY ENGINEERING, LLC, DATED MAY 10, 2021, PROJECT NO. 20113, THE LIMITS OF SAID EASEMENT BEING BOUNDED 12.5-FEET EITHER SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT CAPPED IRON ROD SET AT THE NORTHERLY END OF SAID PORT DRIVE AT ITS INTERSECTION WITH THE SOUTHWESTERLY LINE OF "UNIT 3" AS SHOWN ON SAID PLAN, ALSO BEING THE SOUTHWEST CORNER OF A LEASE AREA GRANTED TO BD SOLAR AUBURN LLC TO BE RECORDED HEREWITH, AND HAVING MAINE STATE PLANE WEST ZONE NAD83 COORDINATES OF N 443148.20, E: 2918785.15; THENCE BY THE NORTHEASTERLY SIDELINE OF SAID PORT DRIVE IN A SOUTHERLY DIRECTION ON A CURVE TO THE RIGHT, HAVING A RADIUS OF 375.00 FEET AND AN ARC LENGTH OF 74.81 FEET, TO A POINT AND THE TRUE POINT OF BEGINNING (P.O.B.) HAVING MAINE STATE PLANE WEST ZONE NAD83 COORDINATES OF N 443122.39, E: 2918855.24; THENCE BY THE FOLLOWING COURSES:

1. N33° 06' 57"E 354.03' TO A POINT OF CURVATURE;
2. BY A TANGENTIAL CURVE TO THE LEFT, HAVING A RADIUS OF 19.76' AND AN ARC LENGTH OF 14.68', TO A POINT OF TANGENCY;
3. N08° 54' 52"W 226.44' TO A POINT OF CURVATURE;
4. BY A TANGENTIAL CURVE TO THE LEFT, HAVING A RADIUS OF 27.85' AND AN ARC LENGTH OF 22.49', TO A POINT OF TANGENCY;
5. N55° 11' 03"W 141.76' TO A POINT OF CURVATURE;
6. BY A TANGENTIAL CURVE TO THE LEFT, HAVING A RADIUS OF 30.00' AND AN ARC LENGTH OF 18.29', TO A POINT OF TANGENCY;
7. S89° 53' 11"W 301.19' TO A POINT OF CURVATURE;
8. BY A TANGENTIAL CURVE TO THE RIGHT, HAVING A RADIUS OF 30.00' AND AN ARC LENGTH OF 43.75', TO A POINT OF TANGENCY;
9. N07° 21' 28"W 135.12' TO A POINT OF CURVATURE;
10. BY A TANGENTIAL CURVE TO THE LEFT, HAVING A RADIUS OF 30.00' AND AN ARC LENGTH OF 20.78', TO A POINT OF TANGENCY;
11. N47° 03' 07"W 159.39' TO A POINT OF CURVATURE;
12. BY A TANGENTIAL CURVE TO THE LEFT, HAVING A RADIUS OF 30.00' AND AN ARC LENGTH OF 11.81', TO A POINT OF TANGENCY;
13. N69° 36' 34"W 214.97' TO A POINT OF CURVATURE;
14. BY A TANGENTIAL CURVE TO THE RIGHT, HAVING A RADIUS OF 27.90 AND AN ARC LENGTH OF 14.83', TO A POINT OF TANGENCY;
15. N39° 08' 38"W 133.25' TO A POINT IN THE SOUTHERLY LINE OF A LEASE AREA GRANTED TO BD SOLAR LEWISTON JUNCTION LLC AS SHOWN ON SAID PLAN AND THE POINT OF TERMINATION (P.O.T.) HAVING MAINE STATE PLANE WEST ZONE NAD83 COORDINATES OF N 442240.72, E: 2918089.17.

MEANING AND INTENDING TO DESCRIBE A STRIP OF LAND BEING 25-FET IN WIDTH, EXTENDING FROM SAID PORT DRIVE THROUGH A LEASE AREA GRANTED TO BD SOLAR AUBURN LLC TO THE SOUTHERLY LINE OF LEASE GRANTED TO BD SOLAR LEWISTON JUNCTION LLC, SAID EASEMENT BEING LOCATED ENTIRELY WITHIN THE BD SOLAR AUBURN LLC LEASE AREA AS SHOWN ON SAID PLAN.

SEAN P. PIERCE, PLS 2517

REV:	BY:	DATE:	STATUS:

THIS PLAN SHALL NOT BE MODIFIED WITHOUT WRITTEN PERMISSION.
ANY ALTERATIONS, AUTHORIZED OR OTHERWISE, SHALL BE AT THE USER'S SOLE RISK.

NORSE
NORTHERN SURVEY ENGINEERING
207.440.3487
22 PARKERS WAY, BRUNSWICK, MAINE 04011
www.northernsurveyengineering.com

RECORD OWNER:
PORT OF AUBURN, LLC
BK. 6421, PG. 120

GENERAL & SURVEY NOTES
ALTA/NSPS LAND TITLE SURVEY
BD SOLAR AUBURN LLC &
BD SOLAR LEWISTON JUNCTION LLC
LEWISTON JUNCTION ROAD - AUBURN, ME
FOR:
BNRG - DIRIGO
622 CONGRESS STREET, SUITE 202
PORTLAND, MAINE 04101

DRAWN	CHECKED
SPP	PHB
PROJECT NO.	DATE
20113	05/19/21
SHEET SIZE	SCALE
24" X 36"	

SHEET 5 OF 5

Bk 6421 Pg120 #17608
07-22-2005 @ 03:56p

QUITCLAIM DEED
(with covenant)

BAYSHORE CONCRETE PRODUCTS/MAINE, INC., a Maine corporation with a principal place of business in Auburn, County of Androscoggin and State of Maine, for consideration paid, grants to **PORT OF AUBURN, LLC**, a Maine limited liability company with a principal place of business in Auburn, County of Androscoggin and State of Maine, with QUITCLAIM COVENANTS, that certain lot or parcel of land with the buildings and improvements thereon, situated in the City of Auburn and Town of Poland, Androscoggin County, Maine being more particularly bounded and described in Schedule A attached hereto and incorporated herein.

IN WITNESS WHEREOF, Bayshore Concrete Products/Maine, Inc. has caused this instrument to be signed in its name by John E. Dobbs, its President, thereunto duly authorized this 22nd day of July, 2005.

MAINE REAL ESTATE TRANSFER TAX PAID

WITNESS:

_____

BAYSHORE CONCRETE PRODUCTS/MAINE, INC.

By: John E. Dobbs
John E. Dobbs
Its President

STATE OF VIRGINIA
City of Northampton, SS

JULY 22, 2005

Personally appeared the above-named John E. Dobbs and acknowledged the foregoing instrument to be his free act and deed, in his said capacity, and the free act and deed of said Bayshore Concrete Products/Maine, Inc.

Before me,

Charlotte G. Algenor III
~~Notary Public~~/~~Attorney at Law~~
Print name CHARLOTTE G. ALGENOR III
NOTARY PUBLIC

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SEAL

Schedule A

(Port of Auburn, LLC)

A certain lot or parcel of land with the buildings, improvements and fixtures thereon, situated in the City of Auburn and Town of Poland, Androscoggin County, Maine bounded and described as follows:

Beginning at an iron rod set with surveyor's cap #2250 on the apparent northwesterly sideline of the Lewiston & Auburn Railroad, said iron rod set being North 04° 17' 09" East seventy-one and thirty-four hundredths (71.34) feet, as measured across said railroad right-of-way, from an iron rod found with surveyor's cap #1206, located at the northwesterly corner of land now or formerly of Dead River Company evidenced by deed recorded in the Androscoggin County Registry of Deeds in Book 2933, Page 211; thence South 71° 58' 33" West along the apparent northwesterly sideline of said Lewiston & Auburn Railroad one thousand four hundred fifty-six and sixty-one hundredths (1,456.61) feet to an iron rod set; thence southwesterly continuing along said apparent northwesterly sideline of said Lewiston & Auburn Railroad by a tangent one thousand one hundred seventy-eight and ninety-two hundredths (1,178.92) foot radius curve to the left an arc length of two hundred thirty-three and twelve hundredths (233.12) feet to an iron rod set; thence southwesterly continuing along the apparent northwesterly sideline of said Lewiston & Auburn Railroad by a tangent seven hundred eighty-six and two hundredths (786.02) foot radius curve to the right an arc length of seven hundred seventy-two and five hundredths (772.05) feet to an iron rod found on the northeasterly line of land now or formerly of Lewiston & Auburn Railroad Company; thence North 34° 56' 12" West along said northeasterly line of land now or formerly of Lewiston & Auburn Railroad Company seven hundred forty-one and sixty hundredths (741.60) feet to an iron rod found on the apparent northeasterly sideline of land of St. Lawrence & Atlantic Railroad Company evidenced by deed recorded in said Registry in Book 2409, Page 130; thence North 19° 38' 12" West along said apparent northeasterly sideline of land of St. Lawrence & Atlantic Railroad Company one thousand six hundred forty-six and one hundredth (1,646.01) feet to an iron rod found at the southerly corner of land now or formerly of No. 224, LLC, described as Parcel 2 evidenced by deed recorded in said Registry in Book 4156, Page 28; thence North 56° 06' 46" East along the southeasterly line of said No. 224, LLC land nine hundred forty-nine and fifty hundredths (949.50) feet to an iron rod found; thence continuing North 56° 06' 46" East along other land now or formerly of No. 224, LLC, evidenced by deed recorded in said Registry in Book 3813, Page 1 thirty-three and fifty-seven hundredths (33.57) feet to an iron rod set; thence South 76° 23' 38" East along the southerly line of said other land of No. 224, LLC one thousand one hundred fifty-five and fifty-four hundredths (1,155.54) feet to an iron rod found; thence continuing South 76° 23' 38" East along the southerly line of land formerly of the Portland and Rumford Falls Railroad seven hundred eighty-one and ten hundredths (781.10) feet to the southwesterly line of land now or formerly of Benjamin P. Hawkins and Timothy Morse described as Parcel Two in a certain deed recorded in said Registry in Book 3813, Page 13; thence South 15° 43' 56" East along said southwesterly line of Hawkins and Morse land nine

hundred sixty-one and seven hundredths (961.07) feet to a stone monument found at the southerly corner of said Hawkins/Morse land; thence South 23° 00' 38" East along the southwesterly line of land of the City of Auburn Intermodal Facility evidenced by deed recorded in said Registry in Book 4047, Page 146 two hundred fifty-four and twenty-nine hundredths (254.29) feet to an iron rod set; thence North 70° 03' 38" East along the southeasterly line of said City of Auburn land three hundred thirty-four and eighty-one hundredths (334.81) feet to an iron rod found; thence South 04° 56' 08" West along the southwesterly line of said City of Auburn land six hundred forty-eight and twenty-nine hundredths (648.29) feet to the point of beginning.

Said parcel contains 142.74 acres.

All iron rods set are 5/8 inch diameter with surveyor's identification cap #2250.

All bearings refer to Magnetic North (1993) as shown on a plan entitled "Standard Boundary Survey, Intermodal Facility" dated November 1993 with revised date through December 21, 1993, prepared by BH2M, on file at the City of Auburn Engineering Department.

The above described parcel is identified as Lot 2 as shown on a plan entitled "Land Title Survey - Precast Structures, Inc. Facilities" prepared for Bayshore Concrete Products Corporation by Technical Services, Inc., dated July 2000, with revised date through September 21, 2000 recorded in said Registry, Plan Book 41, Page 76.

Being the same premises conveyed to Bayshore Concrete Products/Maine, Inc. by the following deeds: (a) deed from P-Con, Ltd. dated October 5, 2000 and recorded at Book 4521, Page 261 of said Registry; (b) deed from Nellie F. Benett dated August 22, 2000 and recorded at Book 4521, Page 248 of said Registry; (c) deed from Peter Fleischhacker dated October 22, 2000 and recorded at Book 4521, Page 246 of said Registry; (d) deed from Raymond A. Crowley dated October 5, 2000 and recorded at Book 4521, Page 267 of said Registry; and (e) deed from Gracia Crowley dated October 5, 2000 and recorded at Book 4521, Page 264 of said Registry.

The above-described premises are conveyed subject to the following, to the extent the same affect the premises:

1. Easements from the Cities of Auburn and Lewiston to Central Maine Power Company dated and recorded as follows: (A) August 7, 1961, recorded at Book 863, Page 165 of the Androscoggin County Registry of Deeds; (B) October 19, 1966, recorded at Book 966, Page 290 of said Registry; and (C) August 7, 1969, recorded at Book 1010, Page 760 of said Registry;

2. Restrictions as contained in a deed from Samuel L. Sargent, Trustee in Bankruptcy of the Estate of Structural Concrete Corporation of Maine to Raymond Crowley and Nelly F. Fleischhacker dated September 7, 1971 and recorded at Book 1041, Page 180 of said Registry;

3. Exceptions, reservations, restrictions and covenants set forth in the Deed of Release from the United States of America to the City of Auburn and the City of Lewiston dated July 25, 1988 and recorded in Book 2362, Page 18 of said Registry and Avigation rights and easements reserved in deed from the City of Auburn and the City of Lewiston to M.A. Crowley Trucking, Inc. dated October 31, 1988 and recorded at Book 2360, Page 23 of said Registry, as corrected by a deed from the City of Auburn and the City of Lewiston to M.A. Crowley Trucking, Inc. dated September 27, 2000 and recorded at Book 4521, Page 255 of said Registry, as further corrected and confirmed by a Confirmatory Deed from the City of Auburn and the City of Lewiston to Bayshore Concrete Products/Maine, Inc. dated October 25, 2000 and recorded at Book 4534, Page 48 of said Registry;

4. State of facts as disclosed by the above-referenced survey plan recorded at Plan Book 41, Page 76 of said Registry;

5. Terms and conditions of an Easement Deed and Crossing Agreement between St. Lawrence & Atlantic Railroad Company and Port of Auburn, LLC dated July 5, 2005 and to be recorded in said Registry;

6. Terms and conditions of an Easement Deed from Lewiston and Auburn Railroad Company to Bayshore Concrete Products/Maine, Inc. dated October 2, 2000 and recorded at Book 4521, Page 270 of said Registry, as amended by an instrument dated July 22, 2005 and to be recorded in said Registry.

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Town of Poland, Maine

Last Updated 10/02/2019

Back to List

Map/Lot	0004-0015-0001
Book	8524
Page	318
Account	265
Location	BARK MULCH DR.
Owner	LEWISTON AND AUBURN RAILROAD CO. PO BOX 501 AUBURN ME 04212

Assessment

Land	24,600
Building	0
Taxable	24,600

Property Information

Type	Residential
Acreage	16.40
Zone	Residential
Neighborhood	Table 3
Street Type	None
Topography	Rolling
Topography	Rough
Utilities	None

Land

Description	Type	Units	Value
Rear Land 2	Acres	16.40	24,600
		16.40	24,600

Tax Detail as of 10/02/2019

Year	Mil Rate	Original	Remaining
2020	14.98	368.51	184.25

Town of Poland, Maine

Last Updated 10/02/2019

Back to List

Map/Lot	0004-0016
Book	6421
Page	120
Account	266
Location	OFF HARDSCRABBLE RD.
Owner	PORT OF AUBURN, LLC 54 BARTOL ISLAND RD FREEPORT ME 04032

Assessment

Land	13,500
Building	0
Taxable	13,500

Property Information

Type	Residential
Acreage	30.00
Zone	Residential
Neighborhood	Table 3
Street Type	None
Topography	Rolling
Topography	Rough
Utilities	None

Land

Description	Type	Units	Value
Mixed Wood TG	Acres	30.00	13,530
		30.00	13,500

Tax Detail as of 10/02/2019

Year	Mil Rate	Original	Remaining
2020	14.98	202.23	101.11

APPENDIX 2

LOCATION MAP

SOURCE:
BING MAPS

SCALE: 1:2000

CES INC

BD SOLAR AUBURN, LLC
AUBURN, MAINE
LOCATION MAP

2019-04-26
12186.008

APPENDIX 3

SOLID WASTE CAPACITY STATEMENT

CES, Inc October 14, 2019
465 South Main Street
Brewer, ME 04412

RE: Ability to Serve for Auburn and Poland, Maine, North of Lewiston Junction Road and the Auburn Air Port

Dear Justine,

This letter is to confirm that Pine Tree Waste Inc. located in Naples, Maine, has the capabilities to pick up, and dispose of annual volumes of (CDD) construction demolition debris as well as CDD material generated by proposed construction, and carboard at the Solar array site north of Lewiston Junction Road and the Airport in Poland and Auburn, Maine. The end site for this material will be:

Casella Recycling
River Road
Lewiston, ME 04240

This letter is not a quote for service. It is a statement of capabilities. The sole purpose of this letter is to communicate the willingness and capabilities that Pine Tree Waste Inc. has towards providing this service as requested. If you have any questions or concerns, please do not hesitate to give me a call.

Sincerely,

Bill Bennett
Pine Tree Waste Inc.
87 Pleasant Hill Road
Scarborough, ME 04074
Office: 883-9777
Fax: 883-1954
William.bennett@casella.com

APPENDIX 4

ABUTTER LIST

BD SOLAR AUBURN, LLC
SOLAR FARM, AUBURN, MAINE
ABUTTERS AS OF May 22, 2023

ABUTTER LIST (POLAND, MAINE)

MAP	LOT	NAME & MAILING ADDRESS
3	3	Stephen Dick, II 34 Torrey Road Poland, ME 04274
3	9	Dennis Ferland 193 Hardscrabble Road Poland, ME 04274
3	9A	MCWAIN HOLDINGS, LLC P.O. Box 7775 SAN FRANCISCO, CA 94120-7775
4 4	15-2 17	MB Investment Properties, LLC 100 Bark Mulch Drive Auburn, ME 04210

ABUTTER LIST (AUBURN, MAINE)

MAP	LOT	NAME & MAILING ADDRESS
130	1	LJR Developers LLC 209 Sandbar Road Windham, ME 04062
142	1-1	Duke Energy Field Services c/o Gas Supply Resources 370 17th Street, Suite 2500 Denver, CO 80202
142	4	James Vamvakian 18 Baysite Lane Falmouth, ME 04105
142	7-1	Savage Services Corporation 901 W Legacy Center WY Midvale, UT 84047
142 155 167	5 1 4-1	Lewiston Auburn Railroad Company c/o Jerry Berube 415 Lisbon Street Lewiston, ME 04240
142 142	5-2 3	St. Lawrence Atlantic Railroad 225 First Flight Drive, Ste. 201 Auburn, ME 04210
142 142	2 6	Joseph Walsh 334 Highland Avenue South Portland, ME 04106
143	2	K&R Realty Associates, LLC PO Box 10109 Portland, ME 04104
143	3	Globe Holdings Company, LLC PO Box 128

MAP	LOT	NAME & MAILING ADDRESS
		Pittsfield, NH 03263
143	4	Otis South, LLC c/o Karen & Ford Reiche 54 Bartol Island Rd, Freeport, ME 04032
143 142	5-1 7-1	Savage Services Corporation 901 W. Legacy Center Way Midvale UT 84047
143	4-1 5-2 7-2	Port of Auburn, LLC c/o Karen & Ford Reiche 54 Bartol Island Road Freeport ME 04032
143		
142		
155	2	City of Auburn 60 Court Street Auburn, ME 04210
167	1-1	MB Investment Properties 70 Pleasant Hill Road Scarborough, ME 04074
167	4	George Field 116 West Hardscrabble Road Auburn, ME 04210

APPENDIX 5

FEMA FLOOD MAP

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 19. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from the Maine Office of Geographic Information Systems (MEGIS) at a scale of 1:4,800 or better from photography dated 2001 or later.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

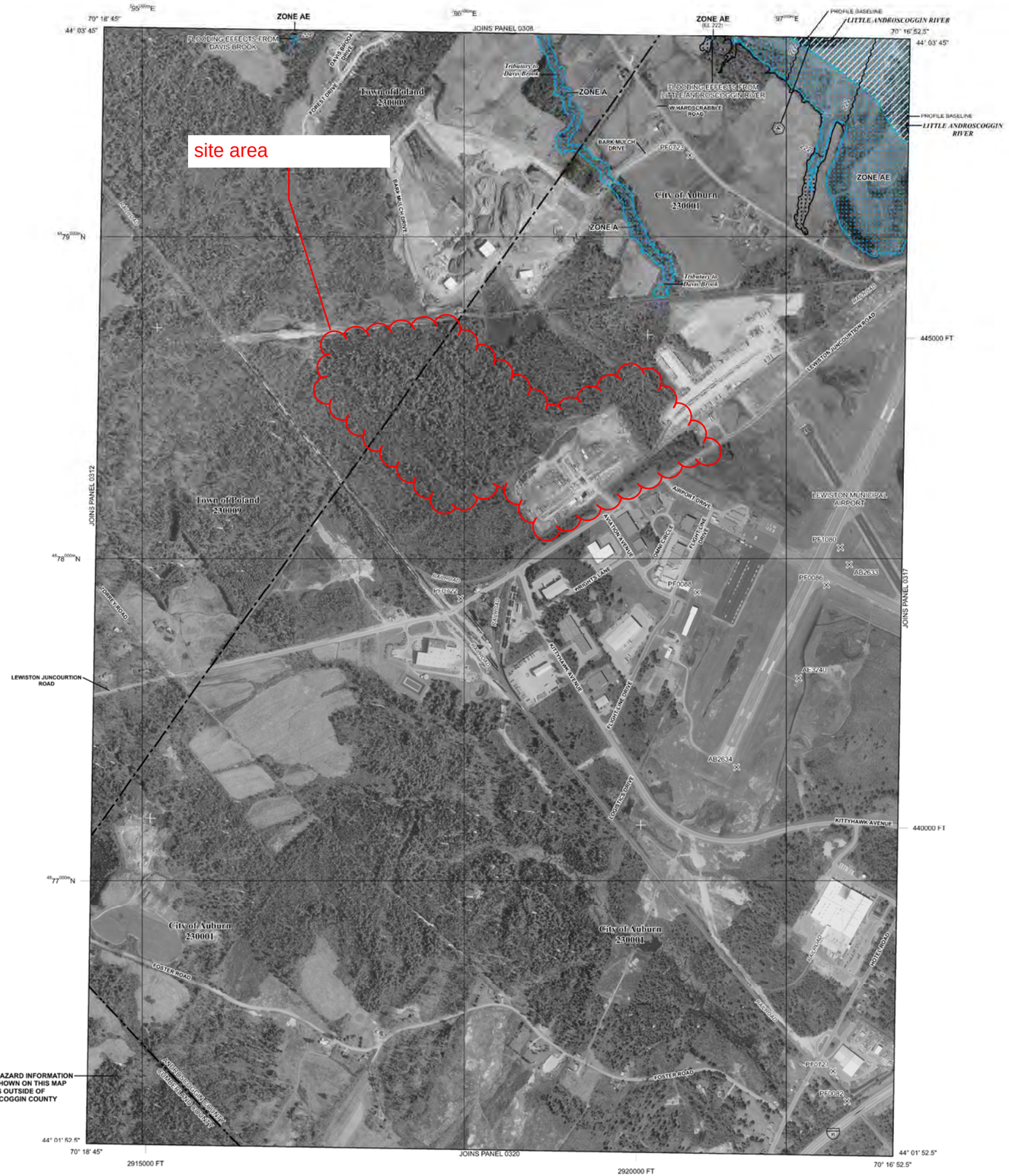
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map,** how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

State of Maine Floodway Note: Under the Maine Revised Statutes Annotated (M.R.S.A.) Title 38 § 439-A, 7C where the floodway is not designated on the Flood Insurance Rate Map, the floodway is considered to be the channel of a river or other water course and the adjacent land areas to a distance of one-half the width of the floodplain, as measured from the normal high water mark to the upland limit of the floodplain, unless a technical evaluation certified by a registered professional engineer is provided demonstrating the actual floodway based upon approved FEMA modeling methods.



FLOOD HAZARD INFORMATION IS NOT SHOWN ON THIS MAP IN AREAS OUTSIDE OF ANDROSCOGGIN COUNTY

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% Annual Chance Floodplain Boundary

0.2% Annual Chance Floodplain Boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.

513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A	Cross section line
23 - - - 23	Transect line
45° 02' 08", 93° 02' 12"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
3100000 FT	5000-foot ticks: Maine State Plane West Zone (FIPS Zone 1802), Transverse Mercator projection
4989000 N	1000-meter Universal Transverse Mercator grid values, zone 19
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
• FT1,000	River station

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
July 8, 2013

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

NOT TO SCALE

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0316E

FIRM

FLOOD INSURANCE RATE MAP

ANDROSCOGGIN COUNTY, MAINE (ALL JURISDICTIONS)

PANEL 316 OF 470

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
AUBURN, CITY OF	230001	0316	E
POLAND, TOWN OF	230009	0316	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 23001C0316E

EFFECTIVE DATE JULY 8, 2013

Federal Emergency Management Agency

APPENDIX 6

NOISE

Cooper Distribution Transformer Technical Data
Sungrow Correspondence and Technical Data

Distribution Transformers

COOPER Power Systems

Electrical Apparatus

210-12

Three-Phase Pad-Mounted Compartmental Type Transformer

GENERAL

At Cooper Power Systems, we are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality, most reliable transformers. Cooper Power Systems Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. In order to drive this innovation, we have invested both time and money in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin. Headquarters for the Systems Engineering Group of Cooper Power Systems, such revolutionary products as distribution-class UltraSIL™ Polymer-Housed Evolution™ surge arresters and Envirotemp™ FR3™ fluid have been developed at our Franksville lab.

With transformer sizes ranging from 45 kVA to 12 MVA and high voltages ranging from 2400 V to 46 kV, Cooper Power Systems has you covered. From fabrication of the tanks and cabinets to winding of the cores and coils, to production of arresters, switches, tap changers, expulsion fuses, current limit fuses, bushings (live and dead) and molded rubber goods, Cooper Power Systems does it all. Cooper Power Systems transformers are available with electrical grade mineral oil or Envirotemp™ FR3™ fluid, a less-flammable and bio-degradable fluid. Electrical codes recognize the advantages of using Envirotemp™ FR3™ fluid both indoors and outdoors for fire sensitive applications. The bio-based fluid meets Occupational Safety and Health Administration (OSHA) and Section 450.23 NEC Requirements.

Figure 1.
Three-phase pad-mounted transformer.

PRODUCT SCOPE

Type	Three Phase, 50 or 60 Hz, 65 ºC Rise (55 ºC, 55 ºC/65 ºC)
Fluid Type	Mineral oil or Envirotemp™ FR3™ fluid
Size	45 – 12,000 kVA
Primary Voltage	2,400 – 46,000 V
Secondary Voltage	208Y/120 V to 14,400 V
Specialty Designs	Inverter/Rectifier Bridge
	K-Factor (up to K-19)
	Vacuum Fault Interrupter (VFI)
	UL Listed & Labeled and Classified
	Factory Mutual (FM) Approved
	Solar/Wind Designs
	Differential Protection
	Seismic Applications (including OSHPD)

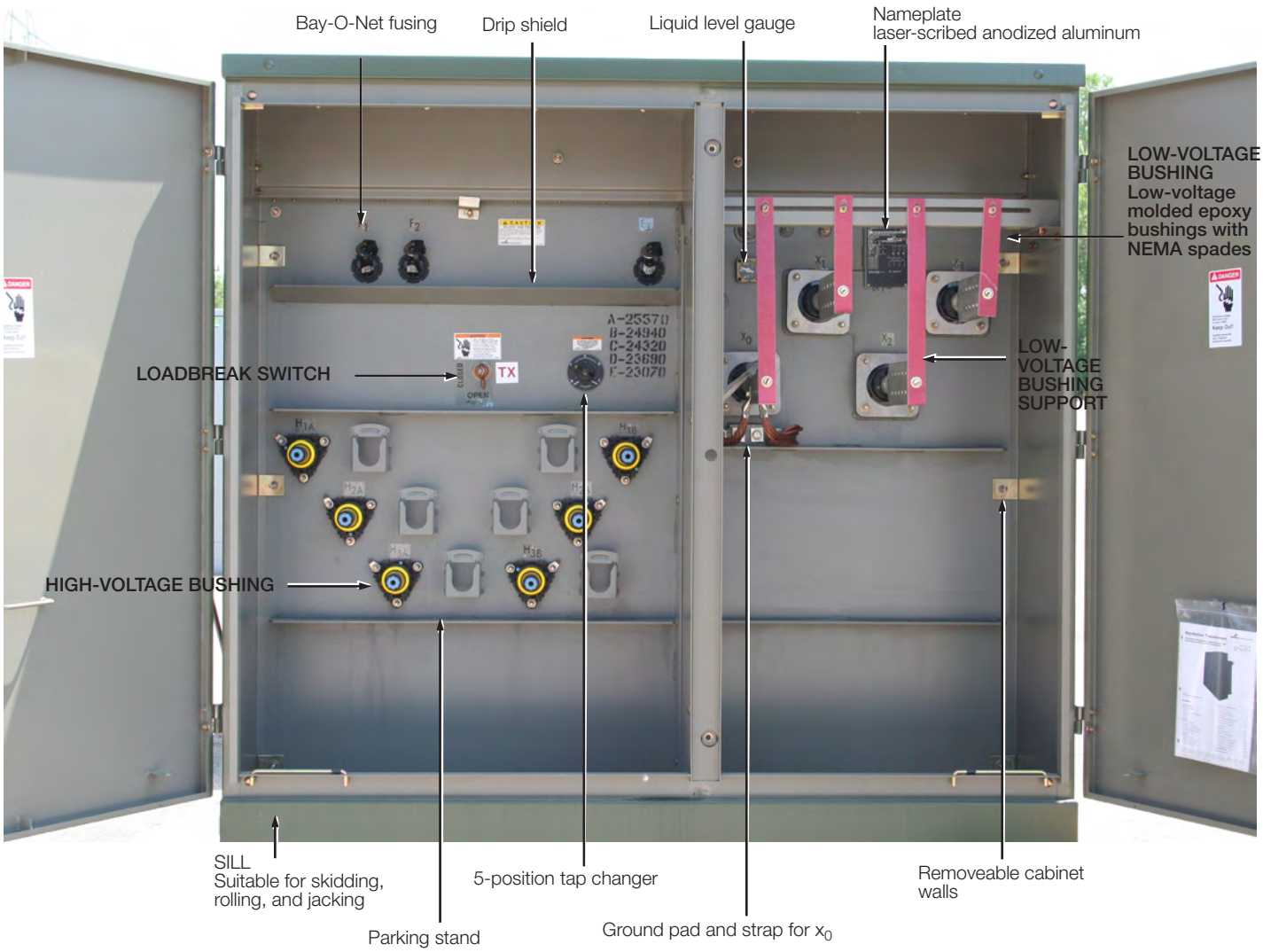


Figure 2.
Three-phase pad-mounted compartmental type transformer.

TABLE 1
Three-Phase Ratings

Three-Phase 50 or 60 Hz
kVA Available[1]: 45, 75, 112.5, 150, 225, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3750, 5000, 7500, 10000, 120000

[1]Transformers are available in the standard ratings and configurations shown or can be customized to meet specific needs.

TABLE 2
Audible Sound Levels

Self-Cooled, Two Winding kVA Rating	NEMA TR-1 Average Decibels (dB)
45-500	56
501-700	57
701-1000	58
1001-1500	60
1501-2000	61
2001-2500	62
2501-3000	63
3001-4000	64
4001-5000	65
5001-6000	66
6001-7500	67
7501-12000	68

TABLE 3
Insulation Test Levels

KV Class	Induced Test 180 or 400 Hz 7200 Cycle	kV BIL Distribution	Applied Test 60 Hz (kV)
1.2	TWICE RATED VOLTAGE	30	10
2.5		45	15
5		60	19
8.7		75	26
15		95	34
25 (grd Y Only)		125	40
25		150	50
34.5 (grd Y Only)		125	40
34.5		150	70
46		200	95

TABLE 4
Temperature Rise Ratings 0-3300 Feet (0-1000 meters)

	Standard	Optional
Unit Rating (Temperature Rise Winding)	65 ºC	55 °C, 55/65 ºC
Ambient Temperature Max	40 ºC	50 ºC
Ambient Temperature 24 Hour Average	30 ºC	40 ºC
Temperature Rise Hotspot	80 ºC	65 ºC

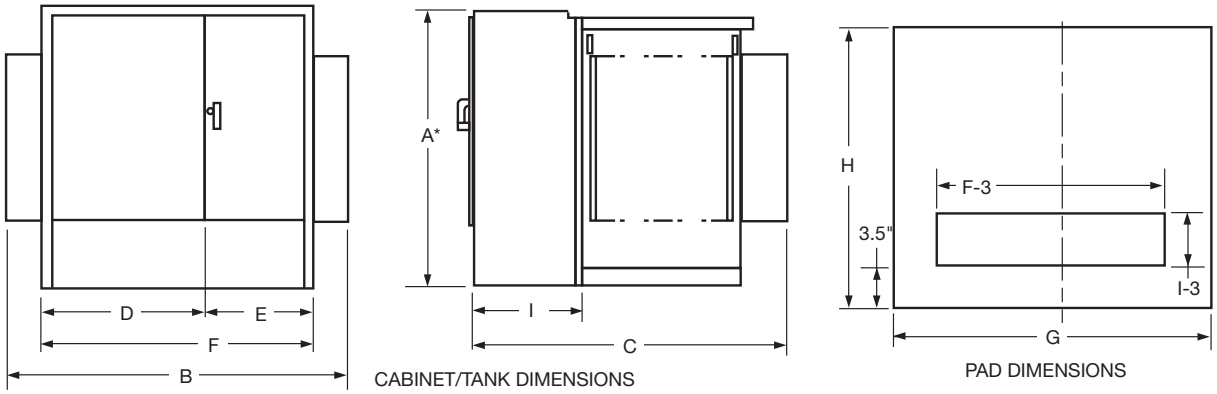


Figure 3.
Transformer and pad dimensions.

* Add 9" for Bay-O-Net fusing.

TABLE 5
Fluid-filled—aluminum windings 55/65 °C Rise1

65° Rise	DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—ALUMINUM WINDINGS										
	OUTLINE DIMENSIONS (in.)									Gallons of Fluid	Approx. Total Weight (lbs.)
kVA Rating	A*	B	C	D	E	F	G	H	I		
45	50	68	39	42	26	68	72	43	20	110	2,100
75	50	68	39	42	26	68	72	43	20	115	2,250
112.5	50	68	49	42	26	68	72	53	20	120	2,350
150	50	68	49	42	26	68	72	53	20	125	2,700
225	50	72	51	42	30	72	76	55	20	140	3,150
300	50	72	51	42	30	72	76	55	20	160	3,650
500	50	89	53	42	30	72	93	57	20	190	4,650
750	64	89	57	42	30	72	93	61	20	270	6,500
1000	64	89	59	42	30	72	93	63	20	350	8,200
1500	73	89	86	42	30	72	93	90	24	410	10,300
2000	73	72	87	42	30	72	76	91	24	490	12,500
2500	73	72	99	42	30	72	76	103	24	530	14,500
3000	73	84	99	46	37	84	88	103	24	620	16,700
3750	84	85	108	47	38	85	88	112	24	660	19,300
5000	84	96	108	48	48	96	100	112	24	930	25,000
7500	94	102	122	54	48	102	100	126	24	1,580	41,900

[1] Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Cooper Power Systems for exact dimensions.
* Add 9" for Bay-O-Net fusing.

TABLE 6
Fluid-Filled—Copper Windings 55/65 °C Rise[1]

65° Rise	DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—COPPER WINDINGS										
	OUTLINE DIMENSIONS (in.)									Gallons of Fluid	Approx. Total Weight (lbs.)
kVA Rating	A*	B	C	D	E	F	G	H	I		
45	50	64	39	34	30	64	69	43	20	110	2,100
75	50	64	39	34	30	64	69	43	20	115	2,350
112.5	50	64	49	34	30	64	69	53	20	115	2,500
150	50	64	49	34	30	64	69	53	20	120	2,700
225	50	64	51	34	30	64	73	55	20	140	3,250
300	50	64	51	34	30	64	75	55	20	160	3,800
500	50	81	53	34	30	64	85	57	20	200	4,800
750	64	89	57	42	30	72	93	61	20	255	6,500
1000	64	89	59	42	30	72	93	63	20	300	7,800
1500	73	89	86	42	30	72	93	90	24	410	10,300
2000	73	72	87	42	30	72	76	91	24	420	11,600
2500	73	72	99	42	30	72	76	103	24	500	14,000
3000	73	84	99	46	37	84	88	103	24	720	18,700
3750	84	85	108	47	38	85	88	112	24	800	20,500
5000	84	96	108	48	48	96	100	112	24	850	25,000
7500	94	102	122	54	48	102	100	126	24	1,620	46,900

[1] Weights, gallons of fluid, and dimensions are for reference only and not for construction. Please contact Cooper Power Systems for exact dimensions.
* Add 9" for Bay-O-Net fusing.

STANDARD FEATURES

Connections and Neutral Configurations

- Delta - Wye: Low voltage neutral shall be a fully insulated X0 bushing with removable ground strap.
- Grounded Wye-Wye: High voltage neutral shall be internally tied to the low voltage neutral and brought out as the H0X0 bushing in the secondary compartment with a removable ground strap.
- Delta-Delta: Transformer shall be provided without a neutral bushing.
- Wye-Wye: High voltage neutral shall be brought out as the H0 bushing in the primary compartment and the low voltage neutral shall be brought as the X0-bushing in the secondary compartment.
- Wye-Delta: High voltage neutral shall be brought out as the H0 bushing in the primary compartment. No ground strap shall be provided (line to line rated fusing is required).

High and Low Voltage Bushings

- 200 A bushing wells (15, 25, 35 kV)
- 200 A, 35 kV Large Interface
- 600 A (15, 25, 35 kV) Integral bushings (dead-front)
- Electrical-grade wet-process porcelain bushings (live-front)

Tank/Cabinet Features

- Bolted cover for tank access (45-1750 kVA)
- Welded cover with hand hole (2000-12,000 kVA)
- Three-point latching door for security
- Removable sill for easy installation
- Lifting lugs (4)
- Stainless steel cabinet hinges and mounting studs
- Steel divider between HV and LV compartment
- 20” Deep cabinet (45-1000 kVA)
- 24” Deep cabinet (1500-7500 kVA)
- 30” Deep cabinet (34.5/19.92 kV)
- Pentahead Captive Bolt
- Stainless steel 1-hole ground pads (45-500 kVA)
- Stainless steel 2-hole ground pads (750-10,000 kVA)
- Parking Stands

Valves/Plugs

- One-inch upper filling plug
- One-inch drain plug (45-500 kVA)
- One-inch combination drain valve with sampling device in low voltage compartment (750-12,000 kVA)
- Automatic pressure relief valve

Nameplate

- Laser-scribed anodized aluminum Nameplate

Figure 4.
Drain valve with sampler.

Figure 5.
Automatic Pressure relief valve.

Figure 6.
Liquid level gauge.

OPTIONAL FEATURES

High and Low Voltage Bushings

- 200 A (15, 25 kV) bushing inserts
- 200 A (15, 25 kV) feed thru inserts
- 200 A (15, 25 kV) (HTN) bushing wells with removable studs
- High-voltage 600 A (15, 25, 35 kV) deadbreak one-piece bushings
- Low voltage 6-, 8-holes spade
- Low voltage 12-, 16-, 20-holes spade (750-2500 kVA)
- Low voltage bushing supports

Tank/Cabinet Features

- Stainless steel tank base and cabinet
- Stainless steel tank base, cabinet sides and sill
- 100% Stainless Steel Unit
- Service entrance (2 inch) in sill or cabinet side
- Touch-up paint (domestic)
- Copper Ground Bus Bar
- Kirk-Key Provisions
- Nitrogen Blanket
- Bus duct cutout

Special Designs

- Factory Mutual (FM)
- UL Classified
- Triplex
- High altitude
- K-Factors
- Step-up
- Critical Application
- Modulation Transformers
- Seismic Applications (including OSHPD)

Switches

- One, two, or three On/Off loadbreak switches
- 4-position loadbreak V-blade switch or T-blade switch
- Delta-wye switch
- 3-Position V-Blade selector switch
- 100 A, 150 A, 300 A Tap Changers
- Dual voltage switch

Gauges and Devices

- Liquid level gauge (Optional Contacts)
- Pressure vacuum gauge (Optional Contacts and Bleeder)
- Dial-type thermometer (Optional Alarm Contacts)
- Cover mounted pressure relief device
- Ground connectors
- Hexhead captive bolt
- Breaker mounting provisions

Overcurrent Protection

- Bay-O-Net fusing (Current sensing, dual sensing, dual element, high amperage overload)
- Bay-O-Net expulsion fuse in series with a partial range under-oil ELSP current limiting fuse (below 23 kV)
- Cartridge fusing in series with a partial range under-oil ELSP current limiting fuse (above 23 kV)
- MagneX™ Interrupter with ELSP current limiting fuse
- Vacuum Fault Interrupter (VFI)
- Visible Break Window
- Fuse/switch interlock

Valves/Plugs

- Drain/sampling valve in high-voltage compartment
- Globe type upper fill valve

Overvoltage Protection

- Distribution-, Intermediate-, or Station-class surge arresters
- Elbow arresters (for dead-front connections)

Metering/Fan/Control

- Full metering package
- Current Transformers (CTs)
- Metering Socket
- NEMA 4 Control Box (Optional Stainless Steel)
- NEMA 7 Control Box (Explosion Proof)
- Fan Packages

Testing

- Customer Test Witness
- Customer Final Inspection
- Zero Sequence Impedance Test
- Heat Run Test
- ANSI Impulse Test
- Audible Sound Level Test
- RIV (Corona) Test
- Dissolved Gas Analysis (DGA) Test
- 8- or 24-Hour Leak Test

Coatings (Paint)

- ANSI Bell Green
- ANSI #61 Light Gray
- ANSI #70 Sky Gray
- Special paint available per request

Nameplate

- Stainless Steel Nameplate

Decals and Labels

- High voltage warning signs
- Mr. Ouch
- Bi-lingual Warning
- DOE Compliant
- Customer stock code
- Customer stenciling
- Shock and Arc Flash Warning Decal
- Non-PCB Decal

CONSTRUCTION

Core

The three-legged, step-lap mitered core construction is manufactured using a high-quality cutting machine. For maximum efficiency, cores are precisely stacked, virtually eliminating gaps in the corner joints.

Five-legged wound core or shell-type triplex designs are used for wye-wye connected transformers, and other special transformer designs.

Cores are manufactured with precision cut, burr-free, grain-oriented silicon steel. Many grades of core steel are available for optimizing core loss efficiency.

Coils

Pad-mounted transformers feature a rectangular coil configuration with wire-wound, high-voltage primaries and sheet-wound secondaries. The design minimizes axial stress developed by short circuits and provides for magnetic balancing of tap connections.

Coils are wound using the highest quality winding machines providing exacting tension control and conductor placement for superior short-circuit strength and maximum efficiency.

Extra mechanical strength is provided by diamond pattern, epoxy-coated paper insulation, used throughout the coil, with additional epoxy at heavy stress points. The diamond pattern distribution of the epoxy and carefully arranged ducts, provide a network of passages through which cooling fluid can freely circulate.

Coil assemblies are heat-cured under calculated hydraulic pressure to ensure performance against short-circuit forces.

Core and Coil Assemblies

Pad-mounted transformer core and coil assemblies are braced with heavy steel ends to prevent the rectangular coil from distorting under short-circuit conditions. Plates are clamped in place using presses, and welded or bolted to form a solid core and coil assembly. Core and coil assemblies exceed ANSI/IEEE requirements for short-circuit performance. Due to the rigidity of the design, impedance shift after short-circuit is comparable to that of circular wound assemblies.

Tanks

Transformer tanks are designed for high strength and ease of handling, installation, and maintenance. Tanks are welded using precision-cut, hot rolled, pickled and oiled steel. They are sealed to protect the insulating fluid and other internal components.

Transformer tanks are pressure-tested to withstand 7 psig without permanent distortion and 15 psig without rupture.

Tank Finish

An advanced multi-stage finishing process exceeds IEEE Std C57.12.28™ standards. The eight-stage pre-treatment process assures coating adhesion and retards corrosion. It converts tank surfaces to a nonmetallic, water insoluble iron phosphate coating.

The paint method consists of two distinct layers of paint. The first is an epoxy primer (E-coat) layer which provides a barrier against moisture, salt and corrosives. The two-component urethane final coat seals and adds ultraviolet protection.

Vacuum Processing

Transformers are dried and filled with filtered insulating fluid under vacuum, while secondary windings are energized. Coils are heated to drive out moisture, ensuring maximum penetration of fluid into the coil insulation system.

Insulating Fluid

Transformers from Cooper Power Systems are available with electrical-grade mineral insulating oil or Envirotemp™ FR3™ fluid. The highly refined fluids are tested and degassed to assure a chemically inert product with minimal acid ions. Special additives minimize oxygen absorption and inhibit oxidation. To ensure high dielectric strength, the fluid is re-tested for dryness and dielectric strength, refiltered, heated, dried, and stored under vacuum before being added to the completed transformer.

Cooper Power Systems transformers filled with Envirotemp™ FR3™ fluid enjoy unique fire safety, environmental, electrical, and chemical advantages, including insulation life extending properties.

A bio-based, sustainable, natural ester dielectric coolant, Envirotemp™ FR3™ fluid quickly and thoroughly biodegrades in the environment and is non-toxic per acute aquatic and oral toxicity tests.

Building for Environmental and Economic Sustainability (BEES) total life cycle assessment software, utilized by the US Dept. of Commerce, reports its overall environmental performance impact score at 1/4th that reported for mineral oil. Envirotemp™ FR3™ fluid has also earned the EPA Environmental Technology Verification of transformer materials.

With a fire point of 360 °C, Envirotemp™ FR3™ fluid is FM Approved and Underwriters Laboratories Classified “Less-Flammable” per NEC Article 450-23, fitting the definition of a Listed Product per NEC.

Pad-Mounted VFI Transformer

Figure 7.
VFI transformer with visible break.

The VFI transformer combines a conventional distribution transformer from Cooper Power Systems with the proven Vacuum Fault Interrupter (VFI). This combination provides both voltage transformation and transformer over current protection in one space saving and money saving package. The pad-mounted VFI transformer protects the transformer and provides proper coordination with upstream protective devices. When a transformer fault or overload condition occurs, the VFI breaker trips and isolates the transformer.

The three-phase VFI breaker has independent single-phase initiation, but is three-phase mechanically gang-tripped. A trip signal on any phase will open all three phases. This feature eliminates single-phasing of three phase loads. It also enables the VFI breaker to be used as a three-phase load break switch.

Due to the resettable characteristics of the VFI breaker, restoring three-phase service is faster and easier.

The sealed visible break window and switch is an option that can be installed to provide visible break contact. This feature provides enhanced safety and allows an operator to see if the loadbreak switch contacts are in an open or closed position before performing maintenance.

Envirotran™ FM Approved Special Protection Transformer

The Envirotran™ transformer from Cooper Power Systems is FM Approved and suitable for indoor locations. Factory Mutual Research Corporation's (FMRC) approval of the Envirotran transformer line makes it easy to comply with and verify compliance with Section 450.23, 2008 NEC, Less-Flammable Liquid-Filled Transformer Requirements for both indoor and outdoor locations.

Envirotran FM Approved transformers offer the user the benefit of a transformer that can be easily specified to comply with NEC, and makes FM Safety Data Sheet compliance simpler, while also providing maximum safety and flexibility for both indoor and outdoor installations.

Because the "FM Approved" logo is readily visible on the transformer and its nameplate, NEC compliance is now easily verifiable by the inspector.

Envirotran FM Approved transformers are manufactured under strict compliance with FMRC Standard 3990 and are filled with FM Approved Envirotemp™ FR3™ fluid, a fire-resistant dielectric coolant.

SPECIAL APPLICATION TRANSFORMERS

Data Center Transformer

With focus rapidly shifting from simply maximizing uptime and supporting demand to improving energy utilization, the data center industry is continually looking for methods to increase its energy efficiency and reliability. Utilizing cutting edge technology, Cooper Power Systems Hardened Data Center (HDC) transformers are the solution. Designed with special attention given to surge protection, HDC liquid-filled transformers provide superior performance under the harshest electrical environments. Contrary to traditional dry-type units, HDC transformers provide unsurpassed reliability, overloadability, operational life, efficiency, thermal loading and installed footprint. These Cooper Power Systems units have reliably served more than 750 MW of critical data center capacity for a total of more than 4,000,000 hours without an hour of downtime.

The top priority in data center operations is uninterrupted service. Envirotran HDC transformers from Cooper Power Systems, having substantially higher levels of insulation, are less susceptible to voltage surges. Cooper Power Systems has experienced zero failures due to switching transients. The ANSI/IEEE standard impulse withstand ratings are higher for liquid-filled transformers, making them less susceptible to insulation failure. The Envirotran HDC transformer provides ultimate protection by increasing the BIL rating one level higher than standard liquid-filled transformer ratings. The cooling system of liquid-filled transformers provides better protection from severe overloads—overloads that can lead to significant loss of life or failure.

Data center design typically includes multiple layers of redundancy, ensuring maximum uptime for the critical IT load. When best in class transformer manufacturing lead times are typically weeks, not days, an unexpected transformer failure will adversely affect the facility's reliability and profitability. Therefore, the ability to determine the electrical and mechanical health of a transformer can reduce the probability of costly, unplanned downtime. Routine diagnostic tests, including key fluid properties and dissolved gas analysis (DGA), can help determine the health of a liquid-filled transformer. Although sampling is not required for safe operation, it will provide the user with valuable information, leading to scheduled repair or replacement, and minimizing the duration and expense of an outage. With a dry-type transformer, there is no reliable way to measure the health or likelihood of an impending failure.

Solar Transformer

As a result of the increasing number of states that are adopting aggressive Renewable & Alternative Energy Portfolio Standards, the solar energy market is growing—nearly doubling year over year. Cooper Power Systems, a key innovator and supplier in this expanding market, is proud to offer Envirotran transformers specifically designed for Solar Photovoltaic medium-voltage applications. Cooper Power Systems is working with top solar photovoltaic developers, integrators and inverter manufacturers to evolve the industry and change the way we distribute power.

In accordance with this progressive stance, every Cooper Power Systems Envirotran Solar transformer is filled with non-toxic, biodegradable Envirotemp™ FR3™ dielectric fluid, made from renewable seed oils. On top of its biodegradability, Envirotemp™ FR3™ fluid substantially extends the life of the transformer insulation, saving valuable resources. What better way to distribute green power than to use a green transformer. In fact, delaying conversion to Envirotran transformers places the burden of today's environmental issues onto tomorrow's generations. Cooper Power Systems can help you create a customized transformer, based on site specific characteristics including: temperature profile, site altitude, solar profile and required system life. Some of the benefits gained from this custom rating include:

- Reduction in core losses
- Improved payback on investment
- Reduction in footprint
- Improved fire safety
- Reduced environmental impact

For the solar photovoltaic industry, Cooper Power Systems is offering standard step up transformers and dual secondary designs.

Wind Transformer

Cooper Power Systems is offering custom designs for renewable energy power generation. Cooper Power Systems manufactures Generator Step-Up (GSU) transformers for installation at the base of every wind turbine. Additionally, grounding transformers are available for wind power generation.

DOE Efficiency

The United States Department of Energy (DOE) has mandated efficiency values for most liquid type, medium voltage transformers. As a result, all applicable Cooper Power Systems transformers are designed to meet or exceed the standard efficiency values per DOE 2010; Final Ruling, 10 CFR Part 431.

Underwriters Laboratories® (UL®) Listed and Labeled/ Classified

The Envirotran transformer from Cooper Power Systems can be specified as UL Listed & Labeled, and/ or UL Classified. Underwriters Laboratories (UL) listing is a verification of the design and construction of the transformer to the ANSI/IEEE standards. UL listing generally is the most efficient, cost-effective solution for complying with relevant state and local electrical codes. UL Combination Classification/Listing is another way in which to comply with Section 450.23, 2008 NEC requirements. This combines the UL listed transformer with a UL Classified Less-Flammable Liquid and complies with the use restrictions found within the liquid Classification.

K-Factor Transformer

With a drastic increase in the use of ferromagnetic devices, arcing devices, and electric power converters, higher frequency loads have increased significantly. This harmonic loading has the potential to generate higher heat levels within a transformer's windings and leads by as much as 300%. Harmonic loading has the potential to induce premature failure in standard-design distribution transformers.

In addition to standard UL "K-Factor" ratings, transformers can be designed to customer-provided specifications detailing precise loading scenarios. Onsite measurements of magnitude and frequency, alongside harmonic analysis of the connected load can be performed by Cooper Power Systems engineers or a third party consultant. These field measurements are used to determine exact customer needs and outline the transformer specifications.

Cooper Power Systems will design harmonic-resistant transformers that will be subjected to the unique harmonic loads. These units are designed to maintain normal temperature rise under harmonic, full-load conditions. Standard UL "K-Factor" designs can result in unnecessary costs when the "next-highest" K-Factor must be selected for a calculated design factor. To save the customer these unnecessary costs, Cooper Power Systems can design the transformer to the specific harmonic spectrum used in the application. K-factor transformers from Cooper Power Systems are filled with mineral oil or Envirotemp™ FR3™ fluid and enjoy the added benefits of dielectric cooling such as higher efficiencies than dry-type transformers.

Modulation Transformer

Bundled with an Outboard Modulation Unit (OMU) and a Control and Receiving Unit (CRU), a Modulation Transformer Unit (MTU) is designed to remotely achieve two way communication.

The use of an MTU reduces travel time and expense versus traditional meter reading performed by high voltage electricians. Additionally, with MTU it is possible to manage and evaluate energy consumption data, providing reduced metering costs and fewer tenant complaints.

An MTU utilizes existing utility infrastructure, therefore eliminating the need to engineer and construct a dedicated communication network.

Figure 8.
Modular transformer.

Inverter/Rectifier Bridge

Cooper Power Systems complements its range of applications for transformers by offering dual winding designs. These designs are intended for connection to 12-pulse rectifier bridges.

PRODUCT ATTRIBUTES

To set us apart from other transformer manufactures, Cooper Power Systems includes the following guarantees with every three-phase pad-mounted transformer.

Engineered to Order (ETO)

Providing the customer with a well developed, cost-effective solution is the number one priority at Cooper Power Systems. Using customer specifications, Cooper Power Systems will work with the customer from the beginning to the end to develop a solution to fit their needs. Whether it is application specific, site specific, or a uniquely specified unit, Cooper Power Systems will provide transformers with the best in class value and performance, saving the customer time and money.

Made in the U.S.A.

Cooper Power Systems three-phase pad-mounted transformers are produced right here in the United States of America. Our manufacturing facilities are positioned strategically for rapid shipment of products. Furthermore, should the need arise, Cooper Power Systems has a broad network of authorized service repair shops throughout the United States.

Superior Paint Performance

Protecting transformers from nature's elements worldwide, Cooper Power Systems E-coat system provides unrivaled transformer paint life, and exceeds ANSI standards C57.12.28 and C57.12.29. In addition to the outside of the unit, each transformer receives a gray E-coat covering in the interior of the tank and cabinet, providing superior rust resistance and greater visibility during service.

If the wide range of standard paint selections does not suit the customer's needs, Cooper Power Systems will customize the paint color to meet their requirements.

Rectangular Coil Design

Cooper Power Systems utilizes a rectangular coil design. This winding technique results in a smaller overall unit footprint as well as reducing the transformer weight. The smaller unit size does not hinder the transformer performance in the least. Units have proven short circuit withstand capabilities up to 12 MVA.

TESTING

Cooper Power Systems performs routing testing on each transformer manufactured including the following tests:

- Insulation Power Factor: This test verifies that vacuum processing has thoroughly dried the insulation system to required limits.
- Ratio, Polarity, and Phase Relation: Assures correct winding ratios and tap voltages; checks insulation of HV and LV circuits. Checks entire insulation system to verify all live-to-ground clearances.
- Resistance: This test verifies the integrity of internal high-voltage and low-voltage connections; provides data for loss upgrade calculations.
- Applied Potential: Applied to both high-voltage and low-voltage windings, this test stresses the entire insulation system to verify all live-to-ground clearances.
- Induced Potential: 3.46 times normal plus 1000 volts for reduced neutral designs.
- Loss Test: These design verification tests are conducted to assure that guaranteed loss values are met and that test values are within design tolerances. Tests include no-load loss and excitation current along with impedance voltage and load loss.
- Leak Test: Pressurizing the tank to 7 psig assures a complete seal, with no weld or gasket leaks, to eliminate the possibility of moisture infiltration or fluid oxidation.

Design Performance Tests

The design performance tests include the following:

- Temperature Rise: Our automated heat run facility ensures that any design changes meet ANSI/IEEE temperature rise criteria.
- Audible Sound Level: Ensures compliance with NEMA requirements.
- Lightning Impulse: To assure superior dielectric performance, this test consists of one reduced wave, two chopped waves and one full wave in sequence, precisely simulating the harshest conditions.

THOMAS A EDISON RESEARCH AND TEST FACILITY

We are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality transformer for the lowest cost. Cooper Power Systems Transformer Products are ISO 9001 compliant, emphasizing process improvement in all phases of design, manufacture, and testing. We have invested millions of dollars in the Thomas A. Edison Technical Center, our premier research facility in Franksville, Wisconsin affirming our dedication to introducing new innovations and technologies to the transformer industry. Headquarters for the Systems Engineering group of Cooper Power Systems, this research facility is fully available for use by our customers to utilize our advanced electrical and chemical testing labs.

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FM APPROVED

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COOPER Power Systems

2300 Badger Drive
Waukesha, WI 53188

SUNGROW
Clean power for all

SG125HV

String Inverter for 1500 Vdc System

High Yield

- Patented five-level topology, max. efficiency 98.9 %, European efficiency 98.7 %, CEC efficiency 98.5 %
- Full power operation without derating at 50 ℃
- Patented anti-PID function optional

Easy O&M

- Virual central solution, easy for O&M
- Compact design and light weight for easy installation

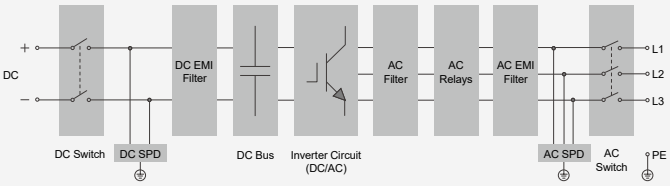
Saved Investment

- DC 1500V,AC 600V, low system initial investment
- 1 to 5MW power block design for lower AC transformer and labor cost
- Max.DC/AC ratio up to 1.5

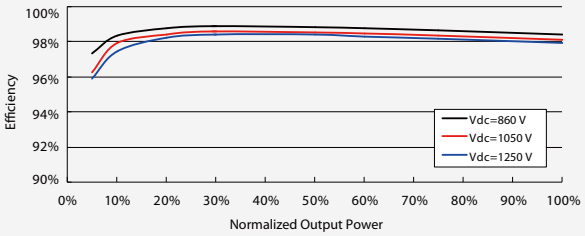
Grid Support

- Compliance with both IEC and UL safety,EMC and grid support regulations
- Low/High voltage ride through(L/HVRT)
- Active & reactive power control and power ramp rate control

Circuit Diagram



Efficiency Curve



Input (DC)	SG125HV
Max. PV input voltage	1500 V
Min. PV input voltage / Start-up input voltage	860 V / 920 V
Nominal PV input voltage	1050 V
MPP voltage range	860 – 1450 V
MPP voltage range for nominal power	860 – 1250 V
No. of independent MPP inputs	1
No. of DC inputs	1
Max. PV input current	148 A
Max. DC short-circuit current	240 A

Output (AC)	
AC output power	125000 VA @ 50 ℃
Max. AC output current	120 A
Nominal AC voltage	3 / PE, 600 V
AC voltage range	480 – 690 V
Nominal grid frequency / Grid frequency range	50 Hz / 45 – 55 Hz, 60 Hz / 55 – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % In
Power factor at nominal power / Ajustable power factor	> 0.99 / 0.8 leading - 0.8 lagging
Feed-in phases / connection phases	3 / 3

Efficiency	
Max. efficiency / European efficiency	98.9% / 98.7%
CEC efficiency	98.5%

Protection	
DC reverse connection protection	Yes
AC short-circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
DC switch / AC switch	Yes / Yes
Night SVG function	No
Anti-PID function	Yes
Overvoltage protection	DC Type II / AC Type II

General Data	
Dimensions (W*H*D)	670*902*296 mm **26.4''*35.5''*11.7''**
Weight	76 kg **167.5 lb**
Isolation method	Transformerless
Degree of protection	IP 65 **NEMA 4X**
Night power consumption	< 4 W
Operating ambient temperature range	-25 to 60 ℃ (> 50 ℃ derating) **-13 to 140 ℉ (> 122 ℉ derating)**
Allowable relative humidity range (non-condensing)	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) **13123 ft (> 9843 ft derating)**
Display / Communication	LED, Bluetooth+APP / RS485
DC connection type	OT or DT terminal (Max. 185 mm² **350 Kcmil**)
AC connection type	OT or DT terminal (Max. 185 mm² **350 Kcmil**)
Compliance	UL1741, UL1741SA, IEEE1547, IEEE1547.1, CSA C22.2 107.1-01-2001, FCC Part15 Sub-part B Class A Limits, California Rule 21, IEC 62109-1/-2, IEC 61000-6-2/-4, IEC 61727, IEC62116, BDEW, UNE 206007-1:2013, P.O.12.3, UTE C15-712-1:2013, CEI 0-16:2017, IEC 61683, PEA, NTCO
Grid Support	LVRT, HVRT, ZVRT, active & reactive power regulation, PF control, soft start/stop
Type designation	SG125HV-10

Test Report

Applicant	: Sungrow Power Supply Co., Ltd.
Address	: No.1699 Xiyou Rd., New & High Technology Industrial Development Zone, 230088,Hefei, P. R. China.
Sample Description	
Product	: PV Inverter
Brand Name/Trade Name	: Sungrow
Model No.	: SG125HV, SG111HV, SG125HV-20
Electrical Rating	: SG125HV, SG125HV-20: IP65 (Electronics), IP20 (Rear Portion), Class I Input: Max. 1500VDC, MPPT voltage range: 860-1250VDC, Max. 148A, Isc PV:240A Output: Nominal AC voltage: 600V 3/PE, Max.AC output current :120A AC output power: 125kVA SG111HV: Class I Max. PV input voltage:1500V DC, MPP voltage range :780V-1450V DC, MPP voltage range for nominal power:780V-1250V DC, Max. PV input current:146A Output: Nominal AC voltage: 540V 3/PE, Max.AC output current :121A AC output power: 111kVA
Manufacturer	: Sungrow Power Supply Co., Ltd.
Model No. of Manufacturer	: SG125HV, SG111HV, SG125HV-20
No. of Samples	: 3
Date of receipt of test item	: 2018-06-05
Date (s) of performance of test	: 2018-06-05
Date of issue	: 2018-06-19
Service Requested	: IEC/EN 62109-1 Clause 10
Method	: IEC/EN 62109-1 Clause 10
Conclusion	: The testing of sample **complies** with the above safety standard clause/requirement
Remark	: SG125HV-20 is identical with SG125HV except that SG125HV-20 has extra SVG function.

Test Report

Prepared and checked by:
Eurofins Product Testing Service (Shanghai) Co., Ltd.

Brian Pan
Project Engineer
Industrial & Electrical Operation Dept.

Reviewed by
Eurofins Product Testing Service (Shanghai) Co., Ltd.

Teddy Wang
Technical Manager
Industrial & Electrical Operation Dept.

- The results reported in this test report shall refer only to the sample actually checked and shall not refer or be deemed to refer to bulk from which such a sample may be said to have been obtained.
- This report shall not be reported except in full without prior authorization from Eurofins Product Testing Service (Shanghai) Co., Ltd.
- The services are provided subject to the terms and condition of the company, which can be furnished upon request.

Test Report

10	**PROTECTION AGAINST SONIC PRESSURE HAZARDS**		--
10.1	General		P
	The equipment shall provide protection against the effect of sonic pressure. Conformity tests are carried out if the equipment is likely to cause such HAZARDS.		P
10.2	Sonic pressure and Sound level		P
10.2.1	Hazardous Noise Levels	80 dBA	P

Test Report

➢ Test data:

SG111HV:

Table 2: **Hazardous noise levels**			
Ambient (°C)	25		
Measurement distance(m)	1		
Measured sound pressure (dBA)	64,8	Limit	80 dBA
If equipment produces noise at a level that could cause a hazard, the noise shall be measured to determine the maximum sound pressure level that the equipment can produce			

SG125HV, SG125HV-20:

Table 2: **Hazardous noise levels**			
Ambient (°C)	25		
Measurement distance(m)	1		
Measured sound pressure (dBA)	64,9	Limit	80 dBA
If equipment produces noise at a level that could cause a hazard, the noise shall be measured to determine the maximum sound pressure level that the equipment can produce			

Test Report

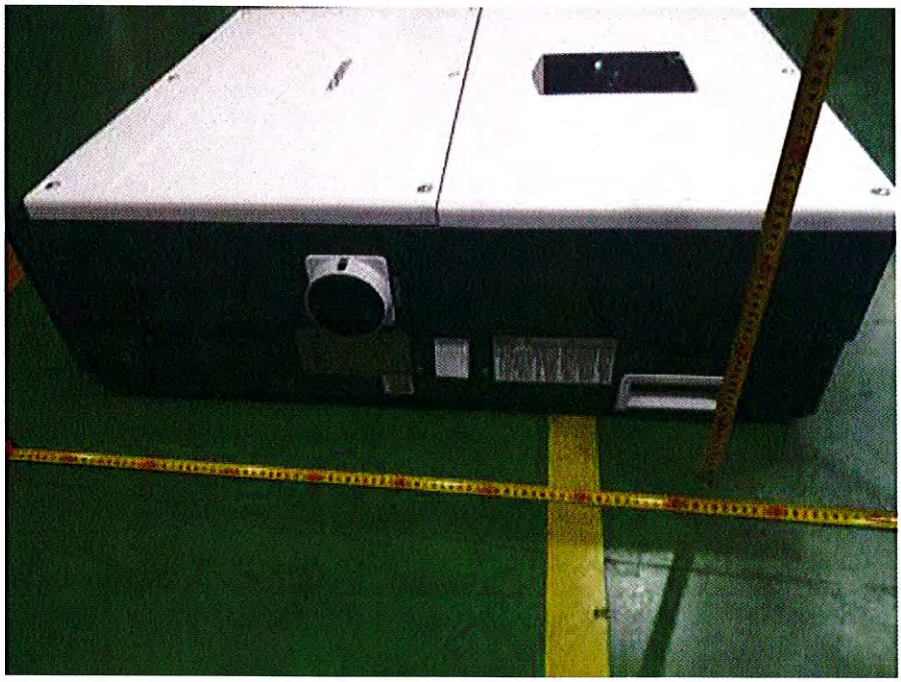
Photo:

Photo 1.

Description: Enclosure-Front 1

Photo 2.

Description: Enclosure-Front 2



Test Report

Photo 3.

Description: Enclosure-Top

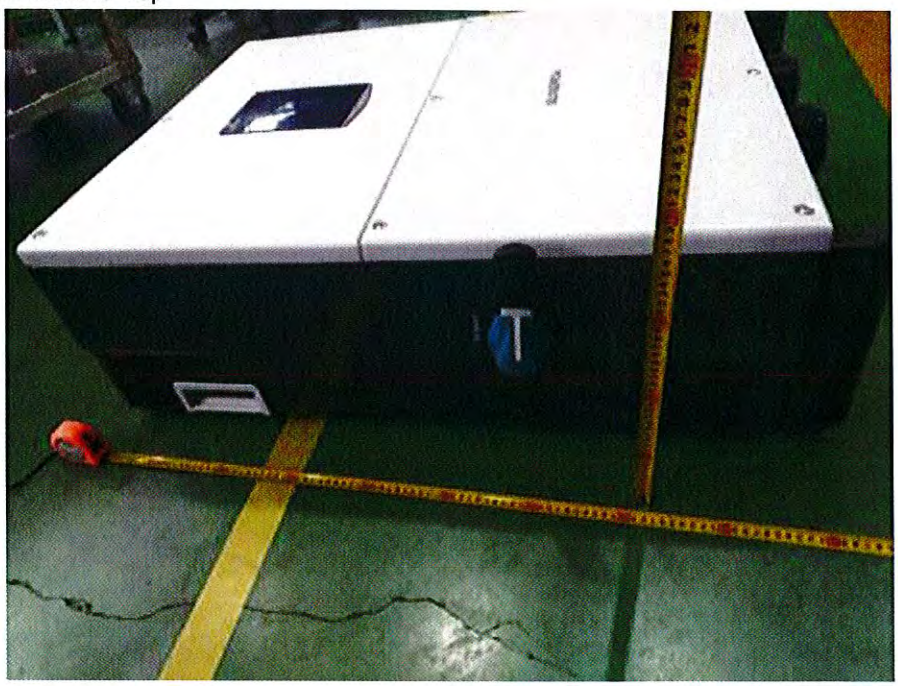


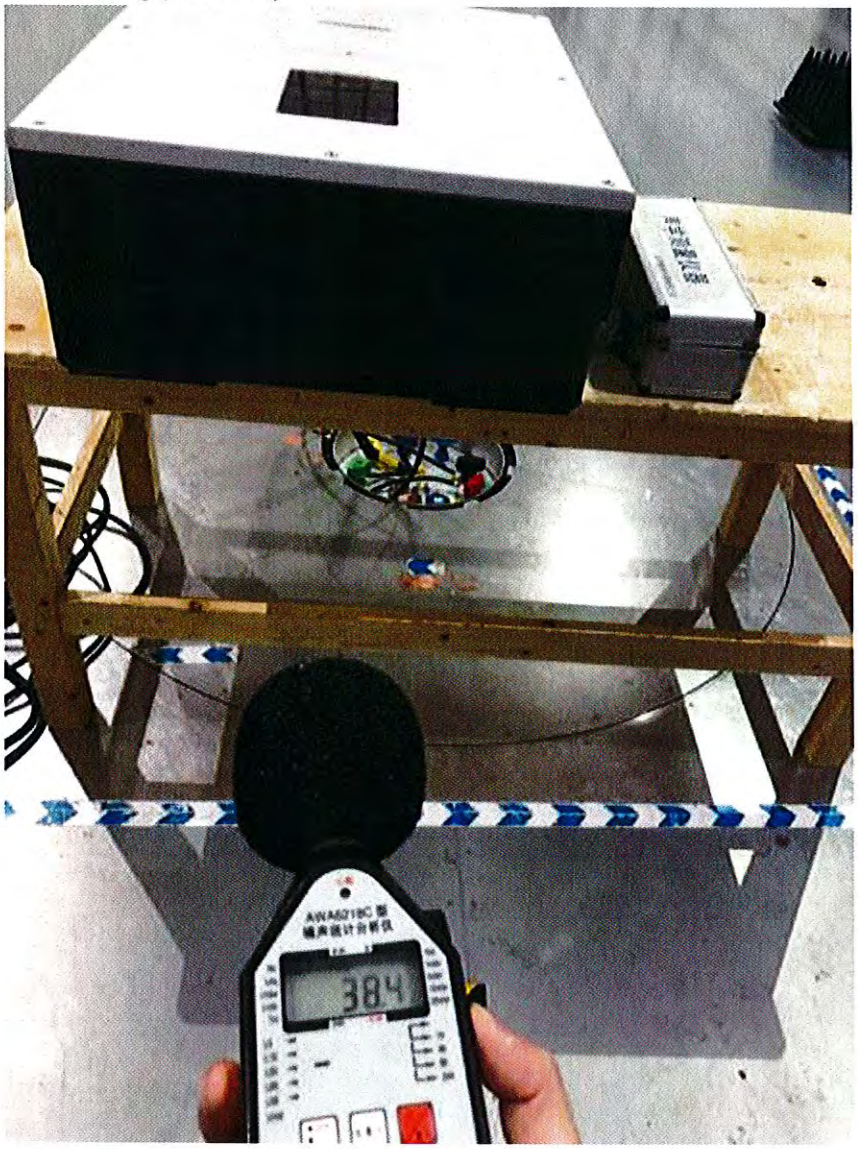
Photo 4.

Description: Enclosure-Bottom

Test Report

Photo 5.

Description: Photo in testing (SG111HV)



Test Report

Photo 6.

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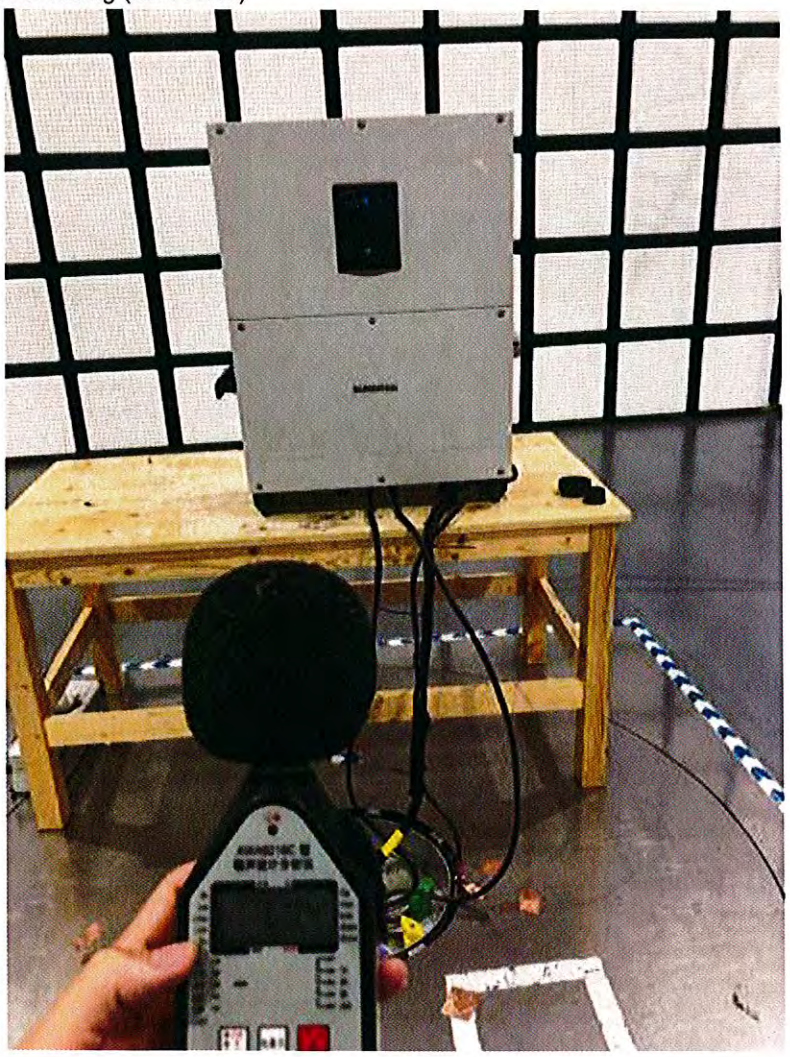


Test Report

Photo 7.

Description: Photo in testing (SG111HV)

Test Report

Photo 8.

Description: Photo in testing (SG111HV)

Test Report

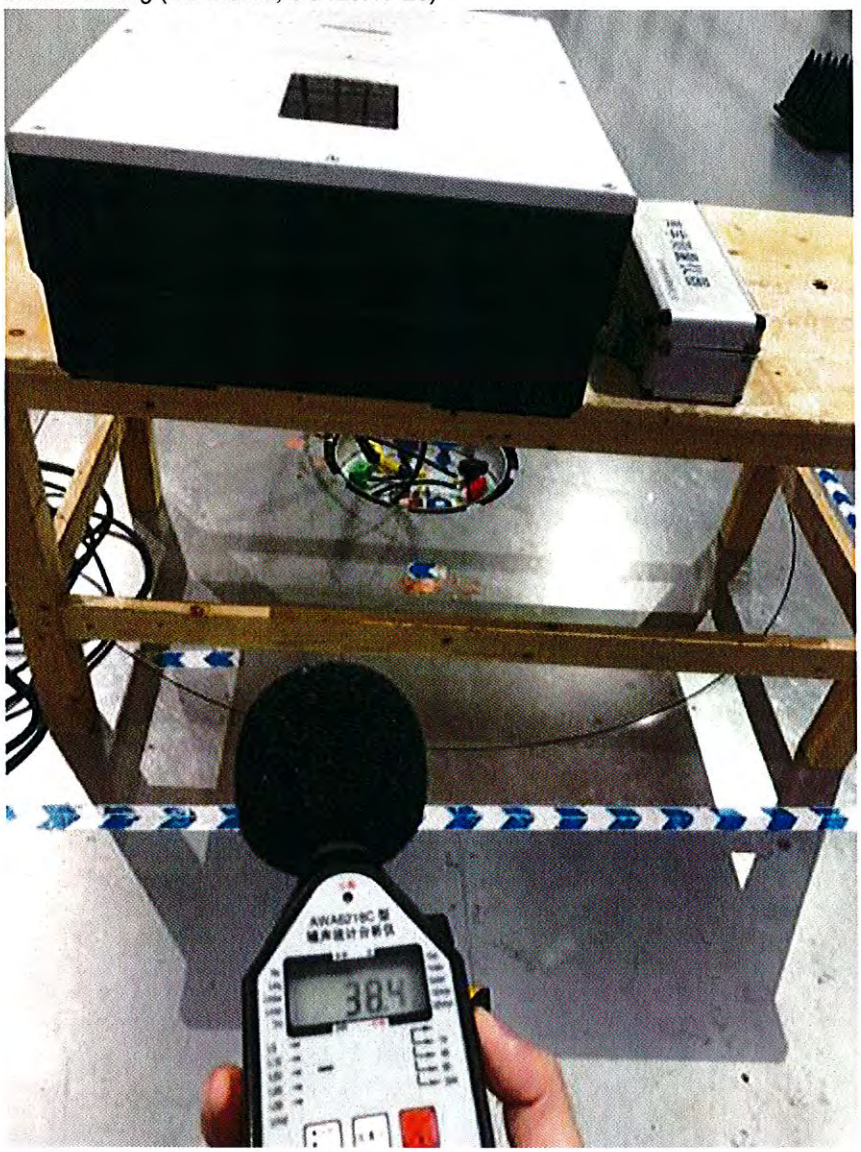
Photo 9.

Description: Photo in testing (SG111HV)

Test Report

Photo 10.

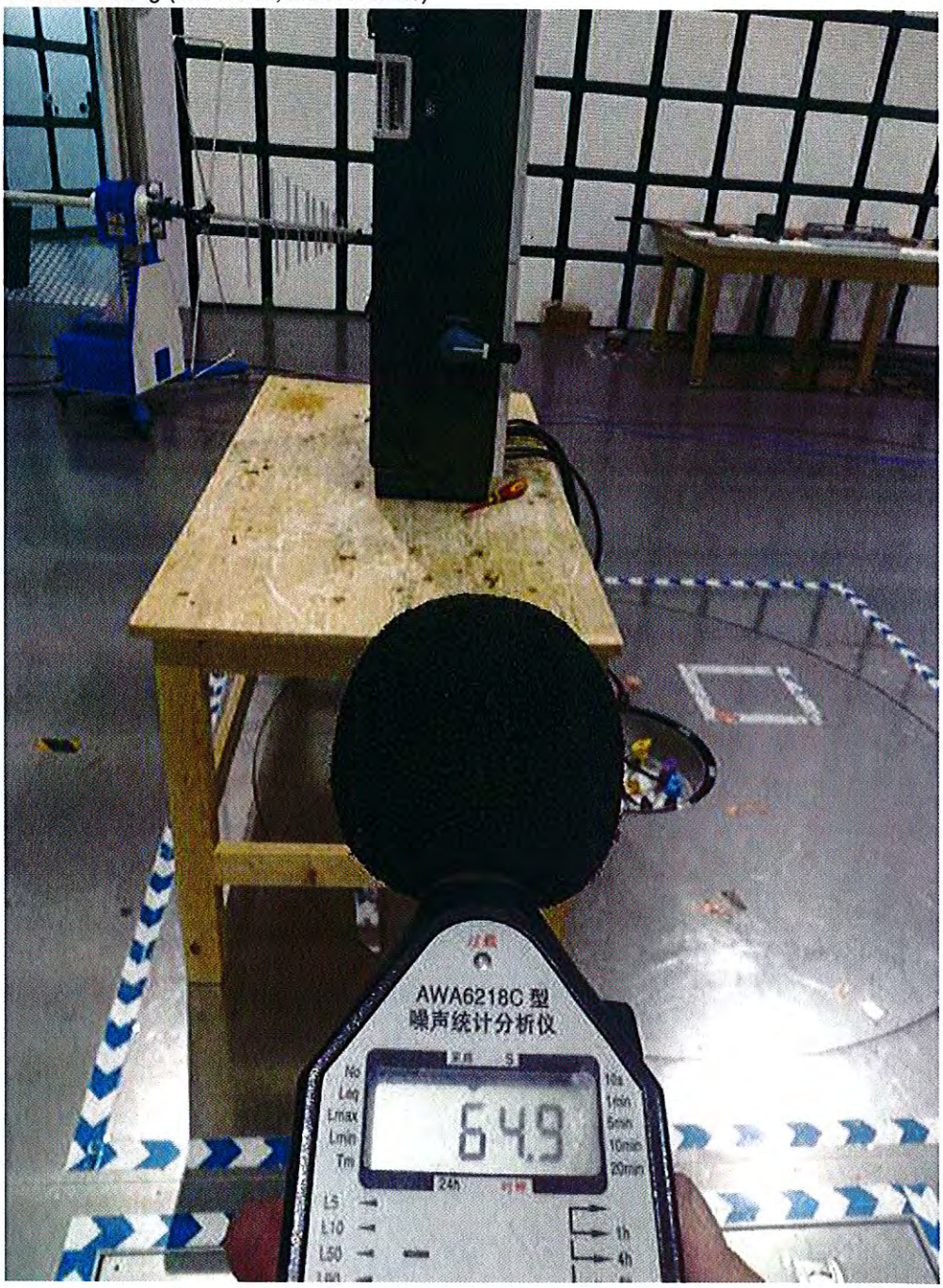
Description: Photo in testing (SG125HV, SG125HV-20)



Test Report

Photo 11.

Description: Photo in testing (SG125HV, SG125HV-20)



Test Report

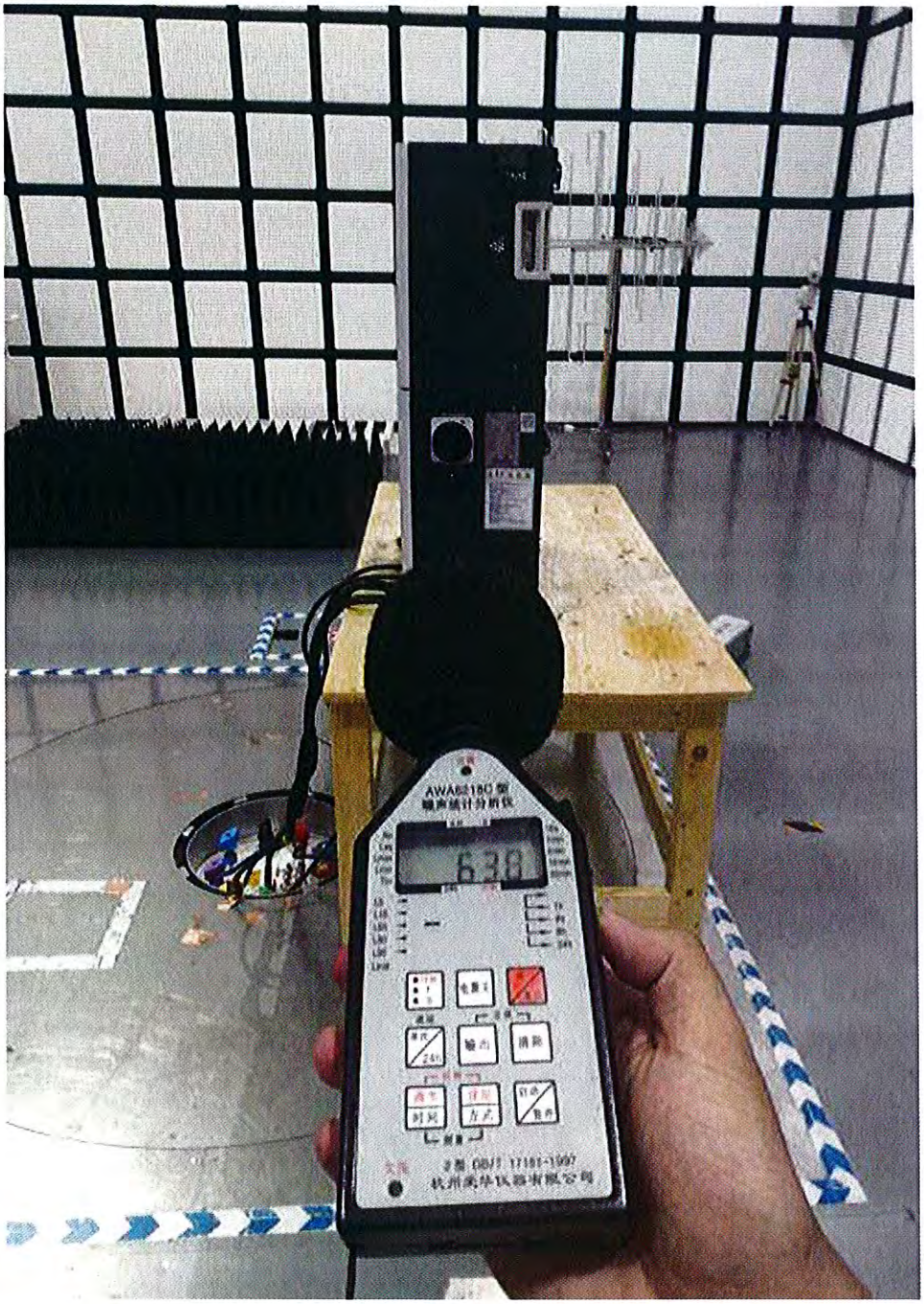
Photo 12.

Description: Photo in testing (SG125HV, SG125HV-20)

Test Report

Photo 13.

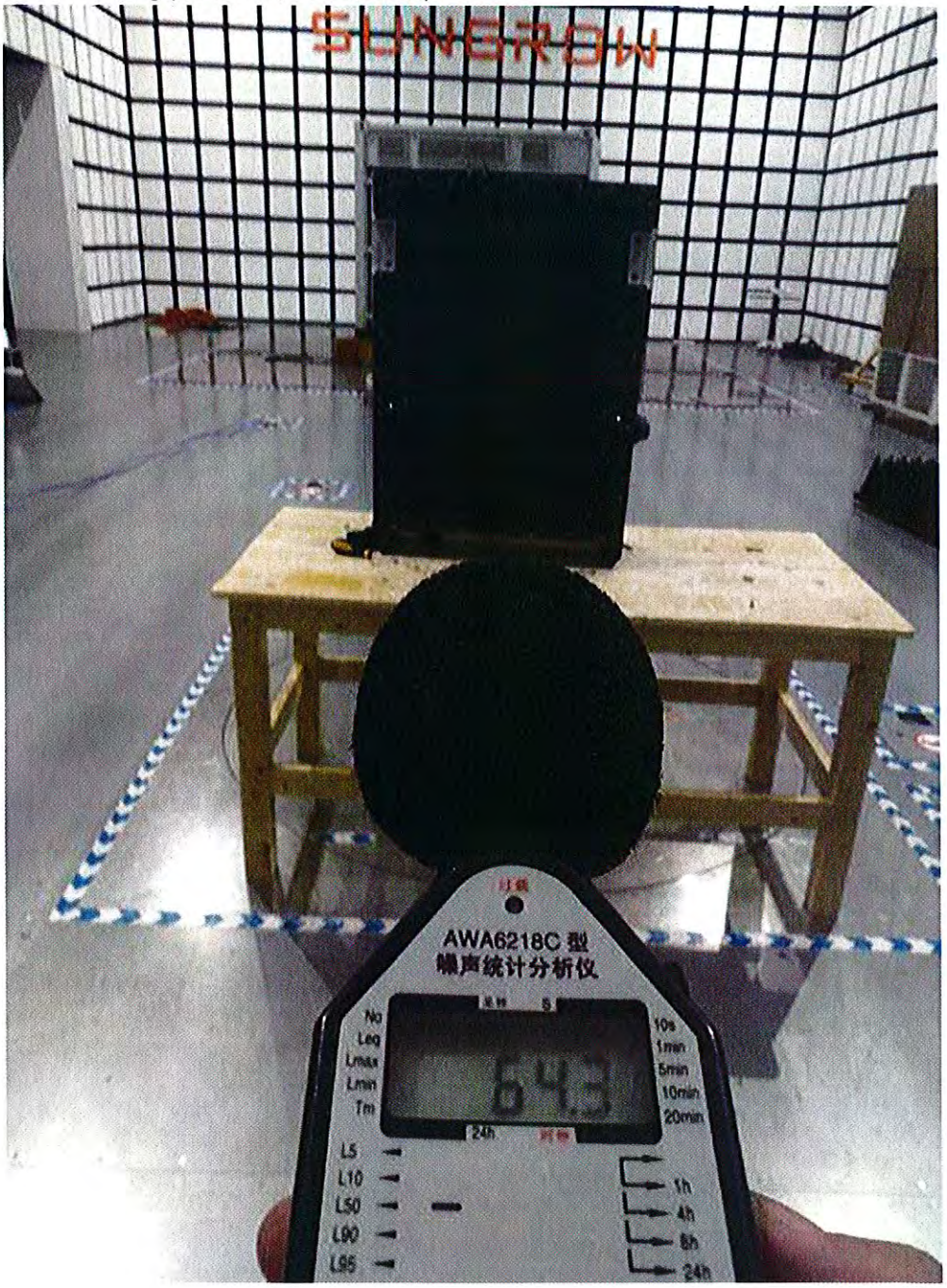
Description: Photo in testing (SG125HV, SG125HV-20)



Test Report

Photo 14.

Description: Photo in testing (SG125HV, SG125HV-20)



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APPENDIX 7

STORMWATER MANAGEMENT PLAN

C701 Pre-development Hydrology Plan
C702 Post-development Hydrology Plan

STORMWATER MANAGEMENT

January 2022 Submission: The Stormwater Management Plan shown below was submitted for this project in January 2020; since this submission, the site layout has been altered. Changes to the layout included reducing the fenced in panel area and removing panels from the northwest corner of the project, changes to equipment pad locations, and reducing the total proposed road area. Proposed impervious area quantities for the revised layout include:

Proposed Roadway: 61,964 SF
Proposed Solar Panel Piles and Equipment Pads: 7,066 SF

Because the overall layout has not changed other than these reductions, the stormwater calculations shown in the original plan below are expected to continue to demonstrate that the project will meet all applicable stormwater standards. Updated disturbance area quantities can also be seen on the **Application Form,** and in the **Site Plan Review Narrative** section of this application. The provided plan has approval from the Maine Department of Environmental Protection.

A. Narrative

The intent of this Stormwater Management Plan is to comply with the requirements of the Maine Department of Environmental Protection (MDEP) Chapter 500 regulations. This project involves the construction of a 45-acre solar array. The solar panels will be mounted on piling which will create approximately 1,180 square feet (SF) of impervious area. Land cover below the panels will be grassed, serving as meadow buffers for the small impervious areas. For operation and maintenance purposes, a gravel road will be installed on site which totals 81,300 SF. Additional impervious area includes approximately 1,272 SF of inverter and transformer equipment pads. The stormwater management plan proposes treatment for 81.9% of the impervious linear portion of the project, and 100% of site portion of the project.

Erosion control measures will be in place prior to the start of any construction. Temporary and permanent measures will be installed in accordance with **Appendix 8** of this application. Upon completion of the construction and stabilization of all disturbed areas, the temporary erosion control measures will be removed.

Basic Standard Submission: Information is provided as required for the Basic Standard Submission in **Appendix 8**.

Flooding Standard Submission: The following information is provided as required in the Flooding Standard Submission.

1. *Control of Peak Flows:* The project is required to meet Flooding Standards. The Pre- and Post-Development Hydrology models and narrative are located in **Appendix 7B**.

2. *Details, Design, and Specifications:* The model runoff calculations are performed using HydroCAD model. Sizing of flood control structures are included in **Appendix 7A**.

General Standards Submission: The following information is provided as required in the General Standard Submission.

1. Narrative: The property is located in Auburn and Poland, Maine, north of Lewiston Junction Road. The project area currently consists of mostly woodland with several wetlands and some open meadow areas. The area that will not be within the fenced limits of the solar array will be left to remain in its existing land cover except for vegetation management to avoid shading of the panels. The overall topography of the site is gently sloped and drains to the southeast corner of the property. A second sub-watershed drains to the north of the property. Stormwater is ultimately conveyed to the Little Androscoggin River. The ground generally slopes from 0 to 8 percent. The topography will not be significantly altered after development and thus, stormwater runoff will continue along existing route.

   The project area will be cleared to allow for panel installation. The land below the panels will behave as a grassed surface meadow. The land cover will be maintained to the standards of the MDEP meadow buffers. They will be mowed no more than twice per year and have motorized vehicle traffic limited to maintenance of the panels.

2. *Drainage Plans:* Pre- and Post-Development Hydrology Plans are provided in this section. The plan set includes the locations of the BMP's used to treat the stormwater from this development, and a detail sheet is included in **Appendix 11** that provides information on treatment measures.

3. *Calculations:* Buffer sizes were calculated in accordance with Tables 5.2, and 5.6 of the MDEP Stormwater BMP Technical Design Manual, Volume III. The required flow path for a downgradient meadow buffer receiving flow from one travel lane is 50 feet. As determined through correspondence with MDEP personnel, equipment pads adjacent to the roadway are considered part of the linear portion and will be treated by roadside meadow buffers. The required meadow buffer length adjacent to a small impervious area with Type "C" soils and 0 to 8 percent slopes is 150 feet. The proposed buffers have been sized accordingly.

4. *Details, Designs, and Specifications:* The project is currently proposing to control runoff quality issues using vegetated buffers as shown on the plan set.

Phosphorus Standards Submission:

This development is in the Little Androscoggin River watershed. This this section does not apply.

APPENDIX 7A

STORMWATER QUALITY CONTROL NARRATIVE

The proposed BD Solar project is being developed for the construction and installation of a solar energy generation project in the municipalities of Auburn and Poland in Androscoggin County, Maine. The site will be accessed by a gravel road. The total impervious area created by the solar panel pile foundations, access road and equipment pads is approximately 83,752 SF. Based on Maine Department of Environmental Protection stormwater standards, portions of this project qualify for the linear portion exemption. As a result, the project is required to treat 75% of the impervious and 50% of the developed area from the linear portion and 95% of the impervious area and 80% of the developed area from the site portion.

To treat stormwater associated with the new access roads as well as the proposed site area, BD Solar is proposing vegetated buffers to meet stormwater quality standards. The buffers will be located at various locations along the roadway and adjacent to site areas to maximize the treatment of runoff and provide the necessary treatment areas. The locations of these BMP's are shown on the Post-Development Hydrology plan. The entire area under and around the solar panels will serve as a meadow buffer for the pile foundations.

The following tables summarize the impervious and developed area created by the project, as well as the treatment structure, area treated, and relationship with the total developed and impervious areas for the project:

Project Site Area

PROJECT AREA	IMPERVIOUS AREA	DEVELOPED AREA
Site Area	1,180 SF	1,180 SF

Stormwater Treatment Systems

TREATMENT METHOD	SITE AREA TREATED	
	IMPERVIOUS	DEVELOPED
Buffer from a Small Impervious Area	1,180 SF	1,180 SF
TOTAL	**1,180 SF**	**1,180 SF**
PERCENT OF SITE AREA TREATED	**100 %**	**100 %**

Project Roadway Area (Linear Portion)

PROJECT AREA	IMPERVIOUS AREA	DEVELOPED AREA
Roadway Area	81,300 SF	81,300 SF
Equipment Pads	1,272 SF	1,272 SF
TOTAL	**82,572 SF**	**82,572 SF**

Stormwater Treatment Systems (Linear Portion)

TREATMENT METHOD	ROADWAY AREA TREATED	
	IMPERVIOUS	DEVELOPED
Buffer Downgradient of One Travel Lane	67,591 SF	67,591 SF
TOTAL	**67,591 SF**	**67,591 SF**
PERCENT OF ROADWAY AREA TREATED	**81.9%**	**81.9%**

A description of the treatment type is as follows:

1. **Vegetated Buffers:** Vegetated buffers are being used to treat runoff from the linear portion and site area. The buffer types are as follows:
   a. *Buffer from Small Impervious Areas (Table 5.2)* Buffers adjacent to the solar panel support piles are small impervious areas that drain to Type "C" soil meadow buffers located beneath the solar panels. The flow path through the meadow buffer is proposed to be 150 feet.
   b. *Buffer Adjacent to the Downhill Side of a Road (Table 5.6)* A series of roadside vegetated buffers will be used to treat stormwater runoff from the linear portion of the project. The buffers will be adjacent to the downhill side of the roadway and located beneath the solar panel array. These buffers have been designed to provide water quality treatment.

The proposed stormwater quality control devices have been designed according to the standards outlined in the Stormwater Management for Maine, Volume III BMP Manual, January 2006 and revised May 2016. Construction and maintenance will be according to standards outlined in this manual.

APPENDIX 7B

STORMWATER MANAGEMENT QUANTITY NARRATIVE

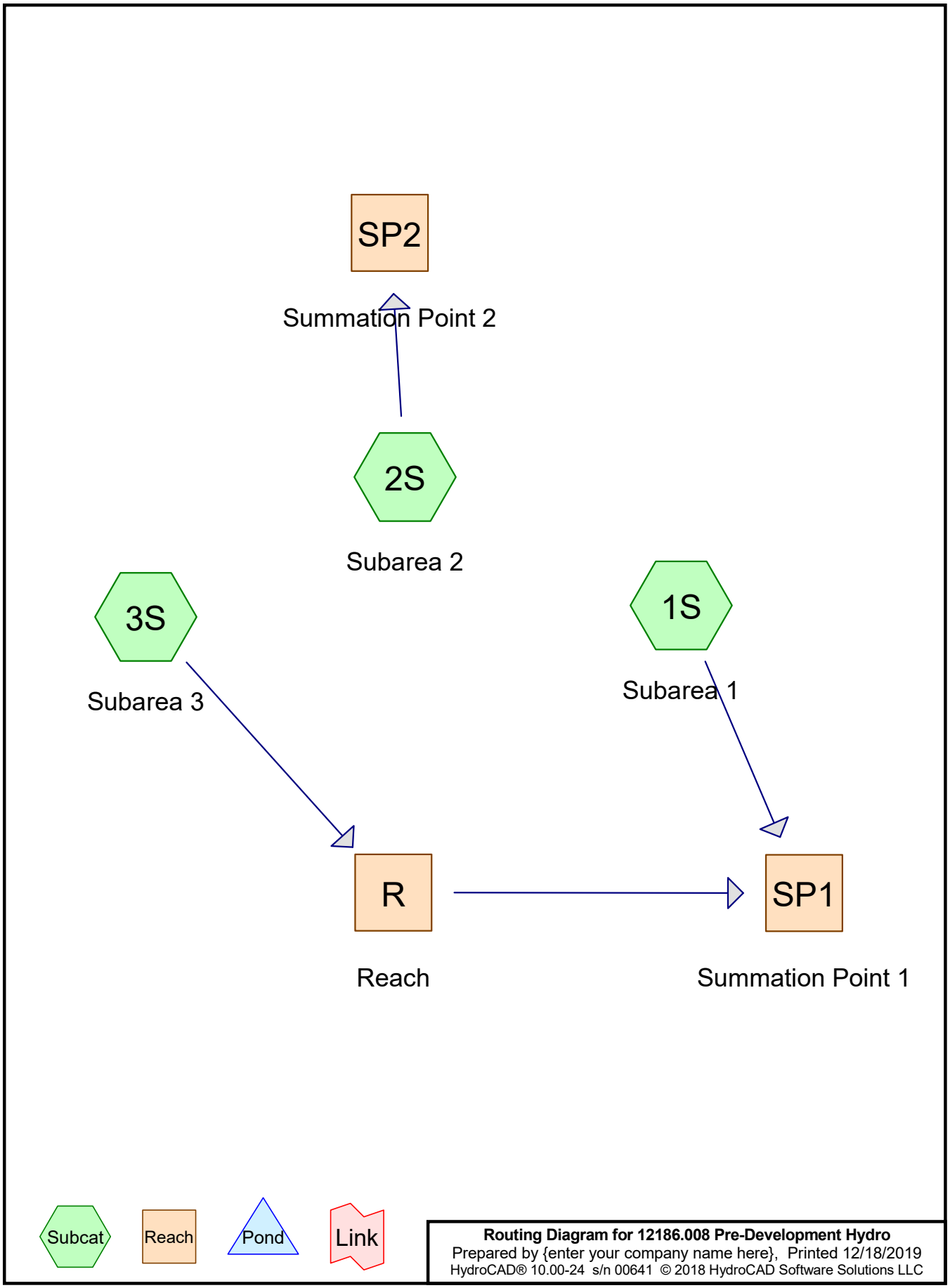
As stated, the project is required to meet the flooding standard under Chapter 500 Section 4.E(2)(a). To meet the flooding standard, HydroCAD calculations were performed to compare pre-development and post-development conditions. Curve numbers and peak runoff flows were calculated using HydroCAD.

The watershed of the project area is tributary to the Little Androscoggin River. The site is primarily wooded with several wetlands and some meadow areas. The overall site drains to the southeast corner at slopes ranging from 0 to 8 percent. The watershed boundary was broken into three subareas. Two summation points were identified, one being in the southeast corner and the other on the north end of the property. These summation points were used to compare runoff from pre-development to post-development conditions. Stormwater flows were modeled for 2-year, 10-year, and 25-year storm events.

Based on results of the HydroCAD it is expected that stormwater runoff from the site will be similar in post-development conditions as in pre-development conditions. A comparison of each of the watershed areas in both Pre- and Post-Development is organized in the table below.

		2 Year (cfs)	10 Year (cfs)	25 Year (cfs)	25 Year Net Change	25 Year % Change
Summation Point 1	Pre	24.92	53.05	79.76	**-3.28**	**-4.1**
	Post	24.08	51.00	76.48		
Summation Point 2	Pre	0.41	5.48	13.87	**0.59**	**4.3**
	Post	0.21	5.01	14.46		

A slight increase in runoff is estimated at Summation Point 2 under 25-year storm conditions. Runoff is only estimated to increase by 0.59 cfs. We believe that this increase should be considered insignificant.


SP2
Summation Point 2
2S
Subarea 2
3S
Subarea 3
1S
Subarea 1
R
Reach
SP1
Summation Point 1
Subcat
Reach
Pond
Link
Routing Diagram for 12186.008 Pre-Development Hydro
Prepared by {enter your company name here}, Printed 12/18/2019
HydroCAD® 10.00-24 s/n 00641 © 2018 HydroCAD Software Solutions LLC

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.03% Impervious Runoff Depth>0.62"
Flow Length=1,530' Tc=58.6 min CN=70 Runoff=13.75 cfs 2.187 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.00% Impervious Runoff Depth>0.10"
Flow Length=515' Tc=24.8 min CN=52 Runoff=0.41 cfs 0.153 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.00% Impervious Runoff Depth>0.81"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=20.71 cfs 5.520 af

Reach R: Reach Avg. Flow Depth=0.98' Max Vel=1.60 fps Inflow=20.71 cfs 5.520 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=20.59 cfs 5.420 af

Reach SP1: Summation Point 1 Inflow=24.92 cfs 7.608 af
Outflow=24.92 cfs 7.608 af

Reach SP2: Summation Point 2 Inflow=0.41 cfs 0.153 af
Outflow=0.41 cfs 0.153 af

Total Runoff Area = 143.790 ac Runoff Volume = 7.860 af Average Runoff Depth = 0.66"
99.69% Pervious = 143.350 ac 0.31% Impervious = 0.440 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 13.75 cfs @ 12.69 hrs, Volume= 2.187 af, Depth> 0.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.00"

Area (sf)	CN	Description
326,802	36	Woods, Fair, HSG A
213,638	73	Woods, Fair, HSG C
752,072	79	Woods, Fair, HSG D
222,912	71	Meadow, non-grazed, HSG C
322,837	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
1,857,439	70	Weighted Average
1,838,261		98.97% Pervious Area
19,178		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
41.8	1,430	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
58.6	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 0.41 cfs @ 12.63 hrs, Volume= 0.153 af, Depth> 0.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.00"

Area (sf)	CN	Description
480,433	36	Woods, Fair, HSG A
218,346	73	Woods, Fair, HSG C
125,206	79	Woods, Fair, HSG D
823,985	52	Weighted Average
823,985		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	85	0.0470	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
11.0	430	0.0170	0.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.8	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 20.71 cfs @ 13.70 hrs, Volume= 5.520 af, Depth> 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.00"

Area (sf)	CN	Description
30,184	36	Woods, Fair, HSG A
1,646,601	73	Woods, Fair, HSG C
1,710,517	79	Woods, Fair, HSG D
194,758	71	Meadow, non-grazed, HSG C
3,582,060	75	Weighted Average
3,582,060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

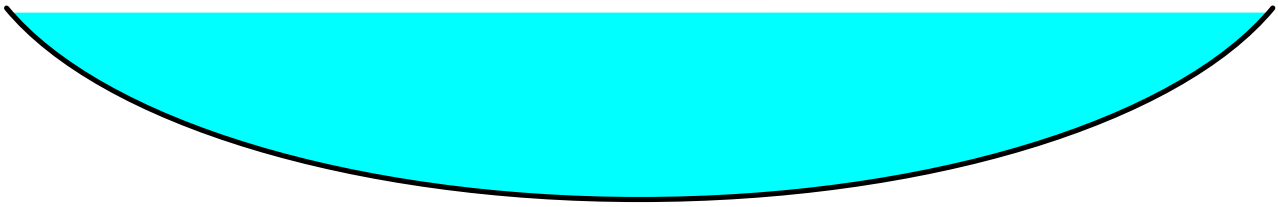
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.00% Impervious, Inflow Depth > 0.81" for 2-yr event
Inflow = 20.71 cfs @ 13.70 hrs, Volume= 5.520 af
Outflow = 20.59 cfs @ 13.96 hrs, Volume= 5.420 af, Atten= 1%, Lag= 15.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.60 fps, Min. Travel Time= 8.8 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 13.6 min

Peak Storage= 10,820 cf @ 13.81 hrs
Average Depth at Peak Storage= 0.98'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.35% Impervious, Inflow Depth > 0.73" for 2-yr event
Inflow = 24.92 cfs @ 13.80 hrs, Volume= 7.608 af
Outflow = 24.92 cfs @ 13.80 hrs, Volume= 7.608 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.00% Impervious, Inflow Depth > 0.10" for 2-yr event
Inflow = 0.41 cfs @ 12.63 hrs, Volume= 0.153 af
Outflow = 0.41 cfs @ 12.63 hrs, Volume= 0.153 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.03% Impervious Runoff Depth>1.36"
Flow Length=1,530' Tc=58.6 min CN=70 Runoff=33.29 cfs 4.818 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.00% Impervious Runoff Depth>0.43"
Flow Length=515' Tc=24.8 min CN=52 Runoff=5.48 cfs 0.682 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.00% Impervious Runoff Depth>1.63"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=43.72 cfs 11.170 af

Reach R: Reach Avg. Flow Depth=1.47' Max Vel=1.91 fps Inflow=43.72 cfs 11.170 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=43.37 cfs 11.027 af

Reach SP1: Summation Point 1 Inflow=53.05 cfs 15.845 af
Outflow=53.05 cfs 15.845 af

Reach SP2: Summation Point 2 Inflow=5.48 cfs 0.682 af
Outflow=5.48 cfs 0.682 af

Total Runoff Area = 143.790 ac Runoff Volume = 16.671 af Average Runoff Depth = 1.39"
99.69% Pervious = 143.350 ac 0.31% Impervious = 0.440 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 33.29 cfs @ 12.65 hrs, Volume= 4.818 af, Depth> 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
326,802	36	Woods, Fair, HSG A
213,638	73	Woods, Fair, HSG C
752,072	79	Woods, Fair, HSG D
222,912	71	Meadow, non-grazed, HSG C
322,837	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
1,857,439	70	Weighted Average
1,838,261		98.97% Pervious Area
19,178		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
41.8	1,430	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
58.6	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 5.48 cfs @ 12.26 hrs, Volume= 0.682 af, Depth> 0.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
480,433	36	Woods, Fair, HSG A
218,346	73	Woods, Fair, HSG C
125,206	79	Woods, Fair, HSG D
823,985	52	Weighted Average
823,985		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	85	0.0470	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
11.0	430	0.0170	0.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.8	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 43.72 cfs @ 13.59 hrs, Volume= 11.170 af, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
30,184	36	Woods, Fair, HSG A
1,646,601	73	Woods, Fair, HSG C
1,710,517	79	Woods, Fair, HSG D
194,758	71	Meadow, non-grazed, HSG C
3,582,060	75	Weighted Average
3,582,060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

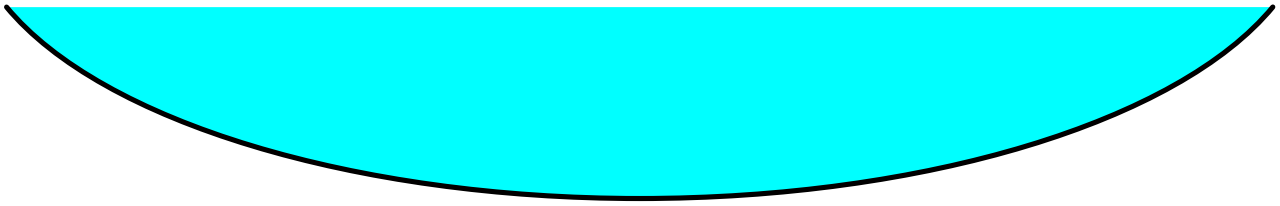
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.00% Impervious, Inflow Depth > 1.63" for 10-yr event
Inflow = 43.72 cfs @ 13.59 hrs, Volume= 11.170 af
Outflow = 43.37 cfs @ 13.85 hrs, Volume= 11.027 af, Atten= 1%, Lag= 15.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.91 fps, Min. Travel Time= 7.3 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 12.3 min

Peak Storage= 19,035 cf @ 13.73 hrs
Average Depth at Peak Storage= 1.47'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.35% Impervious, Inflow Depth > 1.52" for 10-yr event
Inflow = 53.05 cfs @ 13.69 hrs, Volume= 15.845 af
Outflow = 53.05 cfs @ 13.69 hrs, Volume= 15.845 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.00% Impervious, Inflow Depth > 0.43" for 10-yr event
Inflow = 5.48 cfs @ 12.26 hrs, Volume= 0.682 af
Outflow = 5.48 cfs @ 12.26 hrs, Volume= 0.682 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.03% Impervious Runoff Depth>1.36"
Flow Length=1,530' Tc=58.6 min CN=70 Runoff=33.29 cfs 4.818 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.00% Impervious Runoff Depth>0.43"
Flow Length=515' Tc=24.8 min CN=52 Runoff=5.48 cfs 0.682 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.00% Impervious Runoff Depth>1.63"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=43.72 cfs 11.170 af

Reach R: Reach Avg. Flow Depth=1.47' Max Vel=1.91 fps Inflow=43.72 cfs 11.170 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=43.37 cfs 11.027 af

Reach SP1: Summation Point 1 Inflow=53.05 cfs 15.845 af
Outflow=53.05 cfs 15.845 af

Reach SP2: Summation Point 2 Inflow=5.48 cfs 0.682 af
Outflow=5.48 cfs 0.682 af

Total Runoff Area = 143.790 ac Runoff Volume = 16.671 af Average Runoff Depth = 1.39"
99.69% Pervious = 143.350 ac 0.31% Impervious = 0.440 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 33.29 cfs @ 12.65 hrs, Volume= 4.818 af, Depth> 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
326,802	36	Woods, Fair, HSG A
213,638	73	Woods, Fair, HSG C
752,072	79	Woods, Fair, HSG D
222,912	71	Meadow, non-grazed, HSG C
322,837	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
1,857,439	70	Weighted Average
1,838,261		98.97% Pervious Area
19,178		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
41.8	1,430	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
58.6	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 5.48 cfs @ 12.26 hrs, Volume= 0.682 af, Depth> 0.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
480,433	36	Woods, Fair, HSG A
218,346	73	Woods, Fair, HSG C
125,206	79	Woods, Fair, HSG D
823,985	52	Weighted Average
823,985		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	85	0.0470	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
11.0	430	0.0170	0.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.8	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 43.72 cfs @ 13.59 hrs, Volume= 11.170 af, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
30,184	36	Woods, Fair, HSG A
1,646,601	73	Woods, Fair, HSG C
1,710,517	79	Woods, Fair, HSG D
194,758	71	Meadow, non-grazed, HSG C
3,582,060	75	Weighted Average
3,582,060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

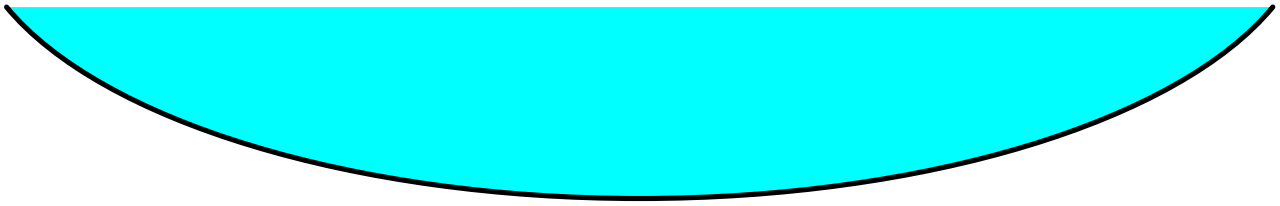
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.00% Impervious, Inflow Depth > 1.63" for 10-yr event
Inflow = 43.72 cfs @ 13.59 hrs, Volume= 11.170 af
Outflow = 43.37 cfs @ 13.85 hrs, Volume= 11.027 af, Atten= 1%, Lag= 15.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.91 fps, Min. Travel Time= 7.3 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 12.3 min

Peak Storage= 19,035 cf @ 13.73 hrs
Average Depth at Peak Storage= 1.47'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.35% Impervious, Inflow Depth > 1.52" for 10-yr event
Inflow = 53.05 cfs @ 13.69 hrs, Volume= 15.845 af
Outflow = 53.05 cfs @ 13.69 hrs, Volume= 15.845 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.00% Impervious, Inflow Depth > 0.43" for 10-yr event
Inflow = 5.48 cfs @ 12.26 hrs, Volume= 0.682 af
Outflow = 5.48 cfs @ 12.26 hrs, Volume= 0.682 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.03% Impervious Runoff Depth>2.09"
Flow Length=1,530' Tc=58.6 min CN=70 Runoff=52.61 cfs 7.428 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.00% Impervious Runoff Depth>0.85"
Flow Length=515' Tc=24.8 min CN=52 Runoff=13.87 cfs 1.347 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.00% Impervious Runoff Depth>2.42"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=65.58 cfs 16.572 af

Reach R: Reach Avg. Flow Depth=1.93' Max Vel=2.04 fps Inflow=65.58 cfs 16.572 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=64.94 cfs 16.392 af

Reach SP1: Summation Point 1 Inflow=79.76 cfs 23.820 af
Outflow=79.76 cfs 23.820 af

Reach SP2: Summation Point 2 Inflow=13.87 cfs 1.347 af
Outflow=13.87 cfs 1.347 af

Total Runoff Area = 143.790 ac Runoff Volume = 25.346 af Average Runoff Depth = 2.12"
99.69% Pervious = 143.350 ac 0.31% Impervious = 0.440 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 52.61 cfs @ 12.62 hrs, Volume= 7.428 af, Depth> 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
326,802	36	Woods, Fair, HSG A
213,638	73	Woods, Fair, HSG C
752,072	79	Woods, Fair, HSG D
222,912	71	Meadow, non-grazed, HSG C
322,837	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
1,857,439	70	Weighted Average
1,838,261		98.97% Pervious Area
19,178		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
41.8	1,430	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
58.6	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 13.87 cfs @ 12.23 hrs, Volume= 1.347 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
480,433	36	Woods, Fair, HSG A
218,346	73	Woods, Fair, HSG C
125,206	79	Woods, Fair, HSG D
823,985	52	Weighted Average
823,985		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	85	0.0470	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
11.0	430	0.0170	0.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.8	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
30,184	36	Woods, Fair, HSG A
1,646,601	73	Woods, Fair, HSG C
1,710,517	79	Woods, Fair, HSG D
194,758	71	Meadow, non-grazed, HSG C
3,582,060	75	Weighted Average
3,582,060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

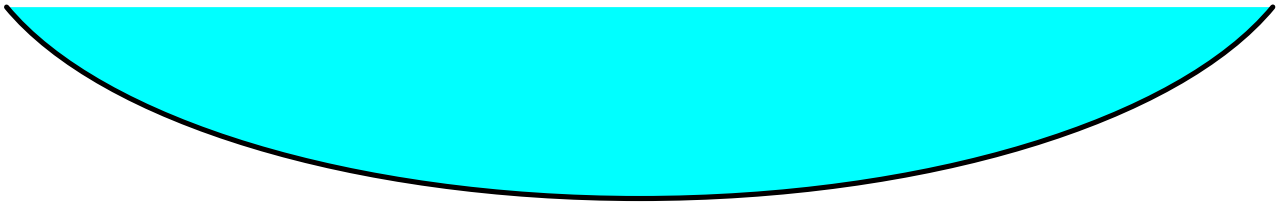
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.00% Impervious, Inflow Depth > 2.42" for 25-yr event
Inflow = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af
Outflow = 64.94 cfs @ 13.81 hrs, Volume= 16.392 af, Atten= 1%, Lag= 14.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.04 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 11.6 min

Peak Storage= 26,805 cf @ 13.69 hrs
Average Depth at Peak Storage= 1.93'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.35% Impervious, Inflow Depth > 2.29" for 25-yr event
Inflow = 79.76 cfs @ 13.62 hrs, Volume= 23.820 af
Outflow = 79.76 cfs @ 13.62 hrs, Volume= 23.820 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.00% Impervious, Inflow Depth > 0.85" for 25-yr event
Inflow = 13.87 cfs @ 12.23 hrs, Volume= 1.347 af
Outflow = 13.87 cfs @ 12.23 hrs, Volume= 1.347 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.03% Impervious Runoff Depth>2.09"
Flow Length=1,530' Tc=58.6 min CN=70 Runoff=52.61 cfs 7.428 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.00% Impervious Runoff Depth>0.85"
Flow Length=515' Tc=24.8 min CN=52 Runoff=13.87 cfs 1.347 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.00% Impervious Runoff Depth>2.42"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=65.58 cfs 16.572 af

Reach R: Reach Avg. Flow Depth=1.93' Max Vel=2.04 fps Inflow=65.58 cfs 16.572 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=64.94 cfs 16.392 af

Reach SP1: Summation Point 1 Inflow=79.76 cfs 23.820 af
Outflow=79.76 cfs 23.820 af

Reach SP2: Summation Point 2 Inflow=13.87 cfs 1.347 af
Outflow=13.87 cfs 1.347 af

Total Runoff Area = 143.790 ac Runoff Volume = 25.346 af Average Runoff Depth = 2.12"
99.69% Pervious = 143.350 ac 0.31% Impervious = 0.440 ac

Summary for Subcatchment 1S: Subarea 1

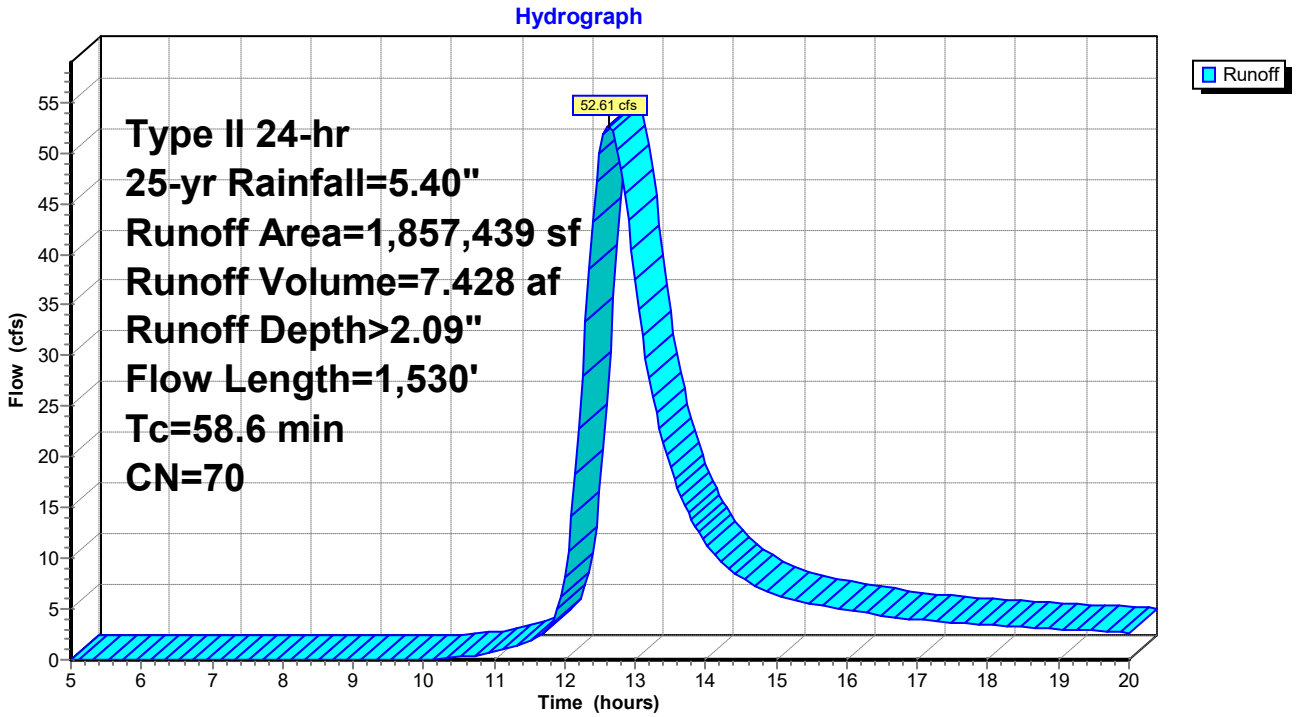
Runoff = 52.61 cfs @ 12.62 hrs, Volume= 7.428 af, Depth> 2.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
326,802	36	Woods, Fair, HSG A
213,638	73	Woods, Fair, HSG C
752,072	79	Woods, Fair, HSG D
222,912	71	Meadow, non-grazed, HSG C
322,837	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
1,857,439	70	Weighted Average
1,838,261		98.97% Pervious Area
19,178		1.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
16.8	100	0.0400	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
41.8	1,430	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
58.6	1,530	Total			

Subcatchment 1S: Subarea 1



Summary for Subcatchment 2S: Subarea 2

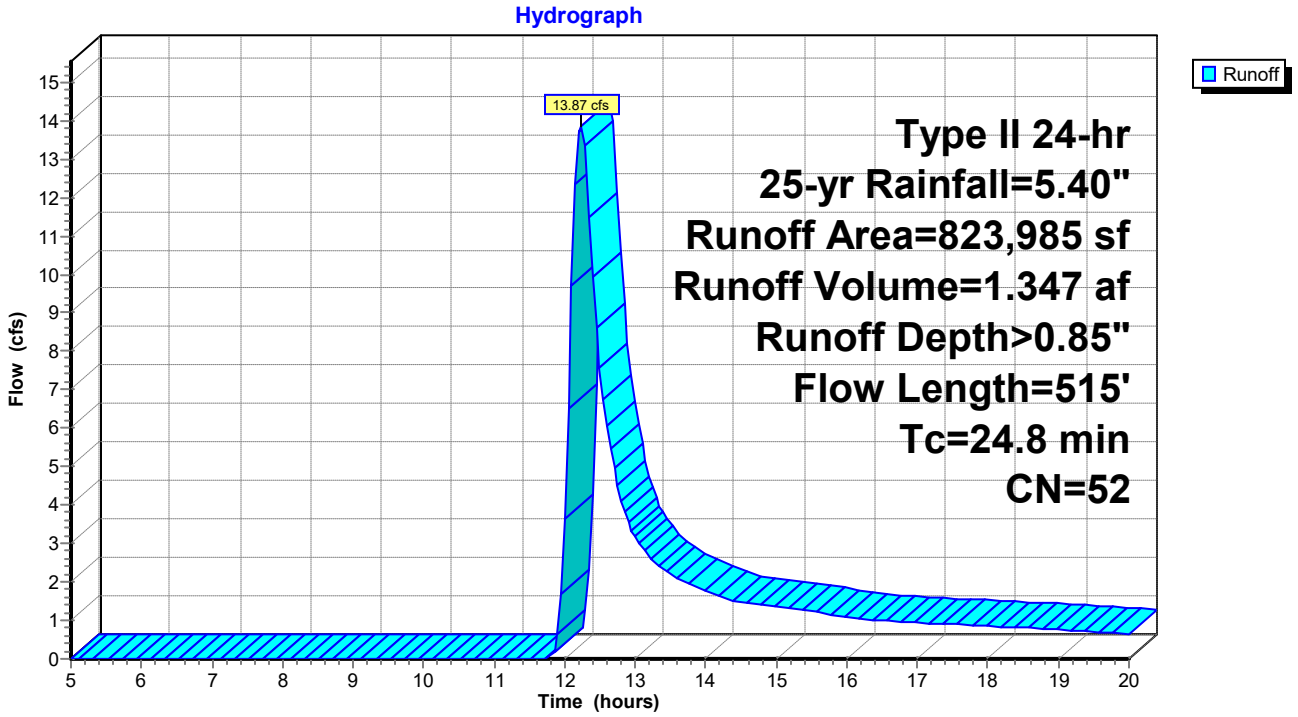
Runoff = 13.87 cfs @ 12.23 hrs, Volume= 1.347 af, Depth> 0.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
480,433	36	Woods, Fair, HSG A
218,346	73	Woods, Fair, HSG C
125,206	79	Woods, Fair, HSG D
823,985	52	Weighted Average
823,985		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.8	85	0.0470	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.00"
11.0	430	0.0170	0.65		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.8	515	Total			

Subcatchment 2S: Subarea 2



Summary for Subcatchment 3S: Subarea 3

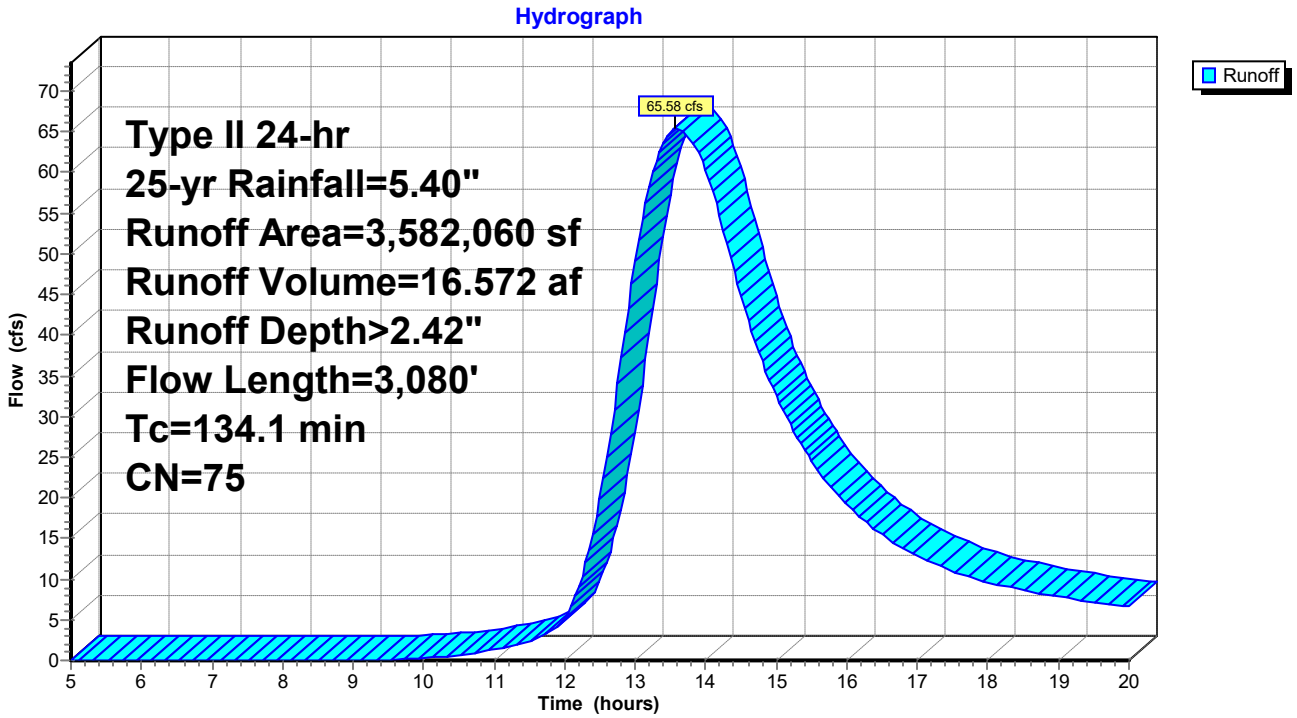
Runoff = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
30,184	36	Woods, Fair, HSG A
1,646,601	73	Woods, Fair, HSG C
1,710,517	79	Woods, Fair, HSG D
194,758	71	Meadow, non-grazed, HSG C
3,582,060	75	Weighted Average
3,582,060		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

Subcatchment 3S: Subarea 3



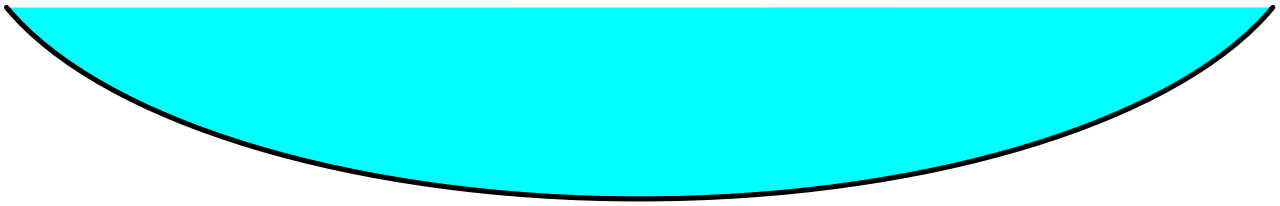
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.00% Impervious, Inflow Depth > 2.42" for 25-yr event
Inflow = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af
Outflow = 64.94 cfs @ 13.81 hrs, Volume= 16.392 af, Atten= 1%, Lag= 14.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.04 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 11.6 min

Peak Storage= 26,805 cf @ 13.69 hrs
Average Depth at Peak Storage= 1.93'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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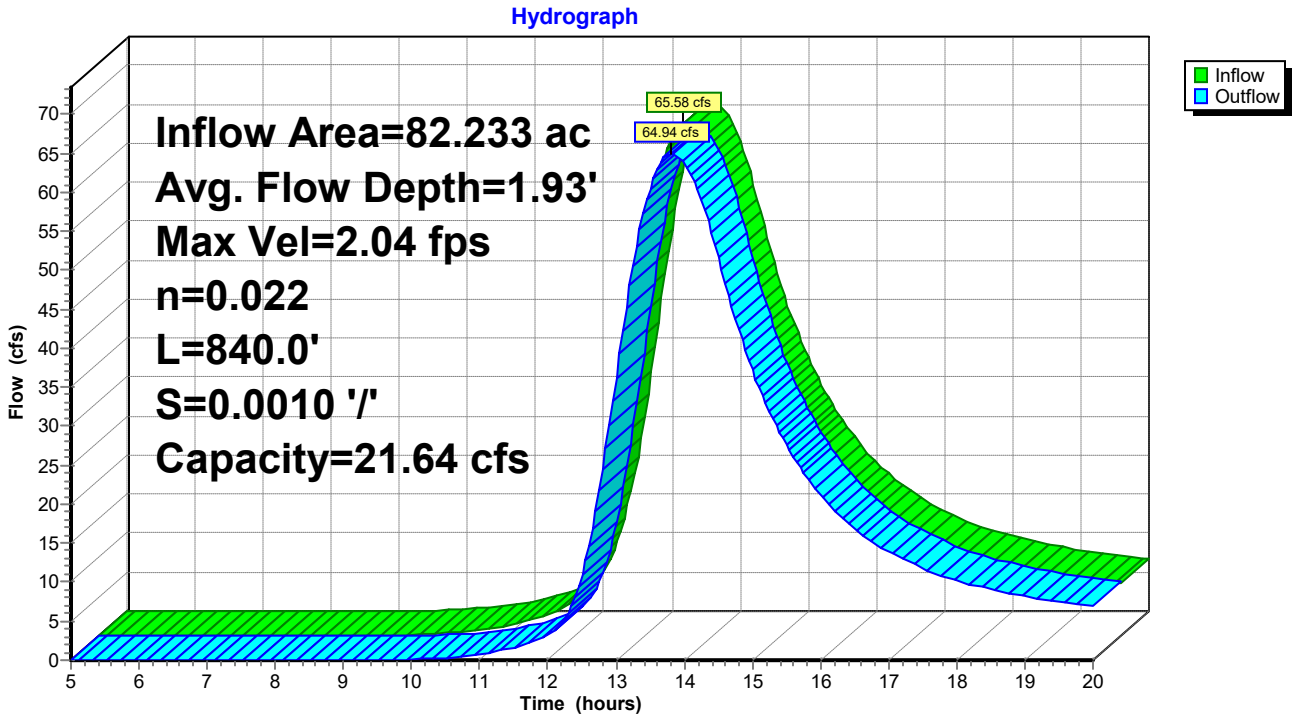
Reach R: Reach

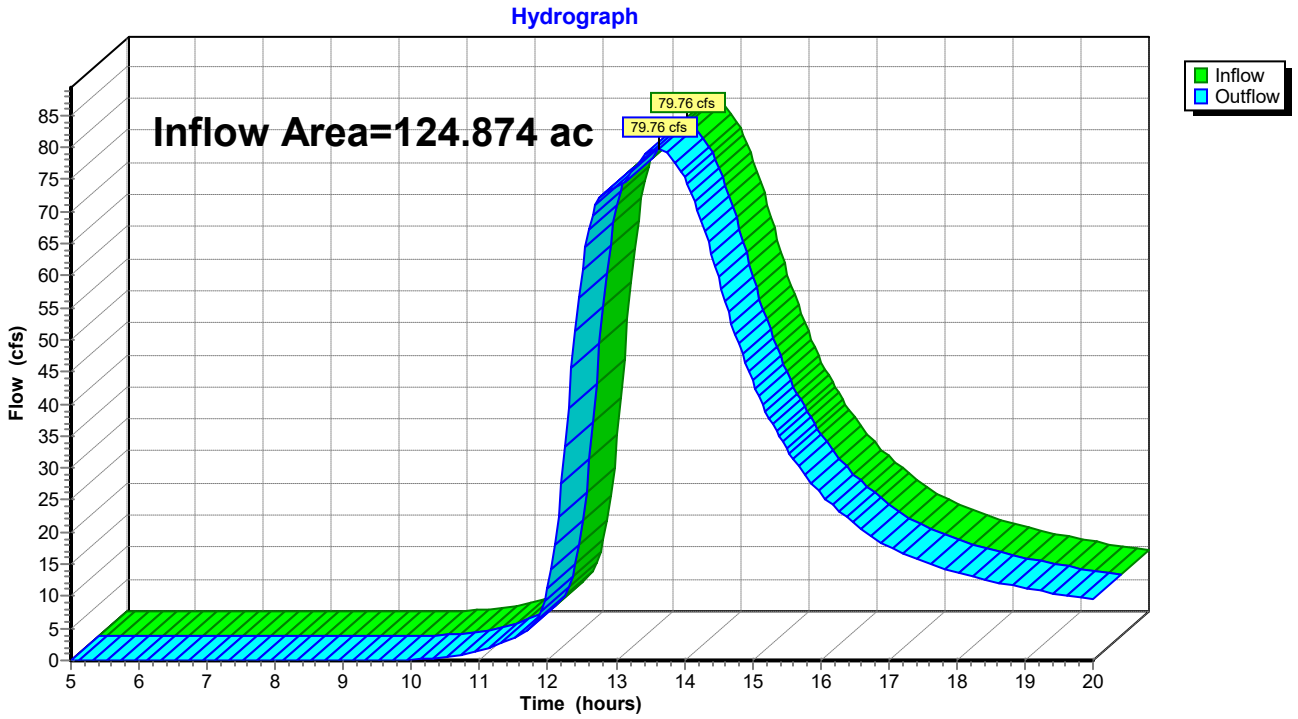


Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.35% Impervious, Inflow Depth > 2.29" for 25-yr event
Inflow = 79.76 cfs @ 13.62 hrs, Volume= 23.820 af
Outflow = 79.76 cfs @ 13.62 hrs, Volume= 23.820 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: Summation Point 1

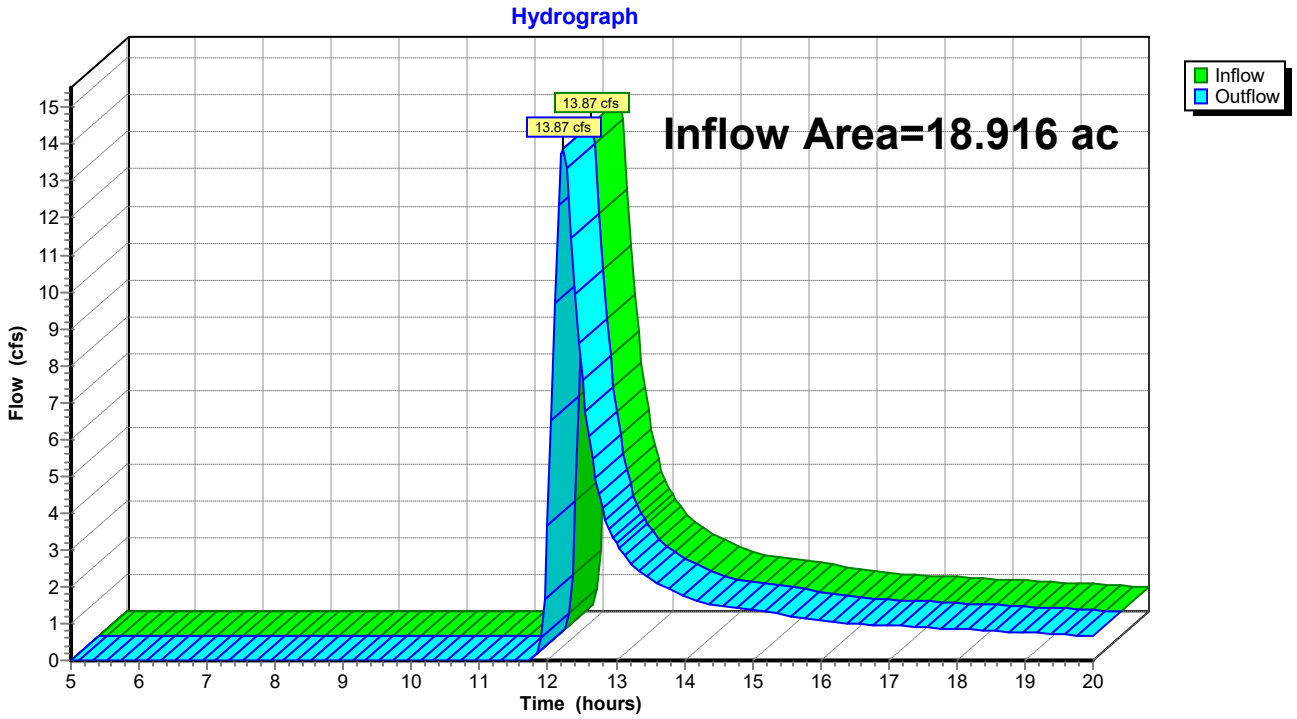


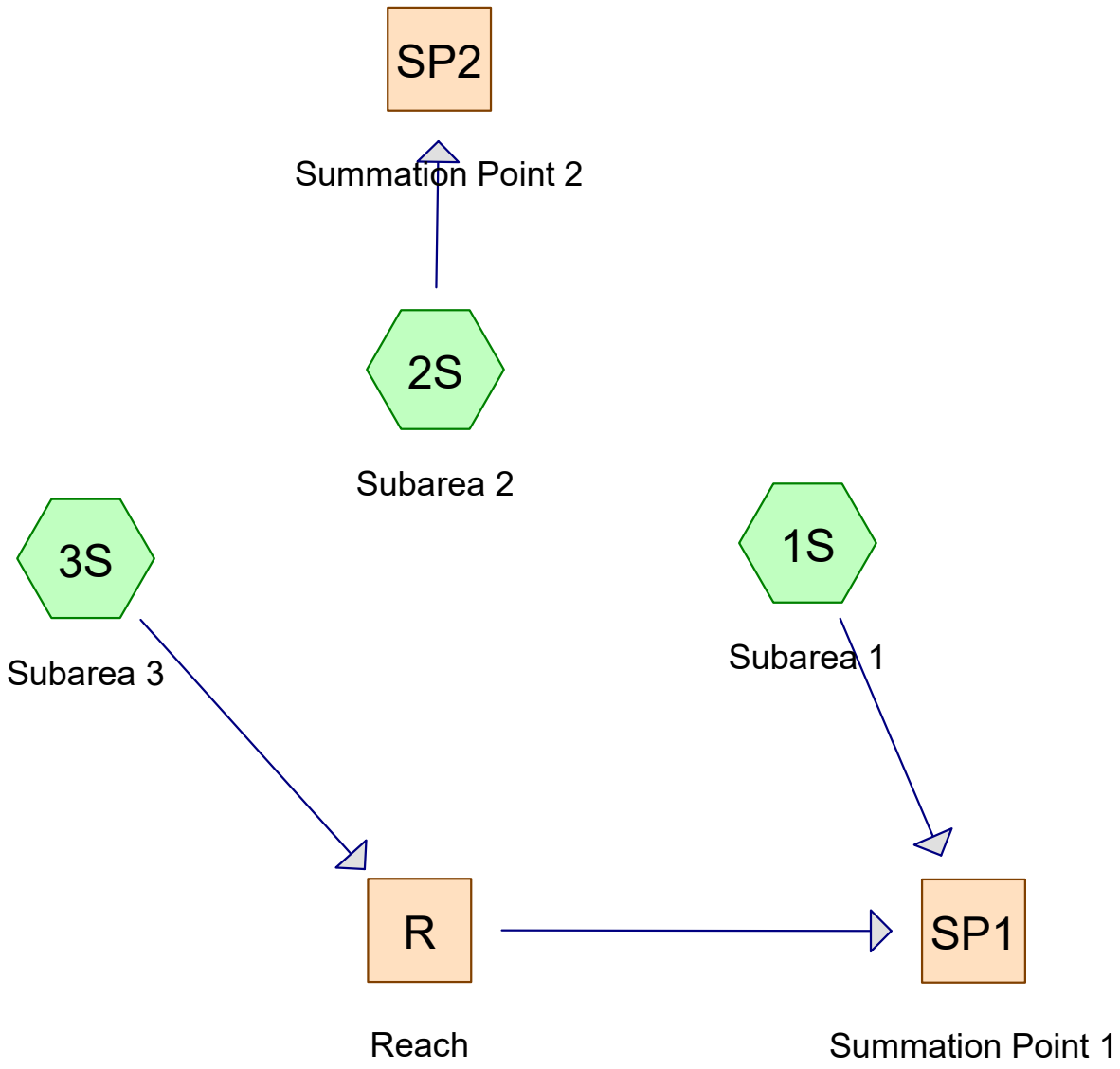
Summary for Reach SP2: Summation Point 2

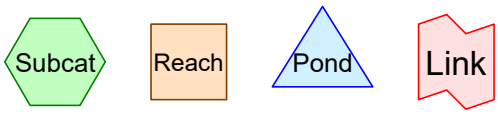
Inflow Area = 18.916 ac, 0.00% Impervious, Inflow Depth > 0.85" for 25-yr event
Inflow = 13.87 cfs @ 12.23 hrs, Volume= 1.347 af
Outflow = 13.87 cfs @ 12.23 hrs, Volume= 1.347 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: Summation Point 2







Routing Diagram for 12186.008 Post-Development Hydro
Prepared by {enter your company name here}, Printed 12/18/2019
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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.05% Impervious Runoff Depth>0.58"
Flow Length=1,530' Tc=49.0 min CN=69 Runoff=14.30 cfs 2.054 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.05% Impervious Runoff Depth>0.07"
Flow Length=515' Tc=17.1 min CN=50 Runoff=0.21 cfs 0.104 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.01% Impervious Runoff Depth>0.81"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=20.71 cfs 5.520 af

Reach R: Reach Avg. Flow Depth=0.98' Max Vel=1.60 fps Inflow=20.71 cfs 5.520 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=20.59 cfs 5.420 af

Reach SP1: Summation Point 1 Inflow=24.08 cfs 7.475 af
Outflow=24.08 cfs 7.475 af

Reach SP2: Summation Point 2 Inflow=0.21 cfs 0.104 af
Outflow=0.21 cfs 0.104 af

Total Runoff Area = 143.790 ac Runoff Volume = 7.678 af Average Runoff Depth = 0.64"
99.67% Pervious = 143.322 ac 0.33% Impervious = 0.467 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 14.30 cfs @ 12.56 hrs, Volume= 2.054 af, Depth> 0.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.00"

Area (sf)	CN	Description
88,270	36	Woods, Fair, HSG A
109,998	73	Woods, Fair, HSG C
638,782	79	Woods, Fair, HSG D
238,532	30	Meadow, non-grazed, HSG A
309,357	71	Meadow, non-grazed, HSG C
434,205	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
16,802	96	Gravel surface, HSG C
1,922	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
1,857,439	69	Weighted Average
1,837,868		98.95% Pervious Area
19,571		1.05% Impervious Area
393		2.01% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0400	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
10.0	480	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
27.8	950	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
49.0	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 0.21 cfs @ 13.07 hrs, Volume= 0.104 af, Depth> 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.00"

Area (sf)	CN	Description
75,559	36	Woods, Fair, HSG A
15,629	73	Woods, Fair, HSG C
14,698	79	Woods, Fair, HSG D
399,212	30	Meadow, non-grazed, HSG A
183,788	71	Meadow, non-grazed, HSG C
109,508	78	Meadow, non-grazed, HSG D
5,662	96	Gravel surface, HSG A
18,536	96	Gravel surface, HSG C
1,000	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
823,985	50	Weighted Average
823,592		99.95% Pervious Area
393		0.05% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	85	0.0470	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
7.9	430	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 20.71 cfs @ 13.70 hrs, Volume= 5.520 af, Depth> 0.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 2-yr Rainfall=3.00"

Area (sf)	CN	Description
1,116,313	73	Woods, Fair, HSG C
1,490,725	79	Woods, Fair, HSG D
23,677	30	Meadow, non-grazed, HSG A
692,792	71	Meadow, non-grazed, HSG C
219,510	78	Meadow, non-grazed, HSG D
6,507	96	Gravel surface, HSG A
31,861	96	Gravel surface, HSG C
282	96	Gravel surface, HSG D
393	98	Unconnected roofs, HSG C
3,582,060	75	Weighted Average
3,581,667		99.99% Pervious Area
393		0.01% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

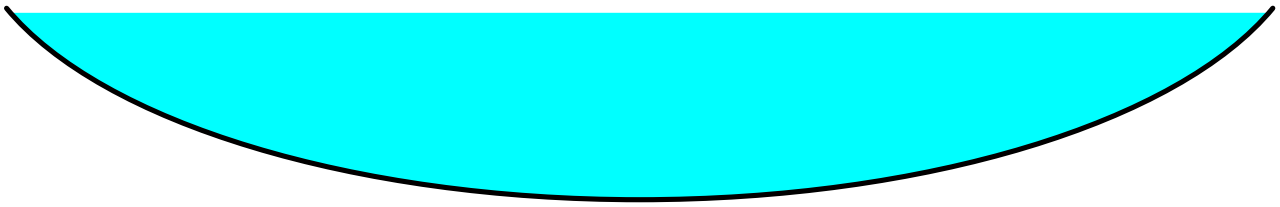
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.01% Impervious, Inflow Depth > 0.81" for 2-yr event
Inflow = 20.71 cfs @ 13.70 hrs, Volume= 5.520 af
Outflow = 20.59 cfs @ 13.96 hrs, Volume= 5.420 af, Atten= 1%, Lag= 15.9 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.60 fps, Min. Travel Time= 8.8 min
Avg. Velocity = 1.03 fps, Avg. Travel Time= 13.6 min

Peak Storage= 10,820 cf @ 13.81 hrs
Average Depth at Peak Storage= 0.98'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.37% Impervious, Inflow Depth > 0.72" for 2-yr event
Inflow = 24.08 cfs @ 13.84 hrs, Volume= 7.475 af
Outflow = 24.08 cfs @ 13.84 hrs, Volume= 7.475 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.05% Impervious, Inflow Depth > 0.07" for 2-yr event
Inflow = 0.21 cfs @ 13.07 hrs, Volume= 0.104 af
Outflow = 0.21 cfs @ 13.07 hrs, Volume= 0.104 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.05% Impervious Runoff Depth>1.30"
Flow Length=1,530' Tc=49.0 min CN=69 Runoff=35.94 cfs 4.615 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.05% Impervious Runoff Depth>0.36"
Flow Length=515' Tc=17.1 min CN=50 Runoff=5.01 cfs 0.564 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.01% Impervious Runoff Depth>1.63"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=43.72 cfs 11.170 af

Reach R: Reach Avg. Flow Depth=1.47' Max Vel=1.91 fps Inflow=43.72 cfs 11.170 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=43.37 cfs 11.027 af

Reach SP1: Summation Point 1 Inflow=51.00 cfs 15.642 af
Outflow=51.00 cfs 15.642 af

Reach SP2: Summation Point 2 Inflow=5.01 cfs 0.564 af
Outflow=5.01 cfs 0.564 af

Total Runoff Area = 143.790 ac Runoff Volume = 16.350 af Average Runoff Depth = 1.36"
99.67% Pervious = 143.322 ac 0.33% Impervious = 0.467 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 35.94 cfs @ 12.52 hrs, Volume= 4.615 af, Depth> 1.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
88,270	36	Woods, Fair, HSG A
109,998	73	Woods, Fair, HSG C
638,782	79	Woods, Fair, HSG D
238,532	30	Meadow, non-grazed, HSG A
309,357	71	Meadow, non-grazed, HSG C
434,205	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
16,802	96	Gravel surface, HSG C
1,922	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
1,857,439	69	Weighted Average
1,837,868		98.95% Pervious Area
19,571		1.05% Impervious Area
393		2.01% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0400	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
10.0	480	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
27.8	950	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
49.0	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 5.01 cfs @ 12.16 hrs, Volume= 0.564 af, Depth> 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
75,559	36	Woods, Fair, HSG A
15,629	73	Woods, Fair, HSG C
14,698	79	Woods, Fair, HSG D
399,212	30	Meadow, non-grazed, HSG A
183,788	71	Meadow, non-grazed, HSG C
109,508	78	Meadow, non-grazed, HSG D
5,662	96	Gravel surface, HSG A
18,536	96	Gravel surface, HSG C
1,000	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
823,985	50	Weighted Average
823,592		99.95% Pervious Area
393		0.05% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	85	0.0470	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
7.9	430	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 43.72 cfs @ 13.59 hrs, Volume= 11.170 af, Depth> 1.63"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 10-yr Rainfall=4.30"

Area (sf)	CN	Description
1,116,313	73	Woods, Fair, HSG C
1,490,725	79	Woods, Fair, HSG D
23,677	30	Meadow, non-grazed, HSG A
692,792	71	Meadow, non-grazed, HSG C
219,510	78	Meadow, non-grazed, HSG D
6,507	96	Gravel surface, HSG A
31,861	96	Gravel surface, HSG C
282	96	Gravel surface, HSG D
393	98	Unconnected roofs, HSG C
3,582,060	75	Weighted Average
3,581,667		99.99% Pervious Area
393		0.01% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

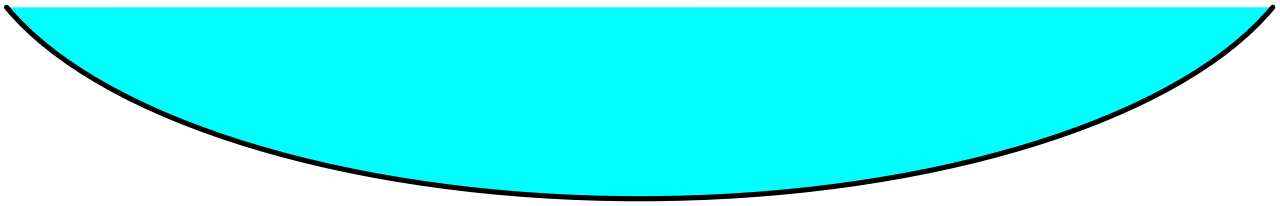
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.01% Impervious, Inflow Depth > 1.63" for 10-yr event
Inflow = 43.72 cfs @ 13.59 hrs, Volume= 11.170 af
Outflow = 43.37 cfs @ 13.85 hrs, Volume= 11.027 af, Atten= 1%, Lag= 15.6 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 1.91 fps, Min. Travel Time= 7.3 min
Avg. Velocity = 1.14 fps, Avg. Travel Time= 12.3 min

Peak Storage= 19,035 cf @ 13.73 hrs
Average Depth at Peak Storage= 1.47'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.37% Impervious, Inflow Depth > 1.50" for 10-yr event
Inflow = 51.00 cfs @ 13.73 hrs, Volume= 15.642 af
Outflow = 51.00 cfs @ 13.73 hrs, Volume= 15.642 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.05% Impervious, Inflow Depth > 0.36" for 10-yr event
Inflow = 5.01 cfs @ 12.16 hrs, Volume= 0.564 af
Outflow = 5.01 cfs @ 12.16 hrs, Volume= 0.564 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.05% Impervious Runoff Depth>2.02"
Flow Length=1,530' Tc=49.0 min CN=69 Runoff=57.49 cfs 7.175 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.05% Impervious Runoff Depth>0.74"
Flow Length=515' Tc=17.1 min CN=50 Runoff=14.46 cfs 1.172 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.01% Impervious Runoff Depth>2.42"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=65.58 cfs 16.572 af

Reach R: Reach Avg. Flow Depth=1.93' Max Vel=2.04 fps Inflow=65.58 cfs 16.572 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=64.94 cfs 16.392 af

Reach SP1: Summation Point 1 Inflow=76.48 cfs 23.567 af
Outflow=76.48 cfs 23.567 af

Reach SP2: Summation Point 2 Inflow=14.46 cfs 1.172 af
Outflow=14.46 cfs 1.172 af

Total Runoff Area = 143.790 ac Runoff Volume = 24.919 af Average Runoff Depth = 2.08"
99.67% Pervious = 143.322 ac 0.33% Impervious = 0.467 ac

Summary for Subcatchment 1S: Subarea 1

Runoff = 57.49 cfs @ 12.50 hrs, Volume= 7.175 af, Depth> 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
88,270	36	Woods, Fair, HSG A
109,998	73	Woods, Fair, HSG C
638,782	79	Woods, Fair, HSG D
238,532	30	Meadow, non-grazed, HSG A
309,357	71	Meadow, non-grazed, HSG C
434,205	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
16,802	96	Gravel surface, HSG C
1,922	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
1,857,439	69	Weighted Average
1,837,868		98.95% Pervious Area
19,571		1.05% Impervious Area
393		2.01% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0400	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
10.0	480	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
27.8	950	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
49.0	1,530	Total			

Summary for Subcatchment 2S: Subarea 2

Runoff = 14.46 cfs @ 12.13 hrs, Volume= 1.172 af, Depth> 0.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
75,559	36	Woods, Fair, HSG A
15,629	73	Woods, Fair, HSG C
14,698	79	Woods, Fair, HSG D
399,212	30	Meadow, non-grazed, HSG A
183,788	71	Meadow, non-grazed, HSG C
109,508	78	Meadow, non-grazed, HSG D
5,662	96	Gravel surface, HSG A
18,536	96	Gravel surface, HSG C
1,000	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
823,985	50	Weighted Average
823,592		99.95% Pervious Area
393		0.05% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	85	0.0470	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
7.9	430	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	515	Total			

Summary for Subcatchment 3S: Subarea 3

Runoff = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
1,116,313	73	Woods, Fair, HSG C
1,490,725	79	Woods, Fair, HSG D
23,677	30	Meadow, non-grazed, HSG A
692,792	71	Meadow, non-grazed, HSG C
219,510	78	Meadow, non-grazed, HSG D
6,507	96	Gravel surface, HSG A
31,861	96	Gravel surface, HSG C
282	96	Gravel surface, HSG D
393	98	Unconnected roofs, HSG C
3,582,060	75	Weighted Average
3,581,667		99.99% Pervious Area
393		0.01% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

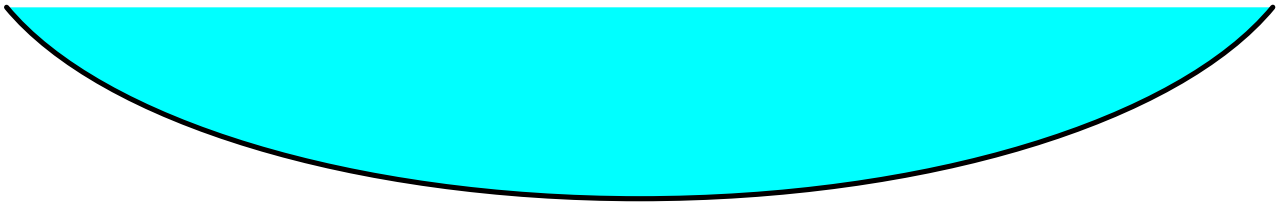
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.01% Impervious, Inflow Depth > 2.42" for 25-yr event
Inflow = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af
Outflow = 64.94 cfs @ 13.81 hrs, Volume= 16.392 af, Atten= 1%, Lag= 14.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.04 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 11.6 min

Peak Storage= 26,805 cf @ 13.69 hrs
Average Depth at Peak Storage= 1.93'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.37% Impervious, Inflow Depth > 2.26" for 25-yr event
Inflow = 76.48 cfs @ 13.69 hrs, Volume= 23.567 af
Outflow = 76.48 cfs @ 13.69 hrs, Volume= 23.567 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.05% Impervious, Inflow Depth > 0.74" for 25-yr event
Inflow = 14.46 cfs @ 12.13 hrs, Volume= 1.172 af
Outflow = 14.46 cfs @ 12.13 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea 1 Runoff Area=1,857,439 sf 1.05% Impervious Runoff Depth>2.02"
Flow Length=1,530' Tc=49.0 min CN=69 Runoff=57.49 cfs 7.175 af

Subcatchment 2S: Subarea 2 Runoff Area=823,985 sf 0.05% Impervious Runoff Depth>0.74"
Flow Length=515' Tc=17.1 min CN=50 Runoff=14.46 cfs 1.172 af

Subcatchment 3S: Subarea 3 Runoff Area=3,582,060 sf 0.01% Impervious Runoff Depth>2.42"
Flow Length=3,080' Tc=134.1 min CN=75 Runoff=65.58 cfs 16.572 af

Reach R: Reach Avg. Flow Depth=1.93' Max Vel=2.04 fps Inflow=65.58 cfs 16.572 af
n=0.022 L=840.0' S=0.0010 '/' Capacity=21.64 cfs Outflow=64.94 cfs 16.392 af

Reach SP1: Summation Point 1 Inflow=76.48 cfs 23.567 af
Outflow=76.48 cfs 23.567 af

Reach SP2: Summation Point 2 Inflow=14.46 cfs 1.172 af
Outflow=14.46 cfs 1.172 af

Total Runoff Area = 143.790 ac Runoff Volume = 24.919 af Average Runoff Depth = 2.08"
99.67% Pervious = 143.322 ac 0.33% Impervious = 0.467 ac

Summary for Subcatchment 1S: Subarea 1

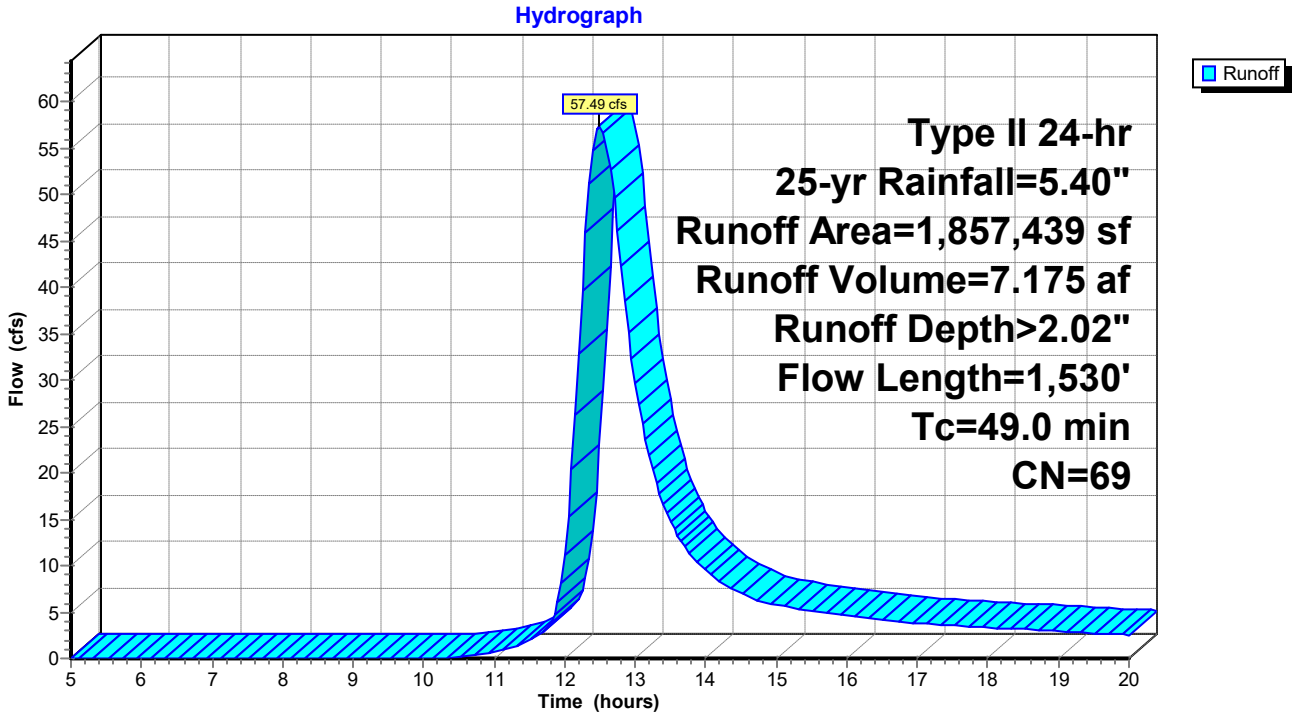
Runoff = 57.49 cfs @ 12.50 hrs, Volume= 7.175 af, Depth> 2.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
88,270	36	Woods, Fair, HSG A
109,998	73	Woods, Fair, HSG C
638,782	79	Woods, Fair, HSG D
238,532	30	Meadow, non-grazed, HSG A
309,357	71	Meadow, non-grazed, HSG C
434,205	78	Meadow, non-grazed, HSG D
19,178	98	Water Surface, HSG D
16,802	96	Gravel surface, HSG C
1,922	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
1,857,439	69	Weighted Average
1,837,868		98.95% Pervious Area
19,571		1.05% Impervious Area
393		2.01% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.2	100	0.0400	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
10.0	480	0.0130	0.80		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
27.8	950	0.0130	0.57		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
49.0	1,530	Total			

Subcatchment 1S: Subarea 1



Summary for Subcatchment 2S: Subarea 2

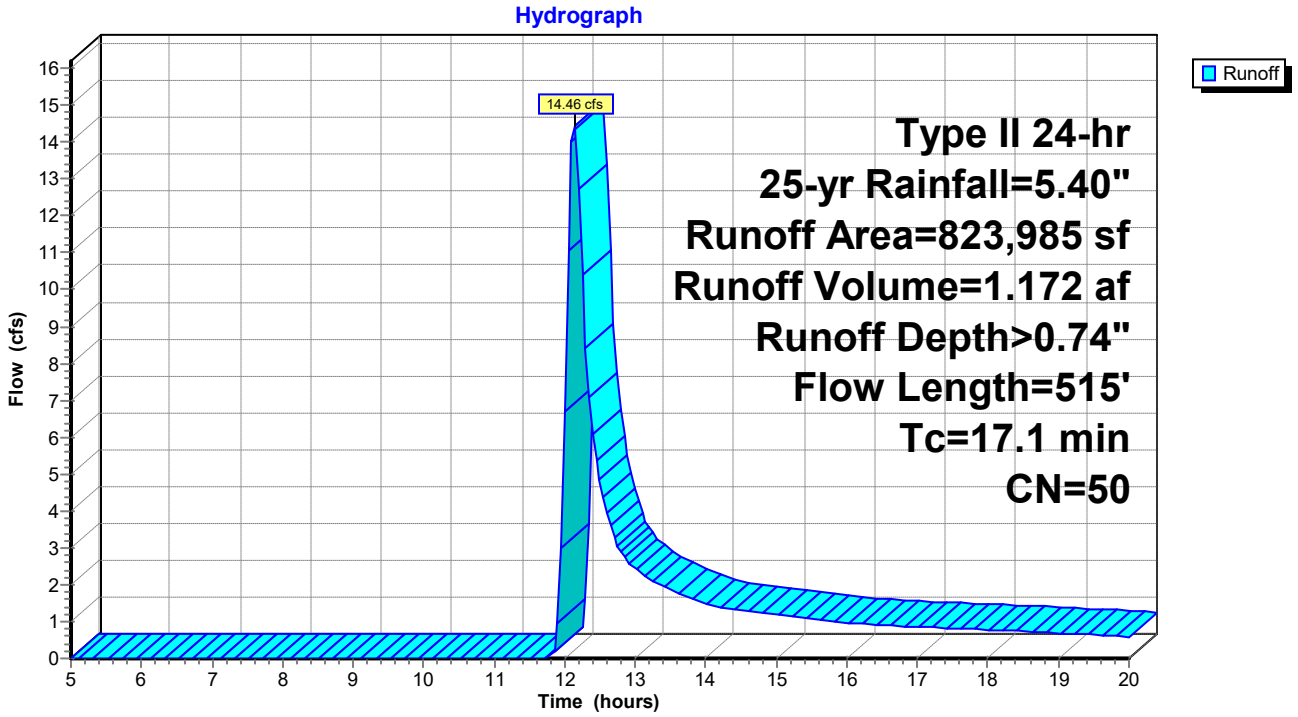
Runoff = 14.46 cfs @ 12.13 hrs, Volume= 1.172 af, Depth> 0.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
75,559	36	Woods, Fair, HSG A
15,629	73	Woods, Fair, HSG C
14,698	79	Woods, Fair, HSG D
399,212	30	Meadow, non-grazed, HSG A
183,788	71	Meadow, non-grazed, HSG C
109,508	78	Meadow, non-grazed, HSG D
5,662	96	Gravel surface, HSG A
18,536	96	Gravel surface, HSG C
1,000	96	Gravel surface, HSG D
393	98	Unconnected pavement, HSG C
823,985	50	Weighted Average
823,592		99.95% Pervious Area
393		0.05% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.2	85	0.0470	0.15		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.00"
7.9	430	0.0170	0.91		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
17.1	515	Total			

Subcatchment 2S: Subarea 2



Summary for Subcatchment 3S: Subarea 3

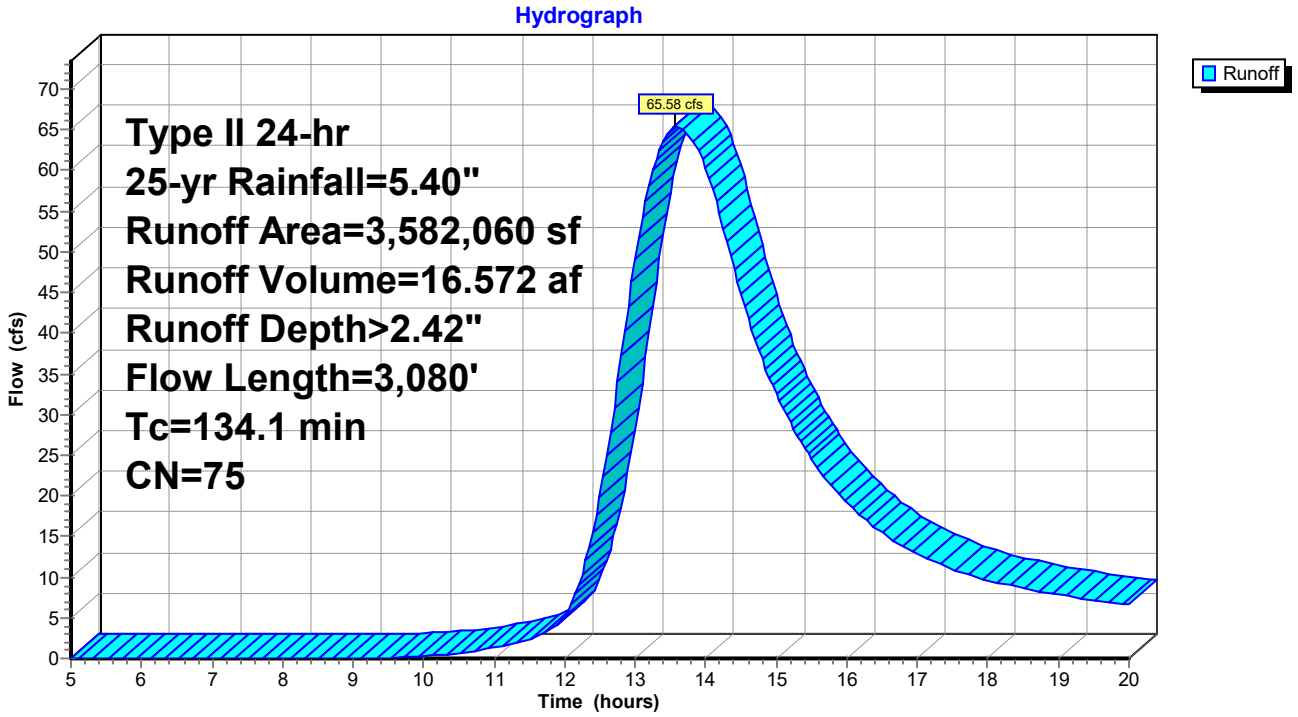
Runoff = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 25-yr Rainfall=5.40"

Area (sf)	CN	Description
1,116,313	73	Woods, Fair, HSG C
1,490,725	79	Woods, Fair, HSG D
23,677	30	Meadow, non-grazed, HSG A
692,792	71	Meadow, non-grazed, HSG C
219,510	78	Meadow, non-grazed, HSG D
6,507	96	Gravel surface, HSG A
31,861	96	Gravel surface, HSG C
282	96	Gravel surface, HSG D
393	98	Unconnected roofs, HSG C
3,582,060	75	Weighted Average
3,581,667		99.99% Pervious Area
393		0.01% Impervious Area
393		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
110.0	2,760	0.0070	0.42		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
24.1	320	0.0010	0.22		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
134.1	3,080	Total			

Subcatchment 3S: Subarea 3



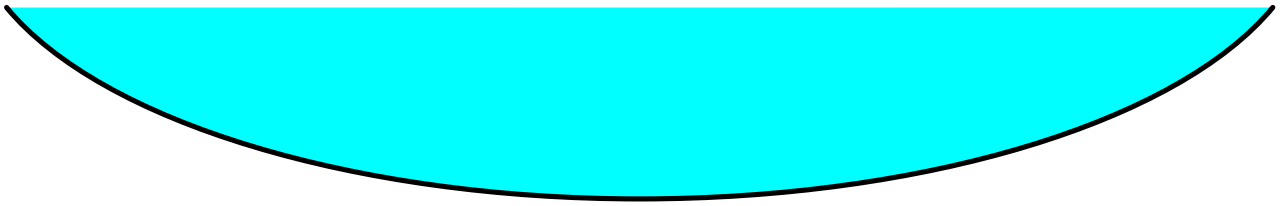
Summary for Reach R: Reach

Inflow Area = 82.233 ac, 0.01% Impervious, Inflow Depth > 2.42" for 25-yr event
Inflow = 65.58 cfs @ 13.57 hrs, Volume= 16.572 af
Outflow = 64.94 cfs @ 13.81 hrs, Volume= 16.392 af, Atten= 1%, Lag= 14.4 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 2.04 fps, Min. Travel Time= 6.9 min
Avg. Velocity = 1.20 fps, Avg. Travel Time= 11.6 min

Peak Storage= 26,805 cf @ 13.69 hrs
Average Depth at Peak Storage= 1.93'
Bank-Full Depth= 1.00' Flow Area= 13.3 sf, Capacity= 21.64 cfs

20.00' x 1.00' deep Parabolic Channel, n= 0.022 Earth, clean & straight
Length= 840.0' Slope= 0.0010 '/'
Inlet Invert= 254.84', Outlet Invert= 254.00'



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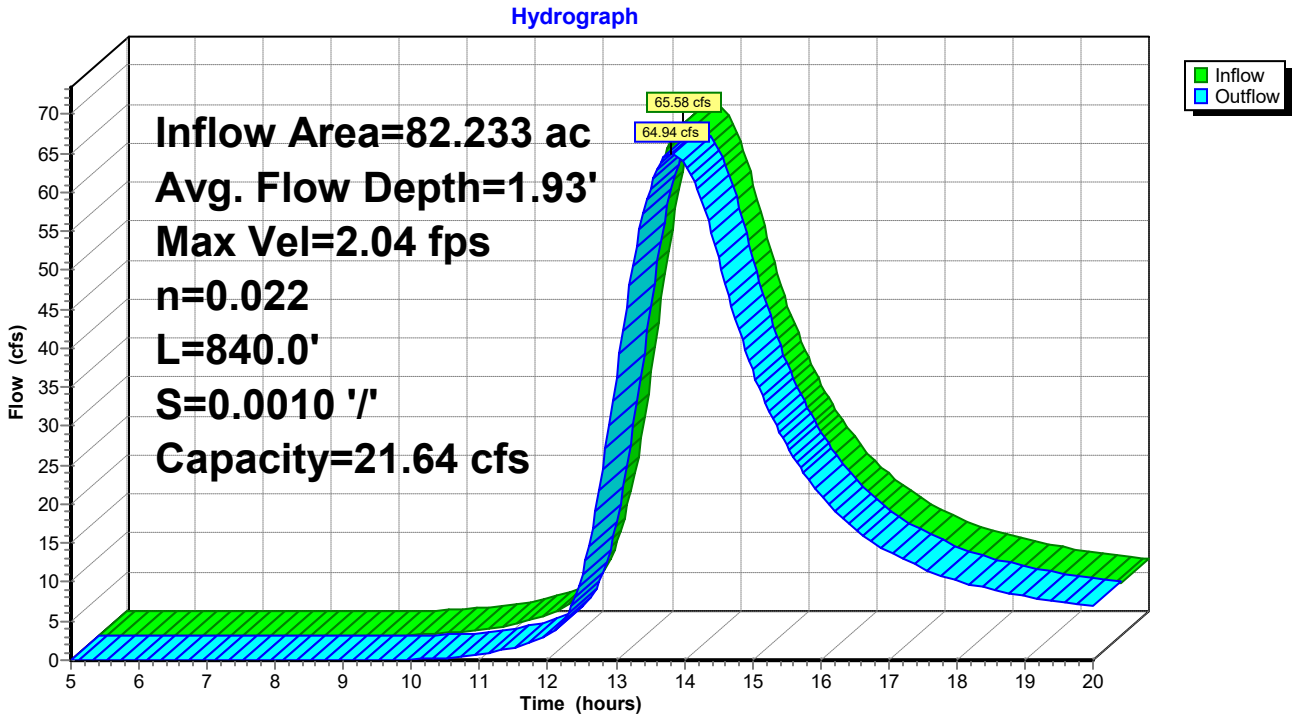
Reach R: Reach

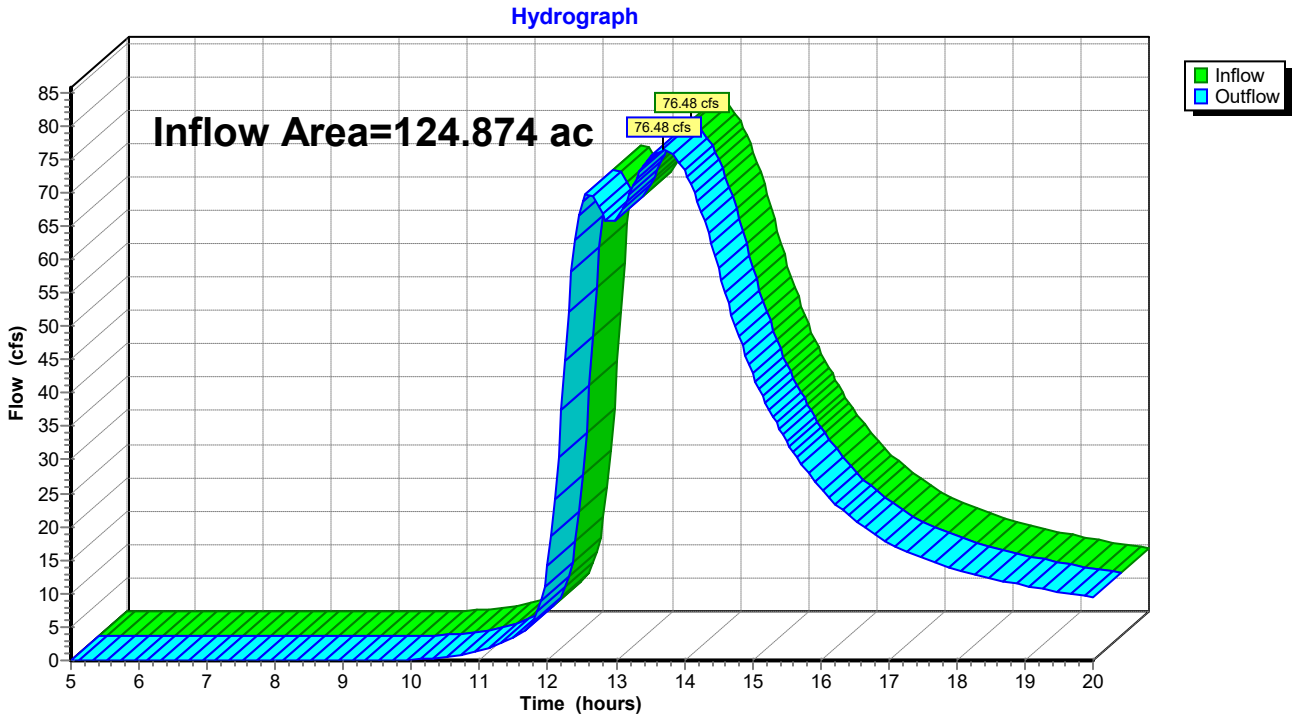


Summary for Reach SP1: Summation Point 1

Inflow Area = 124.874 ac, 0.37% Impervious, Inflow Depth > 2.26" for 25-yr event
Inflow = 76.48 cfs @ 13.69 hrs, Volume= 23.567 af
Outflow = 76.48 cfs @ 13.69 hrs, Volume= 23.567 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP1: Summation Point 1

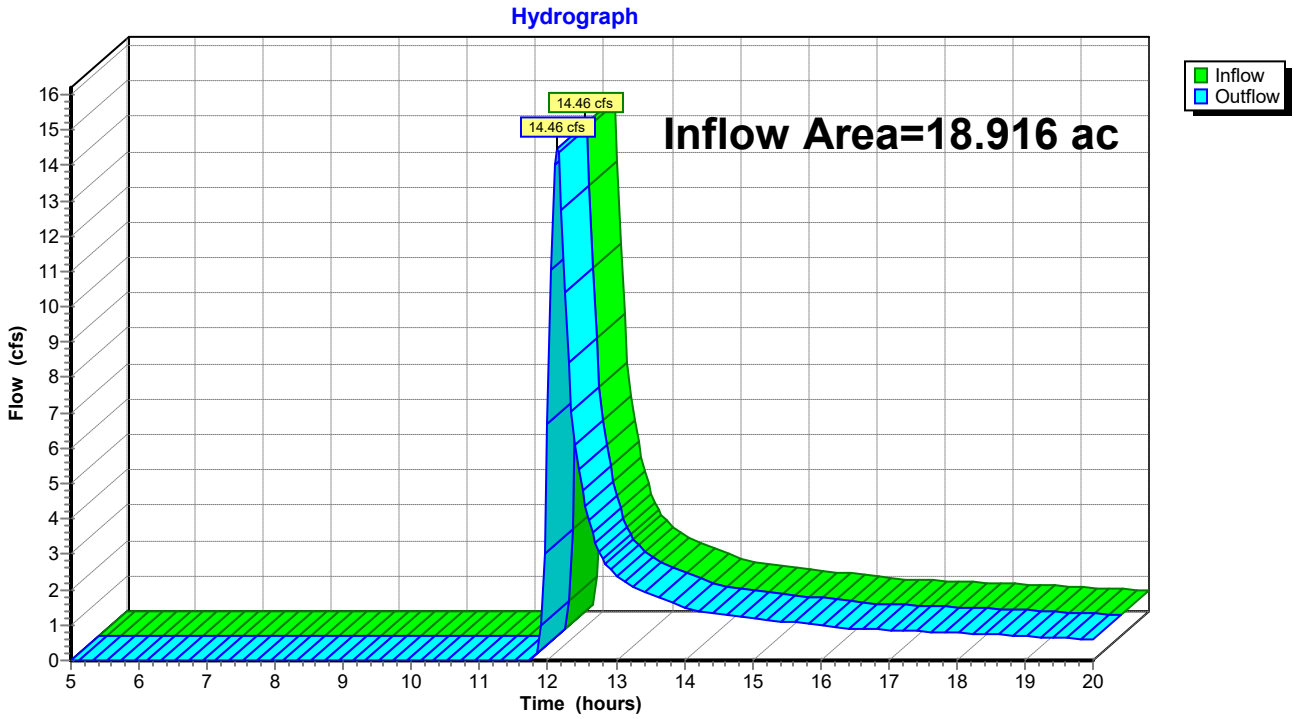


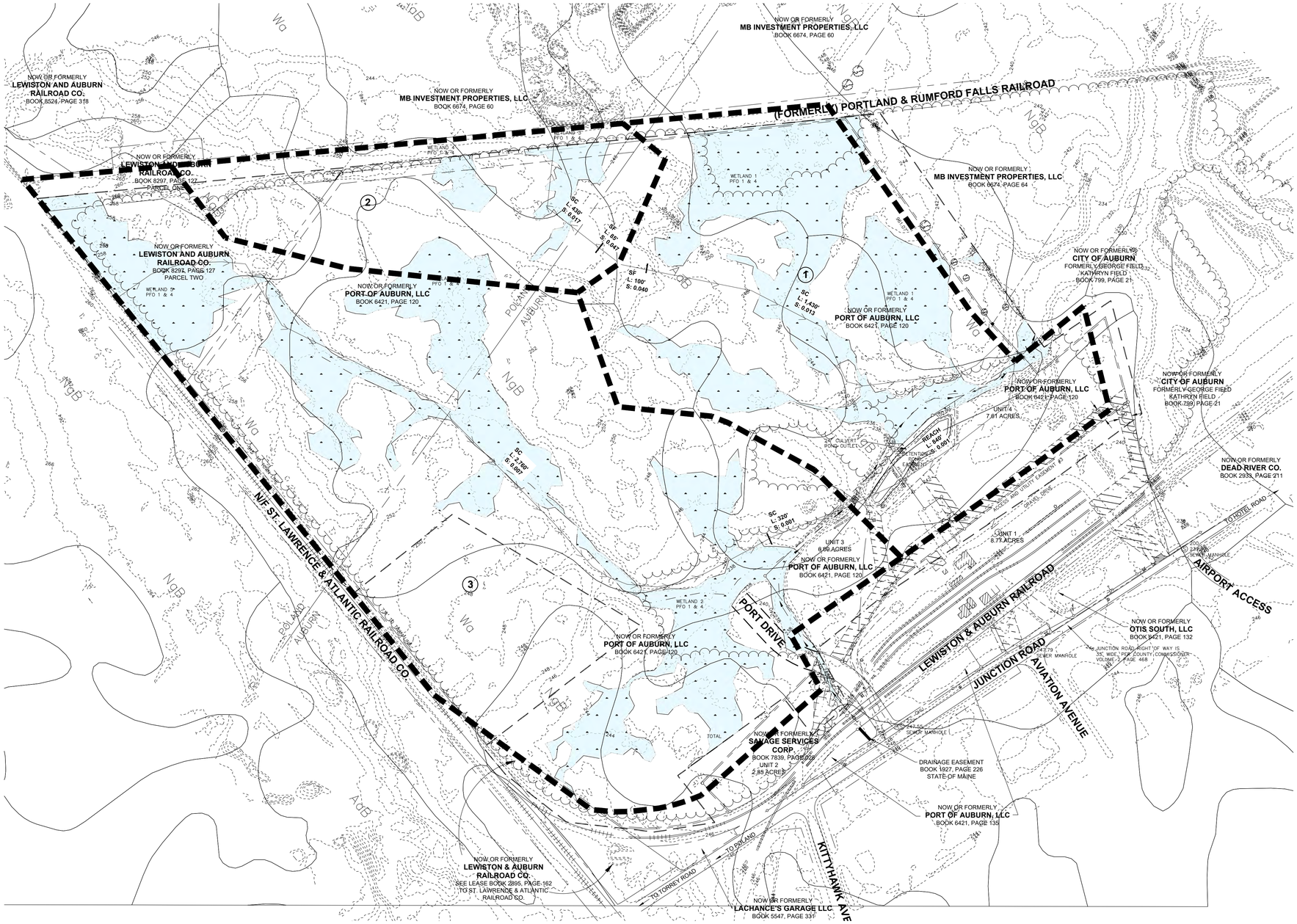
Summary for Reach SP2: Summation Point 2

Inflow Area = 18.916 ac, 0.05% Impervious, Inflow Depth > 0.74" for 25-yr event
Inflow = 14.46 cfs @ 12.13 hrs, Volume= 1.172 af
Outflow = 14.46 cfs @ 12.13 hrs, Volume= 1.172 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach SP2: Summation Point 2





POST LEGEND:

	PROPERTY LINE
	WATERSHED BOUNDARY LINE
(1)	WATERSHED DESIGNATION
	TIME OF CONCENTRATION FLOW PATH
50' SF	FLOW PATH DESCRIPTION
SF	SHEET FLOW
SC	SHALLOW CONCENTRATED FLOW
CF	CHANNEL FLOW
PF	PIPE FLOW
	STORMWATER FLOW DIRECTION

PRE DEVELOPMENT HYDROLOGY PLAN

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

www.cesincusa.com
Brewer
465 South Main Street
PO Box 639
Brewer, ME
T.207-989-4824
F.207-989-4881

CES INC
Engineers • Environmental Scientists • Surveyors

PROJECT TITLE
BD SOLAR AUBURN, LLC
AUBURN, MAINE

SHEET TITLE
PRE DEVELOPMENT HYDROLOGY PLAN

REV	DESCRIPTION	DATE	DRAWN BY	CHECKED BY

ISSUE STATUS
NOT FOR CONSTRUCTION

STATE OF MAINE
SEAN M. THIES
No. 10139
12/20/2019
LICENSED
PROFESSIONAL ENGINEER

SCALE	1"=200'
DATE	2019-12-18
DRAWN BY	WAB/BLC
CHECKED BY	SMT
DESIGNED BY	JAD
APPROVED BY	SMT
JOB NUMBER	12186.008
SHEET NUMBER	C701

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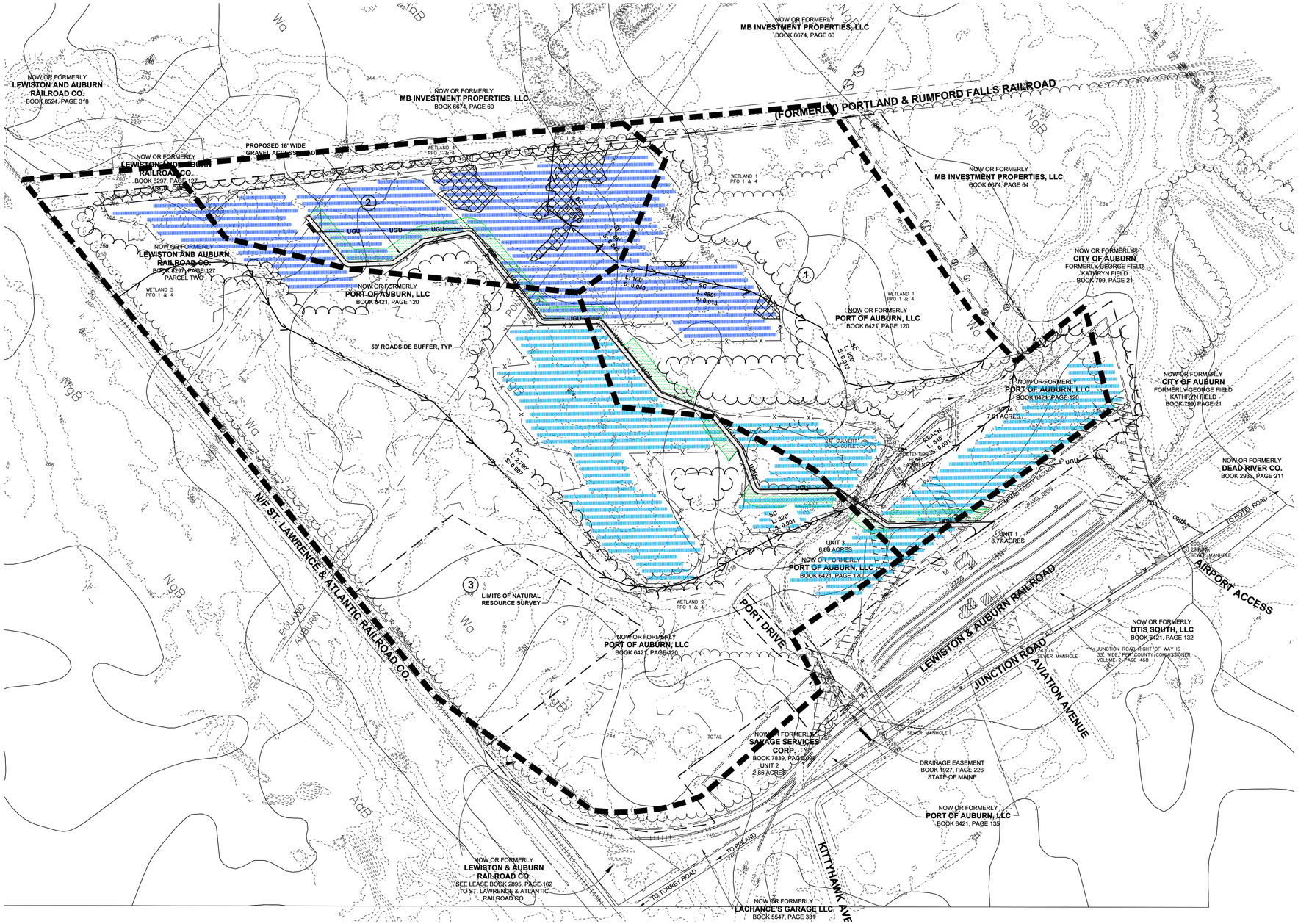

POST LEGEND:

— — —	PROPERTY LINE
▬ ▬ ▬	WATERSHED BOUNDARY LINE
(1)	WATERSHED DESIGNATION
→	TIME OF CONCENTRATION FLOW PATH
50' SF	FLOW PATH DESCRIPTION
SF	SHEET FLOW
SC	SHALLOW CONCENTRATED FLOW
CF	CHANNEL FLOW
PF	PIPE FLOW
➡	STORMWATER FLOW DIRECTION

POST DEVELOPMENT HYDROLOGY PLAN

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

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CES INC
Engineers • Environmental Scientists • Surveyors

PROJECT TITLE
BD SOLAR AUBURN, LLC
AUBURN, MAINE

SHEET TITLE
POST DEVELOPMENT HYDROLOGY PLAN

REV	DESCRIPTION	DATE	DRAWN BY	CHECKED BY

ISSUE STATUS
NOT FOR CONSTRUCTION

STATE OF MAINE
SEAN M. THIES
No. 10139
12/20/2019
LICENSED
PROFESSIONAL ENGINEER

SCALE	1"=200'
DATE	2019-12-18
DRAWN BY	WAB/BLC
CHECKED BY	SMT
DESIGNED BY	JAD
APPROVED BY	SMT
JOB NUMBER	12186.008
SHEET NUMBER	C702

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APPENDIX 8

EROSION AND SEDIMENTATION CONTROL PLAN

EROSION AND SEDIMENTATION CONTROL PLAN

A. Narrative. The proposed construction will require the implementation of temporary and permanent erosion control measures. These measures will be implemented in accordance with the Maine Erosion and Sediment Control Best Management Practices (BMPs) Manual, prior to removal of any on-site vegetation or disturbance of any on-site soil. The general erosion and sediment control specifications and details, as provided within this section, are intended to describe measures to be used by contractors working on the site to maintain compliance with the standards established in the BMPs. These standards include information on temporary and permanent erosion control measures, rates of seeding and applied mulch, slope and soil stabilization, effect of construction schedule, and other details.

   The proposed location and use of erosion control measures on-site are shown on the plan located in **Appendix 11** of this application. There are no known existing erosion control concerns with the site. Implementation of proper erosion control measures will be required by site conditions to confine sediment and debris within the limit of soil disturbance. Proper use and maintenance of erosion control measures will provide protection against off-site transport of sediment and discharge of sediment to undisturbed areas of the development.

B. Completion Date. Fall 2022

C. Site Features. For site features please refer to the enclosed plan.

D. Temporary and Permanent Erosion Control Measures. For temporary and permanent erosion control measures please refer to the enclosed plan.

E. Limits of Disturbed Areas. Areas of disturbance will be limited to the proposed work shown on the enclosed plan. An access road, approximately 16-feet wide, will be installed throughout the length of the property for access and maintenance of the solar array. Solar panels will be mounted on pile foundations to limit excavation and disturbance. Land cover around the piles will be grassed, serving as a buffer for the small impervious areas. Areas outside of the solar array will maintain its existing land cover.

F. Design Drawings and Specifications. For design drawings please refer to the enclosed plan. The following specifications will be utilized by the site contractor during construction of the project.

EROSION CONTROL PLAN SPECIFICATIONS

A. General

1. All work and measures will be as per the Maine Erosion and Sediment Control BMPs manual.

2. The following specifications will be employed.

B. Prior to Construction

1. Prior to beginning of construction, erosion and sedimentation controls shall be in place.

C. During Construction

1. Exposed soil surfaces will be treated immediately if they are to remain ungraded more than 30 days, or if they are at final grades.

2. Drainage ways, either designed or incidental, will have filter barriers installed.

3. All work and materials necessary to minimize sediment loss from the site will be provided.

4. All erosion control measures will be inspected and repaired after every rainfall greater than ½-inch and at least daily during rain events lasting longer than 24 hours.

D. Post Construction

1. Erosion control measures will be maintained until permanent soil stabilization has been achieved with a growth of vegetation greater than 90%.

PART 1 - GENERAL

1.01 Description of Work

A. Provide and maintain devices to control erosion, siltation, sedimentation, and dust that occur during construction operations. Undertake every reasonable precaution and do whatever is necessary to avoid erosion of soil and to prevent silting of wetland areas and drainage ditches.

B. Provide measures to control dust caused whether on or off the project site.

C. Deficiencies in erosion control measures indicated by failures or erosion will be corrected as soon as reasonably possible by providing additional measures or different techniques to correct the situation and prevent subsequent erosion.

D. Exposure of soils on embankments, excavations, and graded areas will be kept as short as possible. Initiate seeding and other erosion control practices as soon as reasonably possible.

1.02 Quality Assurance

A. Conform to all requirements of applicable Federal, State and local permits and conform to the recommendations of the Maine Erosion and Sediment Control BMPs (see Part B below) whether the measures are specifically noted herein, or not.

B. Standards: Maine Erosion and Sediment Control BMPs Manual, hereinafter called Erosion Control Handbook.

PART 2 - PRODUCTS

2.01 Materials: Use the following materials to implement and construct erosion control measures.

A. Hay Bale: Rectangular shaped bales of hay or straw weighting at least 40 pounds per bale; free from noxious weed seeds and rough or woody materials.

B. Mulch: Type and use as specified by the Erosion Control Handbook

1. Long fibered hay or straw in dry condition and which are relatively free of weeds and foreign matter detrimental to plant life.

2. Mulch netting: Plastic or nylon mesh netting with approximate openings of ¼-inch to 1-inch.

C. Permanent Seeding: Cut and fill slopes and disturbed areas will be stabilized as follows:

1. Four inches of loam will be spread over disturbed areas and smoothed to a uniform surface.

2. In lieu of tests, agricultural limestone will be spread at the rate of three tons per acre. 10-20-20 fertilizer will follow at the rate of 800 lbs. per acre. These two soil additives will be incorporated into the soil prior to seeding.

3. Following seed bed preparation, back slopes will be seeded to a mixture of 83% creeping red fescue, and 17% rye grass. Seeding rate is 3 lbs. per 1,000 square feet. Lawn quality sod may be substituted for seed.

4. Hay mulch at the rate of 90 lbs. per 1,000 square feet of a hydro-application of asphalt, wood, or paper fiber will be applied following seeding. A suitable binder such as curason or terrtack will be used on hay mulch for wind control.

5. If final seeding of the disturbed areas is not completed by September 15th of the year of the construction, then on that date these areas will be graded and a cover crop of rye at the rate of 112 lbs/acre or 3 lbs/1,000 sq. ft. will be applied. The rye seeding will be preceded by an application of 3 tons of lime and 800 lbs. of 10-20-20 fertilizer or its equivalent and covered by a layer of jute mat to aide in stabilization.

PART 3 - EXECUTION

3.01 Construction

A. Hay Bales:

1. Install as directed by Erosion Control Handbook, and stake with required stakes.

B. Mulch:

1. Undertake after each area has been properly prepared.

2. When seed for erosion control is sown prior to placing the mulch, place mulch on the seeded areas within 48 hours after seeding.

3. Blowing chopped mulch will be permitted.

4. Hay mulch should cover the ground enough to shade it, but the mulch should not be so thick that a person standing cannot see the ground through the mulch.

5. Remove matted mulch or bunches.

C. Temporary Erosion Control Matting (where necessary):

1. Surface Preparation:
   a. Conform to grades for slopes and ditches shown of the drawings.
   b. Finish to a smooth and even condition with all debris, roots, stones, and lumps raked out and removed.
   c. Loosen soil surface to permit bedding of the matting.
   d. Unless otherwise directed, apply seed prior to placement.

2. Installation:
   a. Place strips lengthwise in the direction of the flow of water.
   b. Where strips are laid parallel or meet as in a tee, overlap at least four inches.
   c. Overlap ends at least six inches in a shingle fashion.
   d. The up-slope end of each strip of the matting will be turned down and buried to a depth of not less than six inches with the soil firmly tamped against it.
   e. Build check slots at right angles to the direction of the flow of water. Space so that one check slot or one end occurs within each 50 feet of slope length. Construct by placing a tight fold of the matting at least six inches vertically into the ground and tamp the same as up-slope ends.
   f. Bury edges of matting around the edges of the catch basins and other structures.
   g. Where determined by the Engineers, additional seed will be spread over matting, particularly at those locations disturbed by building the slots. Matting will then be pressed onto the ground with a light lawn roller or by other satisfactory means.

h. Drive staples vertically into the ground flush with the surface.
i. On slopes flatter than 4:1, space staples not more than three feet and one row, alternately spaced, down the center.
j. On grades 4:1 or steeper, place in the same three rows, but spaced two feet apart.
k. On all overlapping or butting edges, double the number of staples, with the spacing halved; all ends of the matting and all required check slots will likewise have staples spaced every foot.

D. Permanent Seeding:

1. Seed with appropriate seeds and application rates as noted in Section 2.01C.

2. Mulch areas where seeding has been applied. Do not mulch seeded areas where matting will be immediately installed.

E. Topsoil Storage:

1. Topsoil which is stockpiled on the site for use in loam applications will be placed out of natural drainages, in piles that have side slopes of 2:1 to 1.5:1.

2. A trench (depth as required) will be constructed around the base of the pile to prevent eroding soil from washing into drainages.

F. Dust Control: Utilize the application of sprinkled water to reduce the emission of airborne soil particulates from the Project site.

G. Temporary Berms: Construct temporary barriers along the toe of embankments using side drains as necessary.

H. Temporary Basins: Construct temporary sedimentation basins adequate to avoid siltation of surface water bodies.

I. Other Temporary Measures:

1. Type and use will be as specified in the Erosion Control Handbook.

J. Winter Stabilization Notes

1. At this time, it is not expected that significant soil disturbance will occur during winter months or periods of heavy icing. If construction is performed during

these times, the following construction practices will be followed.

a. All disturbed areas not stabilized with stone or other measures will have approved erosion control matting installed and be dormant seeded.
b. No frozen soil material or material containing significant snow or ice will be used for fill material.
c. All material stockpiles will have silt fence and/or hay bales installed downgradient of piles.
d. Follow general erosion control notes described previously wherever possible and as conditions permit.

3.02 Maintenance

A. Inspect erosion control practices immediately after each rainfall greater than ½-inch and at least daily during rainfall lasting longer than 24 hours or snowmelt for damage. Provide maintenance and make appropriate repairs or replacement.

B. Remove silt from around hay bales when it has reached one foot above grade or prior to expected heavy runoff or siltation.

C. Repair matting if any staples become loosened or raised, or if any matting becomes loose, torn, or undermined, make satisfactory repairs immediately.

3.03 Removal of Temporary Erosion Control

A. Remove temporary materials and devices when permanent soil stabilization has been substantially achieved. For vegetated areas, substantially complete means 95% vegetated cover has been established.

B. Level and grade to the extent required to present a sightly appearance and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.

C. Remove unsuitable materials from site and dispose of in a lawful manner.

INSPECTION AND MAINTENANCE

The following Maintenance Plan will be employed for this facility. BD Solar Auburn, LLC will be responsible for all maintenance. Erosion control measures for this site were designed by:

Sean Thies, P.E.
Haley Ward, Inc.
One Merchants Plaza, Suite 701
Bangor, Maine 04401
(207) 989-4824
sthies@haleyward.com

A Pre- and Post-Construction Maintenance Plan for the stormwater management system and erosion control measures are included in this section.

MAINTENANCE PLAN

The MDEP's Stormwater Management for Maine: Best Management Practices (2006), and the MDEP's Chapter 500: Stormwater Management were used as guidelines in the development of this Maintenance Plan. General maintenance requirements are listed below.

A. DURING CONSTRUCTION

The general contractor will be responsible for the inspection and maintenance of all stormwater management system components during construction.

Inspection: Inspection of disturbed and impervious areas, erosion control measures, materials' storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site will be performed at least once a week as well as before and after a storm event, and prior to completing permanent stabilization measures. Inspections shall be conducted by a person with knowledge of erosion and stormwater control, including the standards and conditions in the permit.

Maintenance: All erosion control measures will be kept in effective operating condition until areas are permanently stabilized. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation will be completed within 7 calendar days and prior to any rainfall event.

Documentation: A log shall be kept summarizing the inspections and any corrective action taken. A copy of the log is provided at the end of this section, and is titled, Construction Inspection Log.

B. POST-CONSTRUCTION

The Owner or their assigns will be responsible for the inspection and maintenance of all stormwater management system components.

Inspection and Corrective Action

1. Vegetated Areas: Inspections and maintenance of vegetated areas will be performed early in the growing season or after significant rainfall to identify any erosion problems. Areas where erosion is evident will be covered with an appropriate lining, or erosive flows will be diverted to an area able to handle the flows. Any bare areas or areas with sparse growth will be replanted.

2. Ditches, Swales, and Culverts: Inspections and maintenance of ditches, culverts, and swales will be performed in the Spring, late Fall, and after rain events greater than 1-inch in depth to remove any obstructions to flow, to remove any accumulated sediments within the structures, and to repair any erosion of channel linings, check dams, inlet protection, or outlet protection. Vegetated ditches and swales must be mowed no more than twice per year and cut no less than 6-inch in height.

3. *Inspection* shall be performed by an individual with experience and/or training on the maintenance and functions of these devices.

4. Documentation: A log will be kept summarizing the inspections, maintenance, and any corrective action taken. A copy of the log is provided at the end of this section, and is titled, BMP Inspection Log.

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.

   A. All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

   B. All aspects of the stormwater control system have been inspected for damage, wear, and malfunction, and appropriate steps have been taken to repair or replace the facilities.

   C. The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the department, and the maintenance log is being maintained.

HOUSEKEEPING

1. Spill Prevention - During construction, controls will be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

2. Groundwater Protection - During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater will not be stored or handled in areas of the site draining to an infiltration area. 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.

3. Fugitive Sediment and Dust - Actions will be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil will not be used for dust control. Water will be used for dust control during construction.

   Operations during wet months that cause mud to be tracked off the site onto public roads will provide sweeping of the road areas at least once per week and prior to significant storm events.

4. Debris and Other Materials - Litter, construction debris, and chemicals exposed to stormwater will be prevented from becoming a pollutant source. The nature of this development will not cause problems related to debris and other materials.

5. Trench or Foundation De-Watering - If de-watering is necessary, the collected water will be removed from the ponded area and spread through natural wooded buffers or discharged into a construction sedimentation basin. The water will not be allowed to flow over disturbed areas to the site.

BD SOLAR AUBURN, LLC
CONSTRUCTION INSPECTION LOG

Inspection Date	Inspector (Name and Qualifications)	Major Observations	Work Performed

Notes

1) Major Observations include the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major Observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and locations(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken.
2) Work Performed will include a description of the corrective action taken, the date the corrective action was taken, and the name and qualifications of the person taking the corrective actions
3) The log must be made accessible to MDEP staff and a copy must be provided upon request.
4) The permittee shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

BD SOLAR AUBURN, LLC
BMP INSPECTION LOG

Date	Inspector (Name and Qualifications)	ID Number	BMP Structure	Work Performed	Comments

Notes

1) If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal.
2) BMP structures shall be numbered sequentially and located on attached site map.
3) The log must be made accessible to MDEP staff and a copy must be provided upon request.
4) The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization.

INSPECTION AND MAINTENANCE PLAN FOR STORMWATER MANAGEMENT STRUCTURES (BMPS)		
	INSPECTION SCHEDULE	**CORRECTIVE ACTIONS**
VEGETATED AREAS	Annually early spring and after heavy rains	Inspect all slopes and embankments and replant areas of bare soil or with sparse growth
		Armor rill erosion areas with riprap or divert the runoff to a stable area
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Mow vegetation as specified for the area
DITCHES, SWALES AND OPEN STORMWATER CHANNELS	Annually spring and late fall and after heavy rains	Remove obstructions, sediments or debris from ditches, swales and other open channels
		Repair any erosion of the ditch lining
		Mow vegetated ditches
		Remove woody vegetation growing through riprap
		Repair any slumping side slopes
		Repair riprap where underlying filter fabric or gravel is showing or if stones have dislodged
CULVERTS	Spring and late fall and after heavy rains	Remove accumulated sediments and debris at the inlet, outlet, or within the conduit
		Remove any obstruction to flow
		Repair any erosion damage at the culvert's inlet and outlet
CATCHBASINS	Annually in the spring	Remove sediments and debris from the bottom of the basin and inlet grates
		Remove floating debris and oils (using oil absorptive pads) from any trap
ROADWAYS AND PARKING AREAS	Annually in the spring or as needed	Clear and remove accumulated winter sand in parking lots and along roadways
		Sweep pavement to remove sediment
		Grade road shoulders and remove accumulated winter sand
		Grade gravel roads and gravel shoulders
		Clean-out the sediment within water bars or open-top culverts
		Ensure that stormwater runoff is not impeded by false ditches of sediment in the shoulder
RESOURCE AND TREATEMENT BUFFERS	Annually in the spring	Inspect buffers for evidence of erosion, concentrated flow, or encroachment by development
		Manage the buffer's vegetation with the requirements in any deed restrictions
		Repair any sign of erosion within a buffer
		Inspect and repair down-slope of all spreaders and turn-outs for erosion
		Install more level spreaders, or ditch turn-outs if needed for a better distribution of flow
		Clean-out any accumulation of sediment within the spreader bays or turnout pools
		Mow non-wooded buffers no shorter than six inches and less than three times per year
WETPONDS AND DETENTION BASINS	Annually in fall and after heavy rains	Inspect the embankments for settlement, slope erosion, piping, and slumping
		Mow the embankment to control woody vegetation
		Inspect the outlet structure for broken seals, obstructed orifices, and plugged trash racks
		Remove and dispose of sediments and debris within the control structure
		Repair any damage to trash racks or debris guards
		Replace any dislodged stone in riprap spillways
		Remove and dispose of accumulated sediments within the impoundment and forebay
FILTRATION AND INFILTRATION BASINS	Annually in the spring and late fall	Clean the basin of debris, sediment and hydrocarbons
		Provide for the removal and disposal of accumulated sediments within the basin
		Renew the basin media if it fails to drain within 72 hours after a one inch rainfall event
		Till, seed and mulch the basin if vegetation is sparse
		Repair riprap where underlying filter fabric or gravel is showing or where stones have dislodged
PROPRIETARY DEVICES	As specified by manufacturer	Contract with a third-party for inspection and maintenance
		Follow the manufacturer's plan for cleaning of devices
OTHER PRACTICES	As specified for devices	Contact the department for appropriate inspection and maintenance requirements for other drainage control and runoff treatment measures.

APPENDIX 9

FINANCIAL CAPACITY

Certificate of Good Standing
Statement of Financial Capacity
Technical Capacity
Resumes

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

Corporate Name Search

Information Summary

Subscriber activity report

This record contains information from the CEC database and is accurate as of: Thu May 18 2023 09:15:29. Please print or save for your records.

Legal Name	Charter Number	Filing Type	Status
BD SOLAR AUBURN LLC	20200060DC	LIMITED LIABILITY COMPANY (DOMESTIC)	GOOD STANDING

Filing Date	Expiration Date	Jurisdiction
07/09/2019	N/A	MAINE

Other Names **(A=Assumed ; F=Former)**

NONE

Clerk/Registered Agent

UNIVERSAL REGISTERED AGENTS, INC.
128 STATE STREET
#3
AUGUSTA, ME 04330

New Search

Click on a link to obtain additional information.

List of Filings	View list of filings	
Obtain additional information:		
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t: + 353 1 7917882
e: info@bnrg.ie
w: www.bnrg.ie
Unit 1B, No.3 Custom House Plaza
Harbourmaster Place, Dublin 1

November 8, 2018

To Whom It May Concern

BNRG Renewables Ltd (BNRG) is providing development funding to Dirigo Solar LLC (Dirigo) to develop a 110 Megawatt (MW) portfolio of photovoltaic power production projects in the state of Maine pursuant to the Long-Term Contract awarded by the Maine Public Utilities Commission in 2015, Docket No.2015-00026. Once key milestones have been achieved the Projects will be acquired by BNRG.

Founded in 2007, BNRG is an international developer of solar projects and has a solid track record of successfully developing, financing and constructing in multiple markets simultaneously. To date BNRG has financed and constructed over 115 MW of solar PV projects in the UK, Northern Ireland, Bulgaria, and Greece valued at approximately US$269 million. In the US, BNRG is currently constructing 35 MW portfolio of Projects in Oregon worth approximately US$45 million, which will be owned and operated by BNRG in the long term. The first projects in Oregon will be commissioned in early December 2018.

BNRG Renewables: Global Portfolio			
Values in US$m	**MW**	**Projects**	**Value**
ASSETS COMPLETED & SOLD			
Great Britain	89	16	$200m
Northern Ireland	14	1	$24m
Bulgaria	10	2	$35m
Greece	2	25	$10m
ASSETS UNDER CONSTRUCTION			
United States - Oregon	35	10	$46m
ASSETS UNDER DEVELOPMENT			
United States - Maine	110	14	$124m
Ireland	260	24	$322m

BNRG has been working with Dirigo since 2016, and based on our track record, financial capabilities and technical expertise, we are confident that we will successfully deliver the full 110 MW portfolio in Maine.

Sincerely,

BNRG Renewables Ltd

By: _____
Name: Nicolas Holman
Title: Director

TECHNICAL CAPACITY

Haley Ward, Inc. (Haley Ward) has prepared numerous Site Location of Development Applications, Amendments, and Modifications to existing permits. Sean Thies, P.E. has overseen the preparation of this application. Sean has been involved in the preparation of many Site Location of Development Applications for various clients. Included are resumés for Haley Ward, Inc. personnel involved with the design and preparation of this application.

BNRG Renewables is an international Renewable Energy development company. Based in Dublin, Ireland the company has developed projects in seven countries. A specialist in solar PV, BNRG develops, finances, constructs and operates both ground-mounted and rooftop solar plants. As an Irish company established in 2007, BNRG has developed and constructed over $250m of Solar PV projects in Greece, Bulgaria the UK and Northern Ireland. BNRG has a pipeline of over 300MW of projects currently under development in several mature and emerging markets including Ireland (250 MW) and the United States (140MW) and is exploring opportunities in South East Asia and Australia. BNRG is currently constructing a 35MW portfolio in Oregon with construction of the final project expected to be completed in 2019.

Highly Experienced Team

BNRG has a highly capable team of 12 employees with a broad range of experience in the solar, renewable energy, finance, and property industries respectively.

David Maguire - Founder Director

David is an environmental scientist by profession respectively holds Masters' Degrees from National University of Ireland and the University of Wales, in Environmental Sciences and Resource Management. With over 20 years in the environmental and renewable energy sectors, he is consulted frequently on complex environmental and energy issues. David is a founding member of the Irish Solar Energy Association ISEA and the Alliance for Affordable Solar Energy AFASE, the industry group that represents over 850 European companies with a combined annual turnover of over €25bn and employing over 84,000 people. David held positions with the Environmental Protection Agency with responsibility for Research & Development.

Nick Holman - Director

Prior to joining BNRG, Nick spent 17 years working in Asia, Europe and the Middle East as an International Manager for the HSBC Group. During this time, Nick has performed a diverse number of senior roles including running HSBC's Trade and Supply Chain business in Paris, project managing the establishment of a Business Process Outsourcing center in the Philippines and leading HSBC's global trade finance transformation project in Hong Kong. He has recently completed the Mid-Career Master's in Public Administration

program at the Harvard Kennedy School where he focused on Infrastructure Finance, Innovation and Microfinance. Nick also holds a Masters' Degree from the London School of Economics and a BA in Economics and Mathematics from Trinity College Dublin.

William Martinez - Program Manager (USA)
William is a Project Manager with BNRG and has been in the renewable industry for the past eight years. He has experienced the fast-paced growth of the solar industry through various aspects of building commercial solar projects including design, construction project management, and project development. William earned a Bachelor of Engineering degree in Mechanical Engineering with a concentration in Green Engineering from Stevens Institute of Technology. William is also a NABCEP PV Installation Professional and holds OSHA 10 and OSHA 30 certifications. William is responsible for the oversight of BNRG's Portfolio in the US.

Ross Wolhuter - Program Manager
Ross has worked in the renewable energy industry for seven years, across both sales and project
management, focusing in the last three years on the delivery of large scale ground mount solar farms. He was part of a team at Primrose Solar that delivered 253 MWp of sites, ranging from 5MWp to 50MWp, with direct responsibility for in excess of 150 MWp. Prior to working in the renewable energy industry, Ross studied at the University of Leeds, where he graduated with a BA in Environment and Business.

Elina Cipane - Project Manager
Elina graduated from Ventspils University College in Latvia where she acquired Bachelors' Degree of Business Administration and Economics with Specialization in Marketing Management. She then moved to Ireland where she worked in various roles in Billing and Sales Operations in IT industry. Elina joined BNRG Renewables in 2015 and is currently coordinating the company's development portfolio across Ireland and US.

Andre Lopes – Design Engineer
Andre graduated from Federal Technological University of Parana in Brazil where he acquired a Bachelors' Degree in Electrical Engineering. After graduating Andre joined Fotovoltec in Rio, Brazil, designing PV plants from distributed generation to utility scale. He has extensive experience in working with and programming yield analysis and bespoke design software. Andre joined BNRG Renewables in May 2018 as Design Engineer and is responsible for design optimization on all projects.

Brian O' Rorke - Consultant
Brian is an engineer by profession and holds master's degrees in both engineering and business having studied in National University of Ireland, Cork and Nanyang Technological University, Singapore. Brian has been active in Renewables since 2006,

initially working in technology R&D for offshore renewables, then in government policy, before taking up a commercial role in a solar PV company. Immediately prior to joining BNRG, Brian worked with a global solar PV EPC company where he successfully establishing businesses for them in Australia and the Philippines contracting 50 MW directly and enabling additional MW's through frameworks and partnerships he established. Brian was responsible for the complete sales cycle from origination to contract signing whilst in parallel established the necessary partnerships to execute the projects. Brian will lead BNRG's market entry into Australia whilst also leveraging his EPC experience for the benefit BNRG's projects globally.

Robert Cleaves
BD Solar Auburn, LLC
After practicing law for nearly two decades including three years as a federal prosecutor at the Department of Justice (Honors Program), Bob became an environmental entrepreneur and a pioneer in creating business opportunities around sustainable business practices. He founded New England's first wetlands bank, negotiated the nation's largest trade of renewable energy credits from biomass and waste to energy, developed numerous biomass QF's, and has counseled Fortune 500 companies on a broad range of green initiatives. He currently leads the efforts of the Biomass Power Association, a national advocacy group with 50 members in 20 states, including generators, feedstock providers, pulp mills and landowners. He was instrumental in drafting and helping enact the so-called open-loop biomass Production Tax Credit as part of the JOBS Act of 2004. In addition, he represents the industry on overall renewable tax reform. He works closely with Senate Finance and Ways and Means tax staff. His work for BPA spans both tax and non-tax issues, including work on the biogenic emission regulation under the Tailoring Rule, Boiler MACT and NHSM; strategic alliances with USDA, DOE, and environmental NGO's; and energy policy on the Hill. His work for Stratex Energy includes representing some of the largest pulp and paper companies in the US. Bob was responsible for creating $8 billion in value to the industry in 2008 and 2009 work that avoided thousands of mill layoffs. Bob is a frequent lecturer on renewable energy at RISI, TAPPI, ACORE, CPA, BBI and other conferences. He is a graduate of Wesleyan University and Boston College Law School.

Nicholas Mazuroski
BD Solar Auburn, LLC
Nick is a founding member of BD Solar and brings extensive experience in business origination, development, operations and fundraising. Nick also consults for the Biomass Power Association, the nation's leading trade organization for biomass power producers, and led business development efforts for Algasol Renewables, a global algal technology company based in Spain. In 2011, Nick launched Casco Solar LLC, a Maine-based renewable energy developer with solar PV projects in Cyprus, Greece and Italy. Nick has

also served on several Congressional, Gubernatorial and Presidential campaigns. Nick studied Politics, Philosophy, and Economics at Oxford University, and earned his BA in Political Science from Bates College.

HALEY WARD
ENGINEERING | ENVIRONMENTAL | SURVEYING

Sean M. Thies, PE

Vice President
Regional Manager
Senior Project Manager

sthies@haleyward.com | 207.989.4824

Sean Thies has over 23 years of civil engineering experience, which includes site design, roadway design, and permitting. Sean's knowledge includes working with private developers, municipalities, housing authorities, and universities. As a Senior Project Manager, Sean manages a wide variety of ventures including road construction/reconstruction projects for municipalities, site development projects for medical facilities, retail facilities, banks, restaurants, offices, and ports to name a few. Additionally, he has managed several projects for affordable senior and family housing and designed commercial and residential subdivisions. Sean is experienced in permitting with the Maine Department of Environmental Protection (MDEP), Land Use Planning Commission, Army Corps of Engineers, and many municipalities throughout the State of Maine. Sean's areas of permitting expertise are in site development, stormwater, and natural resources.

PROFESSIONAL HISTORY

2022 – Present
Haley Ward, Inc.
Regional Manager

2014 – 2022
Haley Ward, Inc.
Senior Project Manager

2007 – 2014
CES, Inc.
Project Manager

2002 – 2007
CES, Inc.
Project Engineer

1999 – 2002
CES, Inc.
Assistant Project Engineer

CORE EXPERTISE:
Site Development
Stormwater Design
MDEP Permitting
Road & Infrastructure Design

EDUCATION:
B.S. (1996) Civil Engineering, University of Maine, Orono

REGISTRATIONS:
Professional Engineer, State of Maine (#10139)
Professional Engineer, State of Florida (#88127)

PROJECT EXPERIENCE

RH Foster - Freshies | Various Locations
As project manager, Sean has overseen the concept planning, site design, and local permitting for more than twenty sites for RH Foster. The work at each site varies from concept planning for future development to site design for the redevelopment of an existing convenience store/gas station as RH Foster has been rebranding their store to "Freshies." Many of the sites have included redesign of the site layout and access. Upon completion for the redesign, Sean has overseen the preparation of local permit applications and presented to municipal planning boards for approval. Typical services have included: site survey; concept layouts; site layout and grading; site lighting; and local permitting.

Aroma Joe's | Various Locations
As project manager, Sean has provided the site design and permitting for several Aroma Joe's sites throughout New England. Services have included conceptual plans to determine if a site is feasible, to full design and permitting plans for local municipalities. Projects have included sites in Maine, New Hampshire, and Connecticut. We have worked for both Aroma Joe's corporate and their franchisees.

Solar Clients | Various Locations
Sean has been responsible for managing various aspects of the site design and permitting for over 80 separate solar developments for numerous clients throughout the State of Maine. Sean has managed the survey, natural resource work, site designs, and permitting for these sites. The scope of these projects required close coordination with the Clients and regulatory agencies to navigate through Federal, State, and Municipal permitting processes. Following the permitting phase, construction level plans and specifications were completed as requested.

Hampshire Street Housing Project | Auburn, Maine
Sean served as the project manager for the site design and City permitting for a 53-unit affordable housing project located on the corner of Hampshire Street and Troy Street in Auburn. The project included 53 housing units in one three-story building. The project was developed on property owned by the City of Auburn. The project included the City abandonment of Troy Street so that the street right-of-way could be incorporated into the project boundary. In addition to the City property, the development also obtained an option agreement to purchase adjacent land for Pan Am Railways. Haley Ward services included site survey, site design, and City planning board approval.

Park Street Retaining Wall | Bangor, Maine
Haley Ward teamed with Sargent Corp. for the design-build of the Park Street retaining wall stabilization for the City of Bangor. The project included the stabilization of an existing retaining wall that separates Park Street from City Hall and provides the structural integrity of Park Street. The existing failing wall ranged in height from 8 to 22 feet tall and supported Park Street located behind City Hall. As part of this project, the City wanted to improve the staff parking lot adjacent to the wall and building. Sean oversaw the site design for improvements to the parking lot and drainage. The site plan was submitted to the City for planning board approval. Sean worked directly with City staff to incorporate their desired improvements and recommendations in the site design for what has ended up being a significant improvement to the staff parking area.

Eastern Maine Healthcare | Brewer, Maine
As project engineer, Sean provided the site design and Site Location of Development Application (SLODA) and Natural Resources Protection Act (NRPA) permitting for a 500,000- square foot professional office complex on a 126-acre lot in Brewer, Maine. This work involved the design of a new intersection onto Wilson Street (U.S. Route 1A), a 1,000-foot access road complete with all utilities, and approximately 24 acres of parking lot. This project also involved interior roadway design, sanitary sewer, water, surface and subsurface drainage, underground electric and fiber-optic telephone utilities, and a stormwater detention/treatment system.

Miscellaneous Projects for Husson University | Bangor, Maine
Sean was involved in preparing an after-the-fact Site Location of Development Application (SLODA) for Husson University to permit completed and planned projects at that time. Since this was completed, Sean has been involved in the design and permitting of additional parking lots for Husson, as well as the design and permitting for a new entrance road to the University.

Leonard Lake Senior Housing | Ellsworth, Maine
As the Project Manager/Senior Project Engineer, Sean provided site design and permitting for a 26-unit senior housing facility located in Ellsworth, Maine. The proposed project was developed by Penquis Housing for low-income senior citizens. The project included one 12,000 square foot two-story building with associated parking and access. Haley Ward provided site design including parking, vehicle and pedestrian access, utilities, stormwater, and retaining wall design. The project required Site Plan and Subdivision review by the City of Ellsworth along with a MDEP Storm Water Permit-by-Rule application.

Community Center – Brewer Housing Authority | Brewer, Maine
As the Project Manager/Senior Project Engineer, Sean provided site design and permitting for a proposed 12,000 square foot community center building for the Brewer

Housing Authority in Brewer, Maine. The proposed building included adult education classrooms as well as daycare facilities. Haley Ward provided site design including parking, pedestrian access, utilities, and stormwater management design services. The proposed project required Site Development permitting through the City of Brewer along with an amendment to the Housing Authority's existing MDEP Site Location of Development Permit. The site design was required to meet all MDEP requirements pertaining to stormwater management. The project was successfully completed in the fall of 2013.

Parking Lots – University of Maine | Orono, Maine
Sean has assisted in the permitting and design, as well as construction observation on four parking lots at the University of Maine. These lots ranged in size from 90 spaces to 360 spaces. Projects included developing surface and subsurface drainage systems for each lot and connecting these systems into the existing drainage system of the University. Haley Ward was also responsible for providing lighting designs to meet the University's requirements. One project included the construction of a detention pond and treatment system to control runoff quality and quantity. Other responsibilities have involved providing existing conditions surveys, developing conceptual plans, reviewing conceptual plans with the University, and selecting a design, permitting the project with the MDEP, providing final design plans and specifications, putting the project out to bid, contractor selection, construction observation, and contract administration.

Bike Paths – University of Maine | Orono, Maine
The University of Maine (UMaine) hired Haley Ward to provide design and permitting services for the construction of a 0.5-mile extension of the existing bike path system as well as the reconstruction of the existing bike paths that were constructed in the 1970's. Sean served as the Project Manager for both of these projects. Tasks included: survey, MDEP permitting, Army Corps of Engineers Permitting, design, and assisting UMaine with the Maine Department of Transportation (MDOT) Local Project Administration (LPA) process. Both of these projects were funded by the MDOT and locally administered by UMaine. Due to limited funds, the existing bike paths were evaluated to determine what level of reconstruction should be done on each section depending on the conditions of those sections. We were able to work well with UMaine and the contractors to complete two successful projects that the owner is incredibly happy with.

Veteran's Park | Milo, Maine
Sean served as the project manager for the design of Veteran's Park for the Town of Milo. The Town hired Haley Ward to design a park area along the shores of the Sebec River. The project included improvements to an existing boat ramp facility, parking area improvements, and walkways connecting the existing park gazebo area to the Main Street sidewalks. Sean provided survey, design services, and construction administration and inspection. Since the project included improvements to the Main Street sidewalk,

coordination with MDOT was also required. The project was funded with Community Development Block Grant (CDBG) money and Haley Ward provided the grant administration.

Dirigo Drive | Brewer, Maine
Sean served as Project Engineer and assisted the task of designing 7,700 feet of new roadway to alleviate traffic congestion on Wilson Street in Brewer, Maine. This road, known during construction as the Parallel Road, runs alongside Wilson Street on the north and Interstate 395 on the south. Sean was involved with the right-of-way, roadway design, storm and sanitary sewer design, permitting, and construction monitoring for the entire project.

The Pines Neighborhood Infrastructure Project | Millinocket, Maine
Haley Ward worked with the Town and Aqua Maine (the Town's water service provider) on a neighborhood scale infrastructure improvement project in the "Pines" neighborhood. As Project Manager, Sean was directly involved with the replacement of sanitary sewer lines, water lines, storm drain, and the reconstruction and repaving of all affected roadways.

Miscellaneous Permitting for the University of Maine | Orono, Maine
Sean was involved in preparing an after-the-fact Site Location of Development Application (SLODA) for the University of Maine (UMaine) to permit completed and planned projects at that time. Since this permit was issued by MDEP, Sean has helped prepare more than 35 minor modifications, minor amendments, and amendments to the original permit. Projects have included parking lots, building additions, new building construction, sidewalk construction, and many other miscellaneous projects. Through these permitting projects, Haley Ward has completed stormwater management plans to control the runoff from the campus. All new projects done on campus that create impervious surface are required to modify the original SLODA permit. Sean worked on a stormwater management plan for the entire UMaine campus to address drainage issues that are a concern to both UMaine and MDEP.

Dirigo Drive Subdivision and Shapero Lot Subdivision – Brewer Economic Development Corporation (BEDC) | Brewer, Maine
Sean designed and permitted two commercial subdivisions on Dirigo Drive in the City of Brewer. The two subdivisions created 12 lots for development in the newly created Professional Business District in the City. Work included City and State permitting as well as lot layout. Lots were generally accessed from Dirigo Drive, which was also designed and built as a separate project.

APPENDIX 10

AGENCY CORRESPONDENCE

Maine Department of Inland Fish and Wildlife
Maine Historic Preservation Commission
Maine Natural Areas Program

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
COMMISSIONER

May 3, 2019

Sean Thies
CES Inc.
P.O. Box 639
Brewer, ME 04412

RE: Information Request -146-acre parcel, Auburn

Dear Sean:

Per your request received April 26, 2019, 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 *146-acre parcel Project* in Auburn. 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.

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.

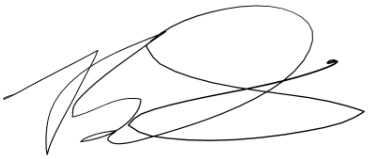
Fisheries Habitat

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.

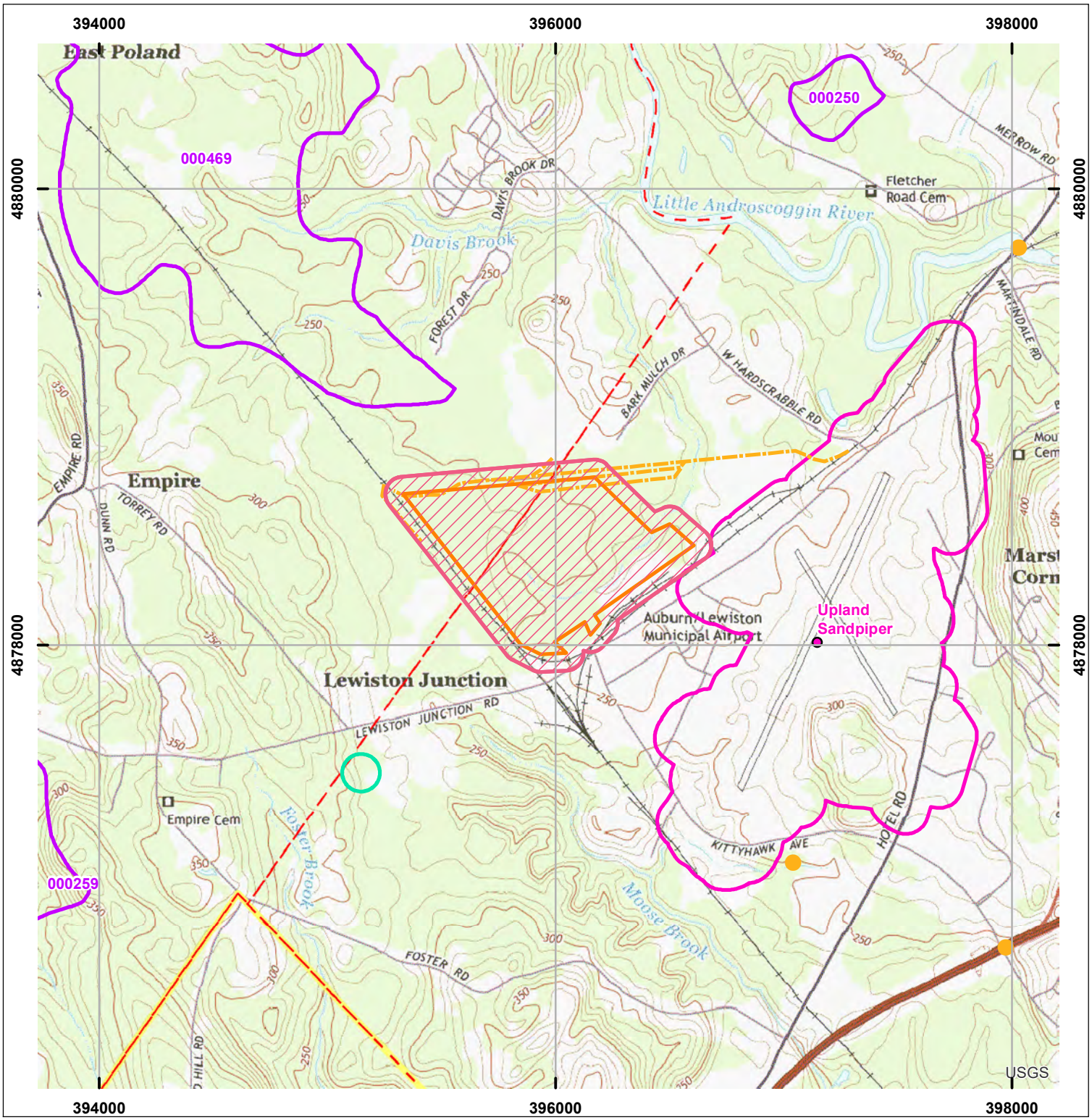
This consultation review has been conducted specifically for known MDIFW jurisdictional features and should not be interpreted as a comprehensive review for the presence of other regulated features that may occur in this area. Prior to the start of any future site disturbance we recommend additional 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,



Becca Settele
Wildlife Biologist



Environmental Review of Fish and Wildlife Observations and Priority Habitats

Project Name: Auburn, 146-acre parcel (Version 1)

Maine Department of Inland Fisheries and Wildlife

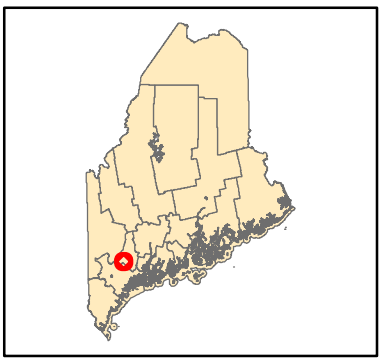
Miles

0 0.1250.25 0.5 0.75 1

Projection: UTM, NAD83, Zone 19N

Date: 4/30/2019

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



MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

12186

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

June 25, 2019

RECEIVED
JUN 27 2019
AND SCANNED

Mr. Sean Thies
CES Inc
PO Box 639
Brewer, ME 04412

Project: MHPC #0865-19 North of the Lewiston Junction Road Potential Development

Town: Auburn, ME

Dear Mr. Thies:

In response to your recent request, I have reviewed the information received June 21, 2019 to initiate consultation on the above referenced project in accordance with the requirements of the Maine Department of Environmental Protection.

Phase I prehistoric archaeological survey for Paleoindian sites is recommended for the entire parcel. Archaeological survey on similar soils and topography around the Auburn Airport has resulted in the location of 8 Paleoindian sites.

A list of qualified prehistoric archaeologists has been enclosed and can be found on our website: https://www.maine.gov/mhpc/programs/survey/approved-consultants/prehistoric

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

Kirk F. Mohney
State Historic Preservation Officer

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

Archaeological Survey Guidelines

Updated: June 10, 2002

This document is provided as background information to agencies, corporations, professional consultants or individuals needing contract archaeological services (also known as Cultural Resources Management archaeology) in Maine. These guidelines are based on state rules (94-089 Chapter 812).

Project Types

The vast majority of contract archaeology survey work falls into one of three categories.

Phase I surveys are designed to determine whether or not archaeological sites exist on a particular piece of land. Such work involves checking records of previous archaeology in the area, walking over the landscape to inspect land forms and look for surface exposures of soil and possible archaeological material, and the excavation of shovel test pits in areas of high probability.

Phase II surveys are designed to focus on one or more sites that are already known to exist, find site limits by digging test pits, and determine site content and preservation. Information from Phase II survey work is used by the Maine Historic Preservation Commission (MHPC) to determine site significance (eligibility for listing in the National Register of Historic Places). Phase III archaeological work, often called data recovery, is careful excavation of a significant archaeological site to recover the artifacts and information it contains in advance of construction or other disturbance.

Archaeological sites are further divided into two broad categories of culture, prehistoric (or Native American), and historic (or European-American). Different archaeological specialists are usually needed for prehistoric or historic sites because the nature of content and preservation and site locations are quite different.

Scope of Work

In responding to a project submission, the MHPC may issue a letter specifying which type of archaeological survey is needed (prehistoric, historic or both) and at what level (Phase I, II, or III). Often the response letter contains further information, such as the suspected presence of an historic site of a certain age, or a statement that only a portion of the project parcel in question is sensitive for prehistoric sites and only that portion needs archaeological survey.

Once the project applicant has one or more scopes of work (proposals) from appropriate archaeologists (see below), the applicant should submit their preferred proposal (without attached financial information or bid total) to the MHPC for approval. MHPC will not comment upon cost, but will comment on the appropriateness of the scale and scope of the work. An approval from MHPC of the scope of work is the applicant's guarantee that, if the field and laboratory work are done according to the scope, and appropriately described in writing, the results will be accepted by MHPC.

The final written report on the project must also be submitted to MHPC for review and comment.

PHONE: (207) 287-2132

FAX: (207) 287-2335

Finding an Archaeologist

At the time that MHPC issues a letter requiring archaeological survey work, MHPC will also supply one (or more) lists of archaeologists (Levels 1 and/or 2, historic or prehistoric) appropriate to the type of work (Phase I, II, III, historic or prehistoric). Archaeologists on the Level 2 Approved Lists can do projects of any level, including Phase I archaeological survey projects. Level 1 archaeologists are restricted to doing Phase I surveys, and certain planning projects for municipal governments.

MHPC maintains lists of archaeologists interested in working in different geographic areas of Maine, and those who are qualified in different types of work. The archaeologists themselves indicate their availability (except for short-term absence) to MHPC on a periodic basis, so archaeologists on the list can be expected to respond to inquiries. The applicant should solicit proposals or bids for work from archaeologists whose names appear on the list supplied by MHPC.

These archaeologists' names are taken from lists of archaeologists approved for work in Maine by MHPC under a set of rules establishing minimal qualifications, such as previous supervisory experience in northern New England, and an appropriate graduate degree. However, the inclusion of an archaeologist on one of these lists should not be interpreted as an endorsement by the MHPC beyond these limited qualification criteria. Moreover, the MHPC cannot recommend the services of an individual archaeologist.

Project Final Report

Whatever the archaeological survey result, a final report on the project should be submitted by the applicant to the MHPC. The MHPC will review the report, and issue further guidance or issue a "clearance" letter for the project.

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
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04333

JANET T. MILLS
GOVERNOR

KIRK F. MOHNEY
DIRECTOR

Prehistoric Archaeologists Approved List: Review and Compliance Consulting/Contracting (Active) LEVEL 2 (Phase I, II, III, date recovery, all phases of survey) LEVEL 2

Dr. Richard Will
TRC/Northeast Cultural Resources
71 Oak Street
Ellsworth, ME 04605
P-207-667-4055
rwill@trcsolutions.com

Mr. Jacob A. Freedman
SEARCH, INC.
P.O. Box 1080
Portsmouth, NH 03802
P-603-319-6939
Jacob@searchinc.com

Dr. Nathan Hamilton
Dept. of Geography & Anthropology
University of Southern Maine
Gorham, ME 04038
P-207-780-5324
casco@usm.maine.edu

Dr. Dianna Doucette
Public Archaeology Laboratory
26 Main Street
Pawtucket, RI 02860
ddoucette@palinc.com

Dr. Gemma-Jayne Hudgell
Northeast Archaeology Research Center
382 Fairbanks Road
Farmington, ME 04938
P-207-860-4032
hudgell@nearchaeology.com

Mr. Jacob Tumelaire
Independent Archaeological Consulting
801 Islington St. Suite 31
Portsmouth, NH 03801-4257
jtumelair@iac-llc.net

Karen Mack
TRC/Northeast Cultural Resources
71 Oak Street
Ellsworth, ME 04605
P-207-667-4055
kemack@trcsolutions.com

Robert N. Bartone
Northeast Archaeology Research Center
382 Fairbanks Road
Farmington, ME 04938
P-207-860-4032
bartone@nearchaeoplogy.com

David Putnam
47 Hilltop Road
Chapman, ME 04757
P-207-762-6078
putnamd@umpi.edu

Dr. William R. Belcher
US Army CILHI
310 Worchester Ave, Bldg 45
Hickam AFB HI 96853-5530
wbelcher@msn.com

Gabriel Hrynick
UNB, Anthropology
PO Box 4400
Fredericton, NB Canada E3B 5A3
P-506-458-7405
Gabriel.hrynick@unb.ca

Nathan C. Scholl
Gray & Pape
60 Valley Street, Suite 103
Providence, RI 02857
P-401-273-9900
C-717-515-5349
nscholl@graypape.com

Dr. Stuart Eldridge
Power Engineers, Inc.
303 US Rte 1
Freeport, ME 04032
P-207-869-1261
Stuart.Eldridge@powereng.com

Dr. Victoria Bunker
P.O. Box 16
New Durham, NH 03809-0016
P-603-776-4306
vbi@worldpath.net

Dr. Robert Goodby
Monadnock Archaeological Consulting
144 Greenwood Road
Dublin, NH 04333
P-603-563-81
rgoodby@monardarch.com

Dr. Daniel F. Cassedy, AECOM
791 Corporate Center Drive
Raleigh, NC 27607
P-919-854-6207
Daniel.cassedy@aecom.com

Dr. Chris Clement
SEARCH, Inc.
2 Dayton Drive
Hanover, NH 03755
P-803-360-0035
Chris.clement@searchinc.com

Dr. Arthur Spiess, Ex officio
Maine Historic Preservation Commission
55 Capitol Street
65 State House Station
Augusta, ME 04333
P-20-287-2789
Arthur.spiess@maine.gov
(Not available for contract work)

LEVEL 1 (Phase I and reconnaissance survey only)

LEVEL 1

Dr. Christopher Donta
SWCA Environmental Consultants
15 Research Drive
Amherst, MA 01002
P-413-256-0202
Christopher.donta@swca.com

James A. Clark
P.O. Box 815
Belfast, ME 04915
P-207-930-0543
clarkja@gmail.com

Ora Elquist
Public Archaeology Laboratory
26 Main Street
Pawtucket, RI 02860
P-401-728-8780
oelquist@palinc.com

Ms. Sarah Haugh
Tetra Tech
451 Presumpscot Street
Portland, ME 04103
P-207-358-2395
sarah.haugh@tetratech.com

Mark Penney
The Louis Berger Group Inc.
20 Corporate Woods Blvd.
Albany, NY 12211-2370
P-518-432-9545
mpenney@louisberger.com

Mary Lynne Rainey
RGA Cultural Resource Consultants
1376 Kingstown Road
Wakefield, RI 02789
Marylynne.rainey@verizon.net

Inactive, Retired, No longer doing fieldwork, no longer at address given

Mr. Brian Valimont
New England Archaeology Co. LLC
128R Main Street
Plaistow, NH 03865
Newarch1@comcast.net

Ms. Edna Feighner
5 Thomas Street, Apt. 3
Concord, NH 03301
P. 603-228-8091
Edna.Feighner@dcr.nh.gov

Dr. Bruce J. Bourque
Maine State Museum
83 State House Station
Augusta, ME 04333-0083
P-207-287-3909
bbourque@abacus.bates.edu

Edward Moore
TRC/Northeast Cultural Resources
71 Oak Street
Ellsworth, ME 04605
F-207-667-0485

Geraldine Baldwin
4 Dickson Lane
Bedford Corners, NY 10549
P-914-271-0897
GeraldineBaldwin@aol.com

Dr. Ellen Cowie
Northeast Archaeology Research Center
382 Fairbanks Road
Farmington, ME 04938
cowie@nearchaeology.com

Archaeological Phase I Survey of the Proposed Dirigo Solar Auburn Project, MHPC # 0865-19 Auburn, Androscoggin County, Maine

Scope-of-Work

prepared for:

Dirigo Solar, LLC

prepared by:

Robert N. Bartone, M.A.

And

Gemma Hudgell, PhD

Northeast Archaeology Research Center, Inc.
382 Fairbanks Road
Farmington, ME 04938

August 2, 2019
Revised:
August 20, 2019

Archaeological Phase I Survey of the Proposed
Dirigo Solar Auburn Project, MHPC # 0865-19
Auburn, Androscoggin County, Maine

Scope-of-Work

I. Introduction

This scope-of work (SOW) has been prepared by the Northeast Archaeology Research Center, Inc. (NE ARC) on behalf of Dirigo Solar, LLC, for an archaeological phase I survey of an approximately 66-acre parcel of land proposed for the development of two 4.99 MWac solar facilities located on the north side of Lewiston Junction Road, across from the Auburn-Lewiston Municipal Airport in Auburn, Androscoggin, Maine (MHPC Project #0865-19) (Figures 1-3). The facilities will consist of photovoltaic panels, inverters and other related infrastructure. The solar panels will be held in place using friction pilings that do not require fill and are mounted onto a fixed racking system. Panels will be wired together via cables that run along the panel system. The goal of the archaeological phase I survey is to determine if archaeological sites of potential significance are present within the proposed project area or to establish that it is unlikely that site(s) of potential significance are present. Significant sites are those that meet eligibility criteria for the State and National Registers of Historic Places.

The archaeological work proposed herein is required as part of the Maine Department of Environmental Protection Site Location of Development (Site Law) review process and will adhere to standards and guidelines as determined by the Maine Historic Preservation Commission (MHPC) for archaeological studies in Maine. Results of this work must be judged satisfactory by the MHPC State Historic Preservation Officer Kirk Mohney and his staff.

II. Problem Statement

The proposed project area has never been archaeologically surveyed but was determined to be archaeologically sensitive by the MHPC during their initial project review (see MHPC Letter dated 6/25/2019). In general terms sensitivity is based on the project setting on sandy landforms in proximity to drainages and wetlands associated with the Androscoggin River which lies approximately 1.3 km northeast of the project. Specifically, the project area is located in a relatively tight geographic area around the airport which contains a cluster of eight archaeological sites dating to the Paleoindian period

of Native American history for the region, ca. 9000-7000 B.C. The Paleoindina period represents the first inhabitants of Maine following de-glaciation of the region. As noted by the MHPC, the sites are located on similar soils and topography as the current study area

III. Work Plan

Background Research

Some time will be required for background research in order to develop brief environmental and cultural contexts for the project and will include review of paleoenvironmental information and both published and 'grey' archaeological literature specifically applicable to the study area. It is expected that the background research can take place in-house.

Fieldwork

Archaeological phase I survey field work will follow standardized NE ARC methodological procedures and include the excavation of 0.5 x 0.5 m test pits placed at 10.0 m and/or 5.0 m intervals along sampling transects. Excavations will proceed by hand, by arbitrary 10 cm levels within natural strata with all sediments passed through 6.4 mm (1/4 inch) hardware cloth. If conditions are suitable. phase I survey will also include systematic surface collection of exposed ground along woods roads and skidder roads focused on sandy exposures in order to increase survey coverage. Sketch maps of the location of all archaeological testing will be made utilizing sub-decimeter GPS and conventional survey methods as appropriate. The area(s) included in the surface survey and any artifacts that may be identified will also be GPS plotted/mapped. A daily log will be maintained by the Field Supervisor summarizing site activity and recording initial site assessment. All field work will be photo documented digitally. A daily log will be kept by the Field Supervisor.

Based on preliminary review of aerial photographs and topographic maps, including 2' contour Lidar, It is estimated that approximately 150 test pits will be necessary to adequately sample the project area, focused on micro-topographic features and landform margins. The exact location of testing will be determined in the field. Fairly intensive sampling is necessary to identify expected Paleoindian period sites, which are typically comprised of relatively small discreet loci/activity areas. Fieldwork is expected to take a crew of six archaeological field technicians and a field supervisor up to 5.0 days to complete including some drive time. Up to two days is included for the field supervisor to conduct the surface survey if conditions are suitable.

Laboratory Work and Report Preparation

Although it is uncertain what types or quantity of cultural material will be recovered, some degree of laboratory work will be needed. A letter report detailing the results of the study and including recommendations will be prepared within two weeks of completion of the field work. If no sites are identified the letter report will suffice and meet all reporting requirements. If archaeological deposits of potential significance are identified a full technical report will be required, fully detailing the results of the study.

IV. Proposed Work Schedule

NE ARC can conduct the field late summer of fall and can schedule the work once authorization to proceed is received from the client. As noted above the archaeological phase I field work will take approximately up to 5.0 days to complete. The interim, end-of-field letter report will be submitted within two weeks of completion of field work. If a site is identified the MHPC required technical report will be prepared and submitted within 6.0 months of completion of fieldwork. The interim end-of-field letter report will have all necessary information for project review and short-term management decisions. MHPC approval of the proposal is also necessary prior to undertaking the work.

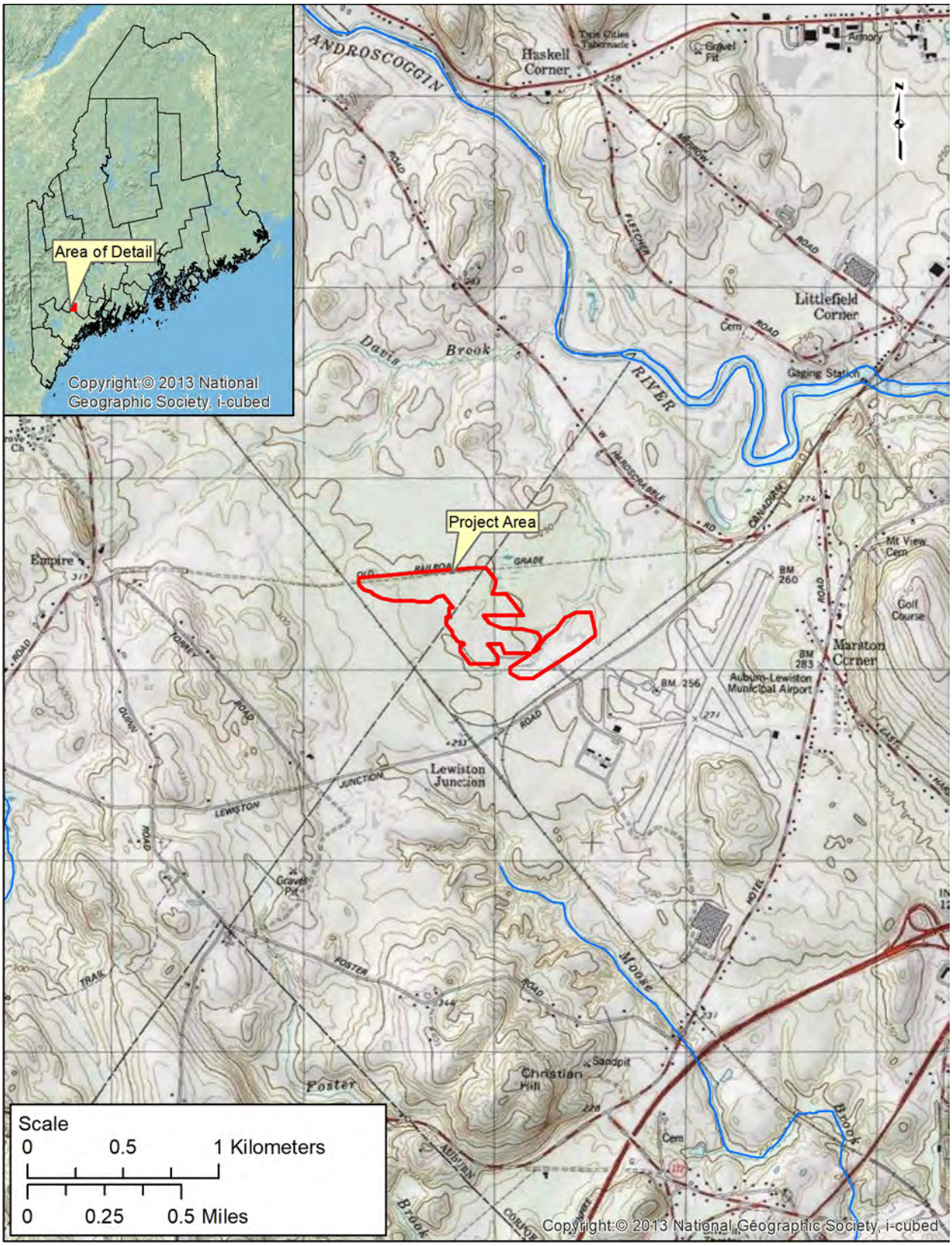


Figure 1. Topographic map showing the location of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

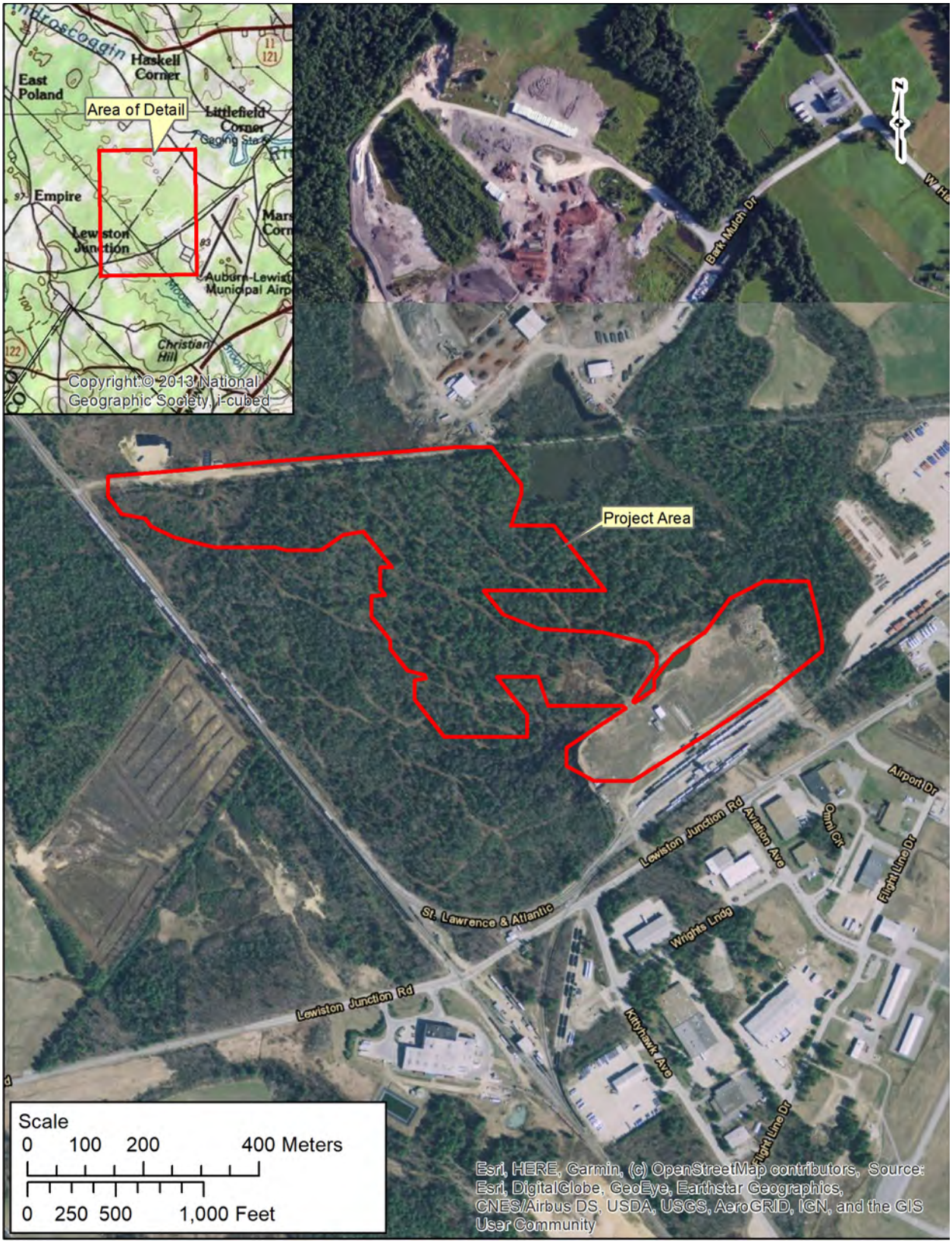


Figure 2. Aerial photograph showing the proposed Dirigo Solar Project, Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Northeast Archaeology Research Center, Inc.

Nicholas Mazuroski
Dirigo Solar, LLC
PO Box 9729
Portland, ME, 04104-5029

September 24, 2019

RE: Archaeological Phase I Survey of the Proposed Dirigo Solar Auburn Project, Auburn, Androscoggin County, Maine (MHPC #8065-19)

Dear Nick,

We write to inform you of the completion of an archaeological phase I survey of the proposed Dirigo Solar, LLC project located in Auburn, Androscoggin County, Maine (MHPC Project #0865-19) (Figures 1 and 2). The work was conducted by the Northeast Archaeology Research Center, Inc. (NEARC, Inc.) on behalf of Dirigo Solar, LLC from September 3 to 7, 2019, as part of the Maine Department of Environmental Protection Site Location of Development (Site Law) review process. The goal of the phase I survey was to determine if archaeological sites of potential significance are present, and to determine potential project effects to archaeological deposits if identified.

The project includes an approximately 66-acre parcel of land proposed for the development of two 4.99 MWac solar facilities located on the north side of Lewiston Junction Road, across from the Auburn-Lewiston Municipal Airport. The facilities will consist of photovoltaic panels, inverters and related infrastructure. Solar panels will be held in place using friction pilings that do not require fill and are mounted onto a fixed racking system. Panels will be wired together via cables that run along the panel system.

The project area has never received archaeological survey but is considered sensitive for the presence of Native American archaeological sites as indicated by the MHPC's review of the project (see letter dated June 25, 2019). In general terms sensitivity is based on the project setting on sandy landforms in proximity to drainages and wetlands associated with the Androscoggin River which lies approximately 1.3 km northeast of the project. Specifically, the project is located within a relatively tight geographic area around the Auburn-Lewiston Municipal Airport which contains a cluster of nine archaeological sites dating to the Paleoindian period of Native American history for the region, ca. 9,000-7,000 B.C. The Paleoindian period represents the first inhabitants of Maine following de-glaciation of the region. As noted by the MHPC, the sites are located on similar soils and topography as the current study area.

As detailed below the phase I survey included the excavation of 150 0.5 m x 0.5 m test pits (Figure 3). In addition, surface survey was undertaken in areas of exposed soil where present within woods roads/skidder trails. No artifacts were recovered during test pit excavation or surface survey, and indicate

382 Fairbanks Rd / Farmington Maine 04938 / 207-860-4032 / 207-860-4031 fax
nearchaeology.com

that it is unlikely the significant, i.e. State and National Register of Historic Places eligible, archaeological sites are present. Therefore, no additional archaeological work is recommended prior to project construction.

Project Description

The project is located to the north of Lewiston Junction Road and to the south and east of the St. Lawrence and Atlantic rail line. The overall project area consists of two topographically distinct portions: a larger, wooded area forming the northern portion of the project, and a smaller, mostly open, industrialized area forming the southern portion. These two areas are separated by west-to-east flowing seasonal drainage, with the northern, wooded area accessed by crossing a culvert.

The wooded portion of the parcel possesses a rolling topography with elevations ranging from 239 to 253 ft above mean sea level (a.m.s.l.), with the highest elevations towards the northern portions of the area. To the southwest and particularly to the east, the landforms generally slope downwards to overlook the ephemeral stream and associated wetlands that drain west then generally northwards into the Androscoggin River, which is located about 1.3 km (0.8 miles) north of the project area. Vegetation is mixed woodland which has been logged at various times in the past, including fairly recently, and includes mature softwoods with a thick underbrush of both coniferous and deciduous growth mainly including birch and fir. Logging trails and woods roads visible on aerial photographs of the parcel have mainly grown over, however some trails in the southeastern part of the northern portion of the parcel still remain relatively clear and show evidence of recent rutting with numerous brush piles and bark chips present (Figure 4).

The southern portion of the project area is an open, industrialized area associated with a set of rail sidings that are located at the southern extent of the parcel along Lewiston Junction Road (Figure 5). This area is largely denuded and has been artificially levelled, as indicated by a series of push piles that are particularly noticeable towards the southeastern extent of the project area (Figure 6). This area possesses a fairly uniform elevation of 239 to 242 ft a.m.s.l. Cement and concrete structures and a large steel pole tent are situated in the center of this portion of the project, and further concrete walls are located within thick undergrowth in the area of the push piles at the southeastern extent of the project area. An artificial pond is also located along the northern edge of the southern portion of the project area, parallel to and separated from the aforementioned seasonal drainage. Overall, the area is generally vegetated with tall grass and weeds; an intact, wooded landform is located beyond the push piles/concrete structures at the far eastern edge of this portion of the project.

Archaeological Phase I Survey

Archaeological testing included the excavation of 150 0.5 m x 0.5 m test pits placed at 5.0 and 10.0 m intervals along testing transects positioned to best sample archaeologically sensitive landforms. Given the obvious disturbance in the southern portion of the project, the majority of testing was placed in the northern, wooded portion. Transects were placed on level, ridge and knoll landforms and shoulders, and on other level areas immediately overlooking swales, wetlands, and drainages associated with the ephemeral stream crosscutting the overall parcel (Figures 7 and 8). Much of the central, northern part of the wooded portion of the project is relatively undifferentiated, and so testing was focused on distinct landforms located in the far northwest, in the center, and in the far southeast of the wooded portion of the project. Testing was also placed on the intact landform at the far eastern edge of the southern portion of the project (Figure 9), and three test pits were placed within the central area of the southern portion of the project to definitely determine that the area is disturbed (Figure 10).

Test pits were excavated to depths of 38 to 102 cm below ground surface (cmbs) with an average depth of 59 cmbs (Appendix I). Stratigraphy was generally consistent on intact landforms and included an uppermost 'Ao' organic horizon of dark brown sandy loam measuring 10 to 22 cm in thickness, occasionally overlying an 'Ae' albic horizon of light gray fine sandy loam measuring between 5 and 16 cm in thickness, in turn overlying an intact, developed 'B' soil horizon of strong brown sandy loam measuring 13 to 30 cm in thickness. All excavations were terminated within a sterile, basal 'C' soil horizon characterized by a yellowish brown grading into a light olive brown sandy loam horizon. These soils corroborate the NRCS soil classification for the area as Adams loamy sandy and Ninigret sandy loam, which both form from glaciofluvial deposits (USDA 2019).

The three test pits excavated within the industrialized, southern portion of the project were dug to depths of 65 to 90 cm below ground surface and evidenced a thin, developing 'A' soil horizon or mixed disturbed soils ranging from 10 to 23 cm in thickness directly overlying sandy loam fill containing gravel, pebbles and cobbles to base of excavation. Test pits were terminated on bedrock ledge/boulders or on concrete cinder blocks.

No Native American cultural material was recovered in the course of excavations within either the northern or southern portions of the project. A few 20th century artifacts were recovered from the fill in the southern portion of the project, including some rusted nails and other unidentifiable pieces of metal, two small sherds of earthenware ceramic, and a small fragment of window glass. These are not considered to be a significant archaeological deposit.

Surface survey was conducted within any portions of the project area evidencing open, visible ground surface. Such areas were present in some locations towards the southeastern extent of the northern portion of the parcel, where logging trails are still relatively open. For the most part the ground surface was not particularly clear given the presence of deep ruts, brush, and bark chips, however any

visible patches of ground were thoroughly surveyed. No Native American cultural material was identified.

Conclusions and Recommendations

NE ARC has completed archaeological phase I survey of the proposed Dirigo Solar, LLC project located in Auburn, Androscoggin County, Maine (MHPC Project #0865-19). No Native American archaeological material was recovered within the project area. Given this, it is unlikely that significant, i.e. National Register of Historic Places eligible, archaeological sites are present or will be adversely affected by the project, therefore no further archaeological work is recommended prior to project construction. Please call if you have any questions and thank you for the opportunity to conduct this study.

Sincerely,

Gemma-Jayne Hudgell, Ph.D.
Assistant Director, NE ARC, Inc.

Robert N. Bartone, M.A.
Director, NE ARC, Inc.

References

USDA
2019 *Web Soil Survey*. United States Department of Agriculture.

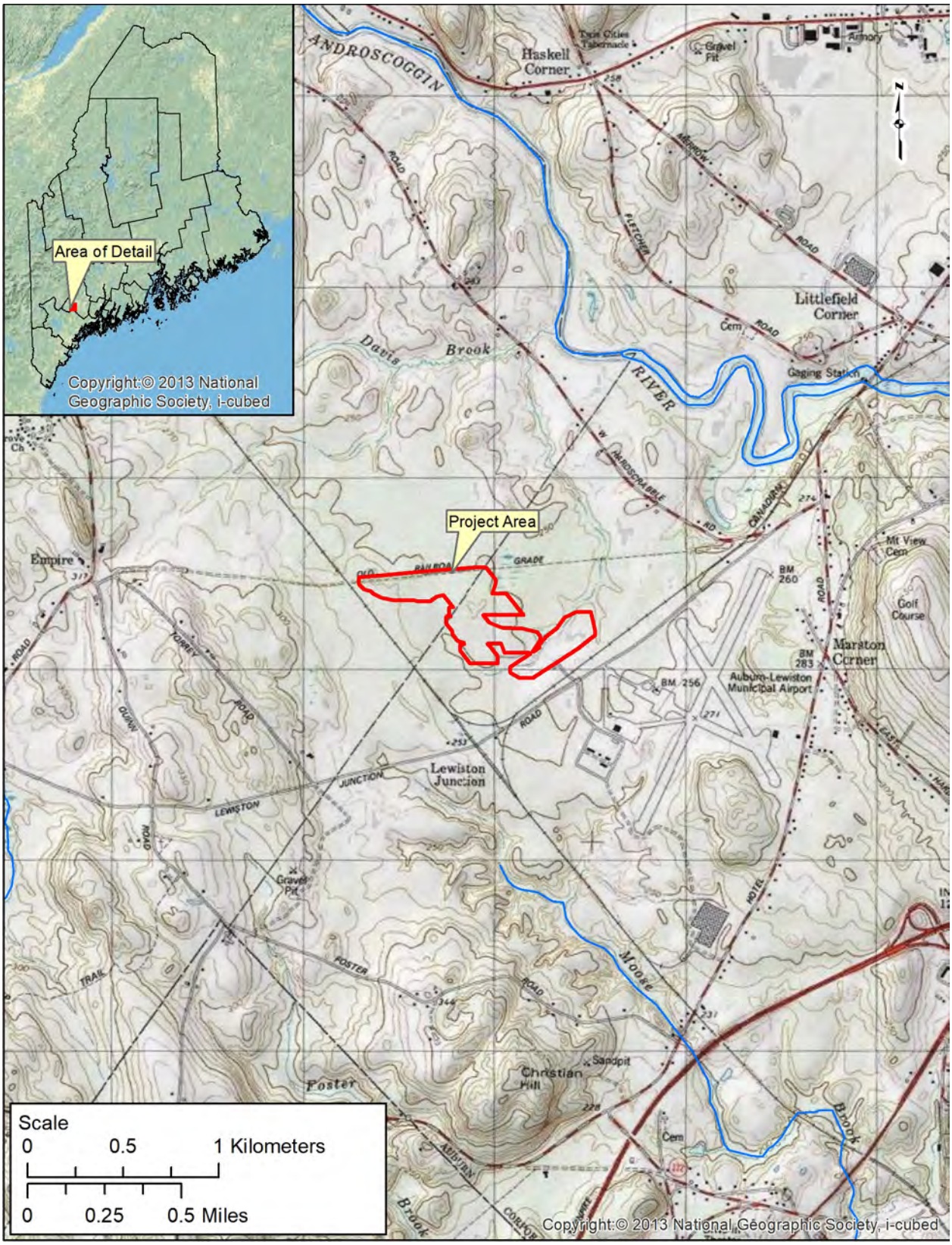


Figure 1. Topographic map showing the location of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

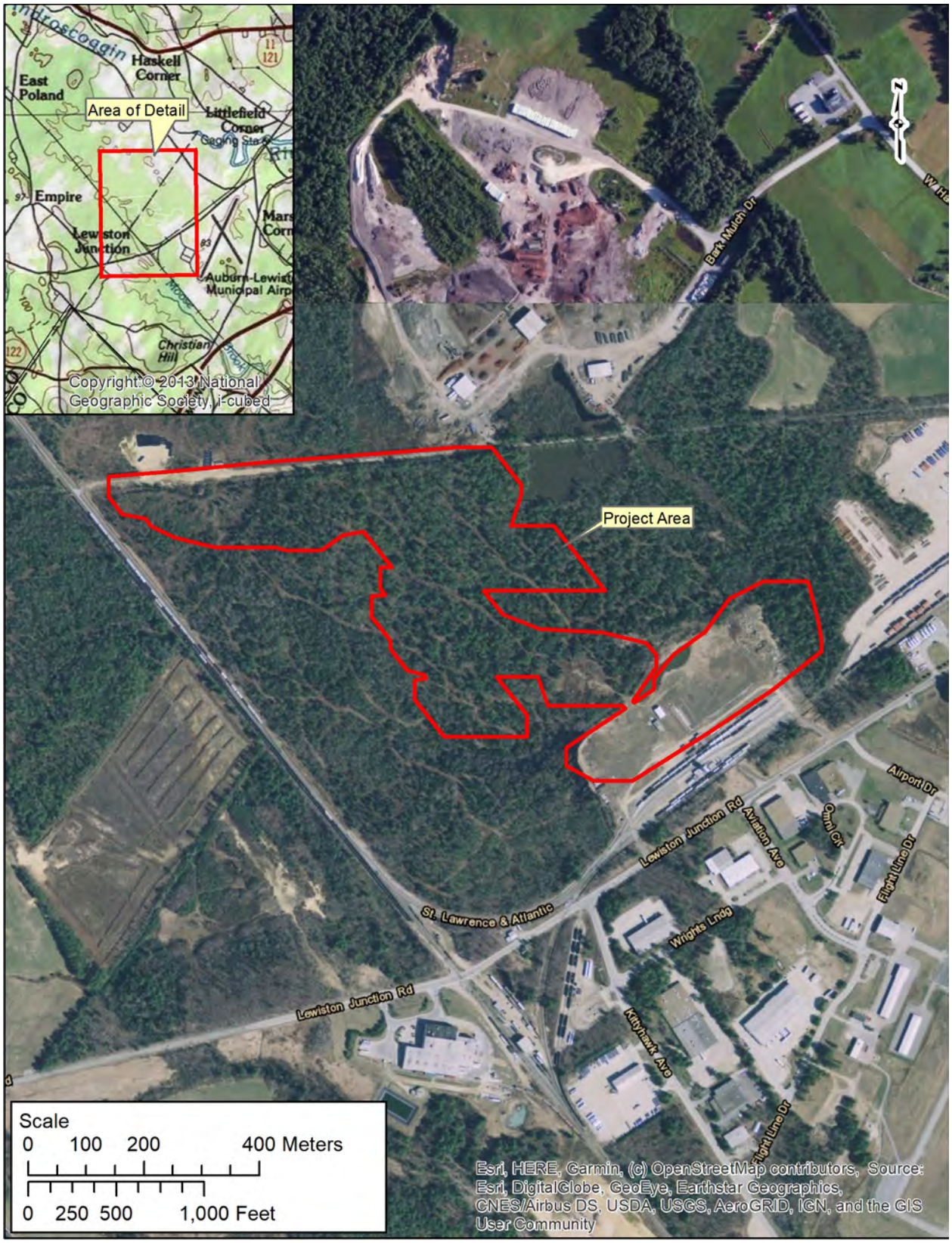


Figure 2. Aerial photograph showing the location of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

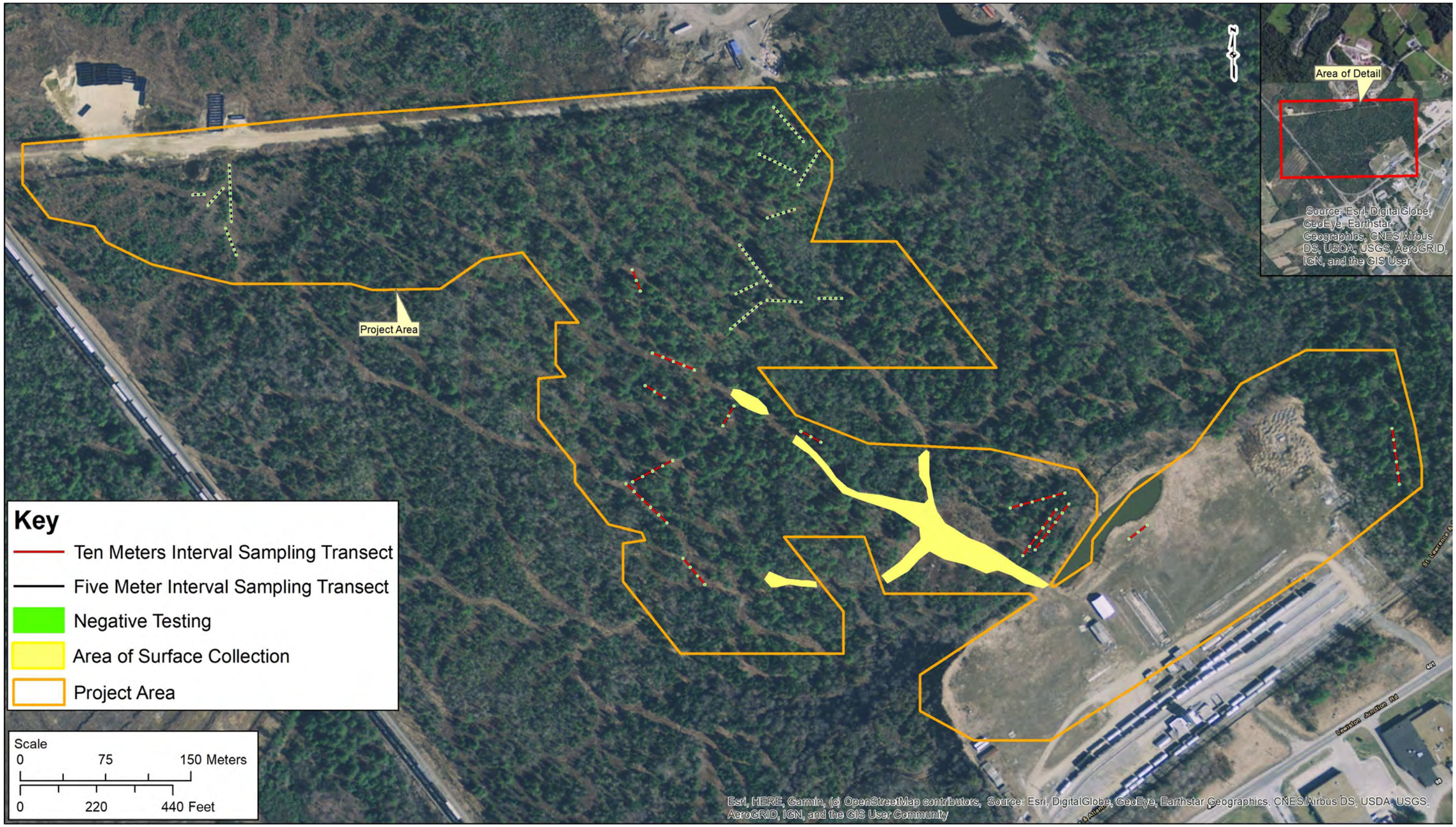


Figure 3. Aerial photograph showing the location of archaeological phase I survey transects and test pits within the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 4. View northwest along logging trail in the northern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 5. View southwest of the southern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 6. View northeast of push piles towards the eastern end of the southern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 7. View east of crew members excavating along transect T11 in the northeastern extent of the northern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 8. View north of crew members excavating along transect T4 in the southeastern extent of the northern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 9. View east of crew members excavating along transect T1 in the eastern extent of the southern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

Figure 10. View north of crew members excavating along transect T26 in the central part of the southern portion of the proposed Dirigo Solar Auburn Project, MHPC #0865-19, Auburn, Androscoggin, Maine.

APPENDIX I: SELECT TEST PIT SEDIMENT PROFILES

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: — | Test Pit: T1 P1
Area/Locus: — | PN Area: 101-200 | PROV#: 101 | Feature #(s): —
Supervisor: LBJ | Exc. Team: DDD, CLB | Recorder: DDD | Date: 9/3/19

Depth (cm)	Horizon	PN's / Artifacts, by level (see reverse for codes)	Soil Descriptions
0–10	Ao	NAR	Ao (0-14cm) 10yr 4/3 bn sa lo
10–20	Ae		Ae (14-20cm) 10yr 7/1 lt gy fi sa lo
20–30	B		B (20-33 cm) 7.5yr 4/6 st bn sa lo
30–60	C1		C1 (33-60cm) 10yr 5/8 yw bn sa lo
60–130	C2		C2 (60-74cm) 2.5y 5/6 lt ol bn sa lo

Comments*: NAR/NCM. One small mound. Tree-throws.

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: — | Test Pit: T2 P5
Area/Locus: — | PN Area: 201-300 | PROV#: 204 | Feature #(s): —
Supervisor: LBJ | Exc. Team: MMA/DDD | Recorder: MMA | Date: 9/3/19

Depth (cm)	Horizon	PN's / Artifacts, by level (see reverse for codes)	Soil Descriptions
0–13	Ao	NAR	Ao (0-13cm) 10YR 4/3 Bn Sa lo
13–21	Ae		Ae (13-21cm) 10YR 7/1 lt Gy fi sa lo
21–32	B		B (21-32cm) 7.5YR 4/6 St. Bn Sa lo
32–54	C		C (32-54cm) 2.5Y 5/6 lt. ol. Bn Sa lo

Comments*: NCM

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: — | Test Pit: T4 P3
Area/Locus: — | PN Area: 1-100 | PROV#: 5 | Feature #(s): —
Supervisor: LBJ | Exc. Team: LMW, DPK | Recorder: LMW | Date: 9/ /19

Depth (cm)	Horizon	PN's / Artifacts, by level (see reverse for codes)	Soil Descriptions
0–9	Ao	NAR	Ao (0-9cm) 10YR 4/3 bn sa lo
9–17	Ae		Ae (9-17cm) 10YR 7/1 lt gy fi sa lo
17–28	B		B (17-28cm) 7.5YR 4/6 st bn sa lo
28–38	C1		C1 (28-38cm) 10YR 6/8 yw bn sa lo
38–54	C2		C2 (38-54cm) 2.5Y 5/6 lt ol bn sa lo

Comments*: NCM

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: — | Test Pit: T7 P6
Area/Locus: — | PN Area: 1-100 | PROV#: 16 | Feature #(s): —
Supervisor: LBJ | Exc. Team: LMW, DPK | Recorder: DPK | Date: 9/4/19

Depth (cm)	Horizon	PN's / Artifacts, by level (see reverse for codes)	Soil Descriptions
0–17	Ao	NAR	Ao (0-17cm) 10YR 4/3 brown Sa lo
17–24	Ae		Ae (17-24cm) 10YR 7/1 lite gray Sa lo
24–39	B		B (24-39cm) 7.5YR 4/6 strong brown Sa lo
39–55	C1		C1 (39-55cm) 10YR 6/8 yellow brown Sa lo
55–69	C2		C2 (55-69cm) 2.5Y 5/6 lite olive brown Sa lo

Comments*: NCM

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project Auburn Solar I State Site # — Test Pit T14P6
Area/Locus — PN Area 101-200 PROV# 129 Feature #(s) —
Supervisor LBJ Exc. Team CLB, DDD Recorder CLB Date 9/6/19

PN's / Artifacts, by level (see reverse for codes): NAR

Soil Descriptions:
Ap = 0 – 18 cm, 10YR 4/3 brn, sa Lo
Ae = 18 – 29 cm, 10YR 7/1 Hgy, sa Lo
B = 29 – 60 cm, 7.5YR 4/6 st brn, sa Lo
C1 = 60 – 75 cm, 10YR 5/8 yel brn, sa Lo
C2 = 75 – 100 cm, 2.5Y 5/6 lt ol brn, sa Lo

Comments* NCM

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project Auburn Solar I State Site # — Test Pit T11 D3
Area/Locus — PN Area 1-100 PROV# 27 Feature #(s) —
Supervisor LBJ Exc. Team LMW, DPK Recorder LMW Date 9/5/19

PN's / Artifacts, by level (see reverse for codes): NAR

Soil Descriptions:
Ao (0-23cm), 10YR 4/3 brn, sa Lo
B (23-43cm), 7.5YR 4/6 st brn, sa Lo
C1 (43-53cm), 10YR 6/8 yel brn, sa Lo
C2 (53-66cm), 2.5Y 5/6 lt ol brn, sa Lo

Comments* NCM

Number of bags: Ø

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project Auburn Solar I State Site # — Test Pit T19 P2
Area/Locus — PN Area 1-100 PROV# 50 Feature #(s) —
Supervisor LBJ Exc. Team LMW, DPK Recorder LMW Date 9/6/19

PN's / Artifacts, by level (see reverse for codes): NAR

Soil Descriptions:
Ao (0-13cm), 10YR 4/3 brn, sa Lo
Ae (13-19cm), 10YR 7/1 lt gy, sa Lo
B (19-36cm), 7.5YR 4/6 st brn, sa Lo
C (36-52cm), 2.5Y 5/6 lt ol brn, sa Lo

Comments* NCM

Number of bags: Ø

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project Auburn Solar I State Site # — Test Pit T22 P2
Area/Locus — PN Area 1-100 PROV# 56 Feature #(s) —
Supervisor LBJ Exc. Team LMW, DPK Recorder LMW Date 9/7/19

PN's / Artifacts, by level (see reverse for codes): NAR

Soil Descriptions:
Ao (0-13cm), 10YR 4/3 brn, sa Lo
B (13-28cm), 7.5YR 4/6 st brn, sa Lo
C1 (28-38cm), 10YR 6/8 yel brn, sa Lo
C2 (38-53cm), 2.5Y 5/6 lt ol brn, sa Lo

Comments* NCM

Number of bags: Ø

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: – | Test Pit: T24P2
Area/Locus: – | PN Area: 101-200 | PROV#: 144 | Feature #(s): –
Supervisor: LBJ | Exc. Team: CLB, DDD | Recorder: CLB | Date: 9/7/19

PN's / Artifacts, by level (see reverse for codes): NAR

Soil Descriptions:
A0 = 0 – 13 cm, 10YR 4/3 Brn, Sa Lo
B = 13 – 35 cm, 7.5YR 4/6 Str Brn, Sa Lo
C1 = 35 – 51 cm, 10YR 5/8 Yw Brn, Sa Lo
C2 = 51 – 82 cm, 2.5Y 5/6 Lt Olv Brn, Sa Lo

Comments*: NLM

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: – | Test Pit: T26P1
Area/Locus: – | PN Area: 100 | PROV#: 60 | Feature #(s): –
Supervisor: LBJ | Exc. Team: LMW, DPK | Recorder: LMW | Date: 9/7/19

PN's / Artifacts, by level (see reverse for codes): PN 61: CERAM(2) GLASS(1) METAL(1)

Soil Descriptions:
Fill (0 – 37 cm), 2.5Y 4/4 olBn, Sa Lo w/ pdK

Comments*: terminated on ledge

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: – | Test Pit: T26P2
Area/Locus: – | PN Area: 201-300 | PROV#: 245 | Feature #(s): –
Supervisor: LBJ | Exc. Team: MMB, DDD | Recorder: DDD | Date: 9/7/19

PN's / Artifacts, by level (see reverse for codes): NAR

Soil Descriptions:
AP (0 – 29 cm), 10YR 4/3 Brn Sa Lo
Fill (29 – 88), 2.5Y 4/4 olBn Sa Lo w/ PtK

Comments*: Terminated on asphalt road footpath. Various pieces of industrial debris were found out of context.

Number of bags: 0

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

Northeast Archaeology Research Center - Test Pit Profile Form

Project: Auburn Solar I | State Site #: – | Test Pit: T26P3
Area/Locus: – | PN Area: 101-200 | PROV#: 145 | Feature #(s): –
Supervisor: LBJ | Exc. Team: CLB, DDD | Recorder: CLB | Date: 9/7/19

PN's / Artifacts, by level (see reverse for codes): PN: 146 ARCT(3)

Soil Descriptions:
Developing A = 0 – 10 cm, 10YR 4/3 Brn, Sa Lo
Fill1 = 10 – 24 cm, 2.5Y 5/6 Lt olBn, Sa Lo
Fill2 = 24 – 65 cm, 2.5Y 4/4 olBn, Sa Lo w/ P and K

Comments*: Term on concrete cinder block.

Number of bags: 1

* Provide comments on Artifacts, Soils, Disturbances, Context, etc.

STATE OF MAINE
DEPARTMENT OF AGRICULTURE, CONSERVATION & FORESTRY
177 STATE HOUSE STATION
AUGUSTA, MAINE 04333

JANET T. MILLS
GOVERNOR

AMANDA E. BEAL
COMMISSIONER

June 24, 2019

Sean Thies
CES
465 South Main Street
Brewer, ME 04412

Via email: sthies@cesincusa.com

Re: Rare and exemplary botanical features in proximity to: #12186.008, Dirigo Solar, Auburn Maine

Dear Mr. Thies:

I have searched the Maine Natural Areas Program's Biological and Conservation Data System files in response to your request received June 19, 2019 for information on the presence of rare or unique botanical features documented from the vicinity of the project in Auburn, 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. However, there is a mapped occurrence of Swamp White Oak (*Quercus bicolor*) on the abutting parcel along the same tributary to Davis Brook that runs through the Dirigo Solar site. MNAP strongly recommends survey for Swamp White Oak in and near wet areas of the Dirigo Solar site.

This lack of documented data specifically on the project site 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.

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

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

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.

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

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

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

Sincerely,

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

Maine Natural Areas Program

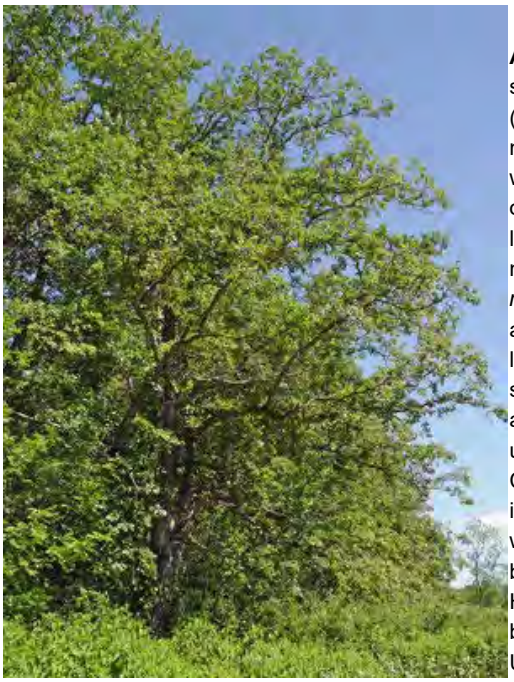
Quercus bicolor Willd.

Swamp White Oak

- State Rank: S1
- Global Rank: G5
- State Status: Threatened

Habitat: Bottomlands, stream margins, and swamps. [Forested wetland]

Range: Southern Maine and southern Quebec to southern Minnesota and Nebraska, south to southern New England, Long Island, Delaware, Maryland, northern West Virginia, upland to Georgia and Kentucky, Arkansas and Oklahoma.



Aids to Identification: *Quercus bicolor* is a member of the white oak subgenus, a diverse group of species that have leaves with rounded lobes (as opposed to bristle-tipped lobes in the red oak group) and acorns that mature in one year. Swamp white oak can be distinguished from other white oak species in Maine by the following combination of characters: ovate leaves, widest above the middle, with 6-10 pairs of low but fairly even lobes (like rounded teeth); hairless buds; and acorns on stalks that are more than 3 cm long. It can be difficult to distinguish from bur oak (*Q. macrocarpa*), which occurs in similar habitats, unless one has buds and/or acorns. *Q. macrocarpa* usually has a deep sinus near the middle of the leaf, but leaf shape and lobing are very variable, even among leaves on the same tree. The larger branches of *Q. macrocarpa* will have corky ridges along them and are absent in *Q. bicolor*. Common white oak (*Q. alba*) is an upland species with leaves that have longer lobes than those of *Q. bicolor*. Chestnut oak (*Q. montana*) is also an upland species, found in Maine only in dryish rocky woods on and around Mt. Agamenticus and has leaves which are much narrow in outline though similarly lobed. Hybridization between *Q. bicolor*, *Q. alba*, and *Q. macrocarpa* has been reported. Hybrids would be very difficult to identify. When in doubt, press a small branch with a few leaves and either buds or acorns and send to the University of Maine herbarium.

Ecological characteristics: Swamp white oak is a tree of hardwood floodplain forests, basin swamps, or vernal pools. It grows with ash (*Fraxinus* spp.), silver maple or red maple (*Acer saccharinum* and *A. rubrum*, respectively), and occasionally with *Q. macrocarpa*.

Phenology: Acorns mature in the first year, ripe in September - October.

Family: Fagaceae

Synonyms: None noted.

Known Distribution in Maine: This rare plant has been documented from a total of 11 town(s) in the following county(ies): Kennebec, Knox, Somerset, Waldo, York.

Reason(s) for rarity: At northern limit of range; not rare southward.

Conservation considerations: Populations are small and could be eliminated by logging.

Information

Maine.gov
Site Policies
Accessibility
Comments/Questions
Jobs @ DACF
Grants & Loans
Educational Resources

Connect with Us

Facebook
Twitter
YouTube
Email/SMS Updates
Instagram

Event & Meeting Calendar
See more social media...

Support DACF Programs

Maine State Park Passes
Volunteer
Specialty License Plates
Outdoor Heritage Fund Lottery Ticket
Donations & More

Contact

Department of Agriculture, Conservation and Forestry
22 State House Station
18 Elkins Lane
Augusta, ME 04333
More Locations

Phone: (207) 287-3200
Fax: (207) 287-2400
TTY Users Call Maine Relay 711
DACF@Maine.gov

Rare and Exemplary Botanical Features within 4 miles of Project: #12186.008, Dirigo Solar, Auburn, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Broad Beech Fern						
	SC	S2	G5	1895-09	13	Hardwood to mixed forest (forest, upland)
	SC	S2	G5	1991-06	18	Hardwood to mixed forest (forest, upland)
Fern-leaved False Foxglove						
	SC	S3	G5	1893-08-28	14	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
	SC	S3	G5	1895	12	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
	SC	S3	G5	1938-08-18	11	Dry barrens (partly forested, upland),Hardwood to mixed forest (forest, upland)
Large Whorled Pogonia						
	PE	SX	G5	1895	2	Hardwood to mixed forest (forest, upland)
Ram's-head Lady's-slipper						
	E	S1	G3	1935	11	Forested wetland,Hardwood to mixed forest (forest, upland)
Scarlet Oak						
	E	S1	G5	1893	1	Hardwood to mixed forest (forest, upland)
Small Whorled Pogonia						
	E	S2	G2?	2016-07-11	32	Hardwood to mixed forest (forest, upland)
Swamp White Oak						
	T	S1	G5	2017-08-30	15	Forested wetland
Tiny Lovegrass						
	PE	SH	G5	1908-11	5	Old field/roadside (non-forested, wetland or upland),Dry barrens (partly forested, upland)
Upright Bindweed						
	T	S2	G4G5	1958-06-22	10	Dry barrens (partly forested, upland),Old field/roadside (non-forested, wetland or upland)

Rare and Exemplary Botanical Features within 4 miles of Project: #12186.008, Dirigo Solar, Auburn, Maine

Common Name	State Status	State Rank	Global Rank	Date Last Observed	Occurrence Number	Habitat
Vasey's Pondweed						
	SC	S2	G4	1800	6	Open water (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.

Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/dacf/mnap

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.

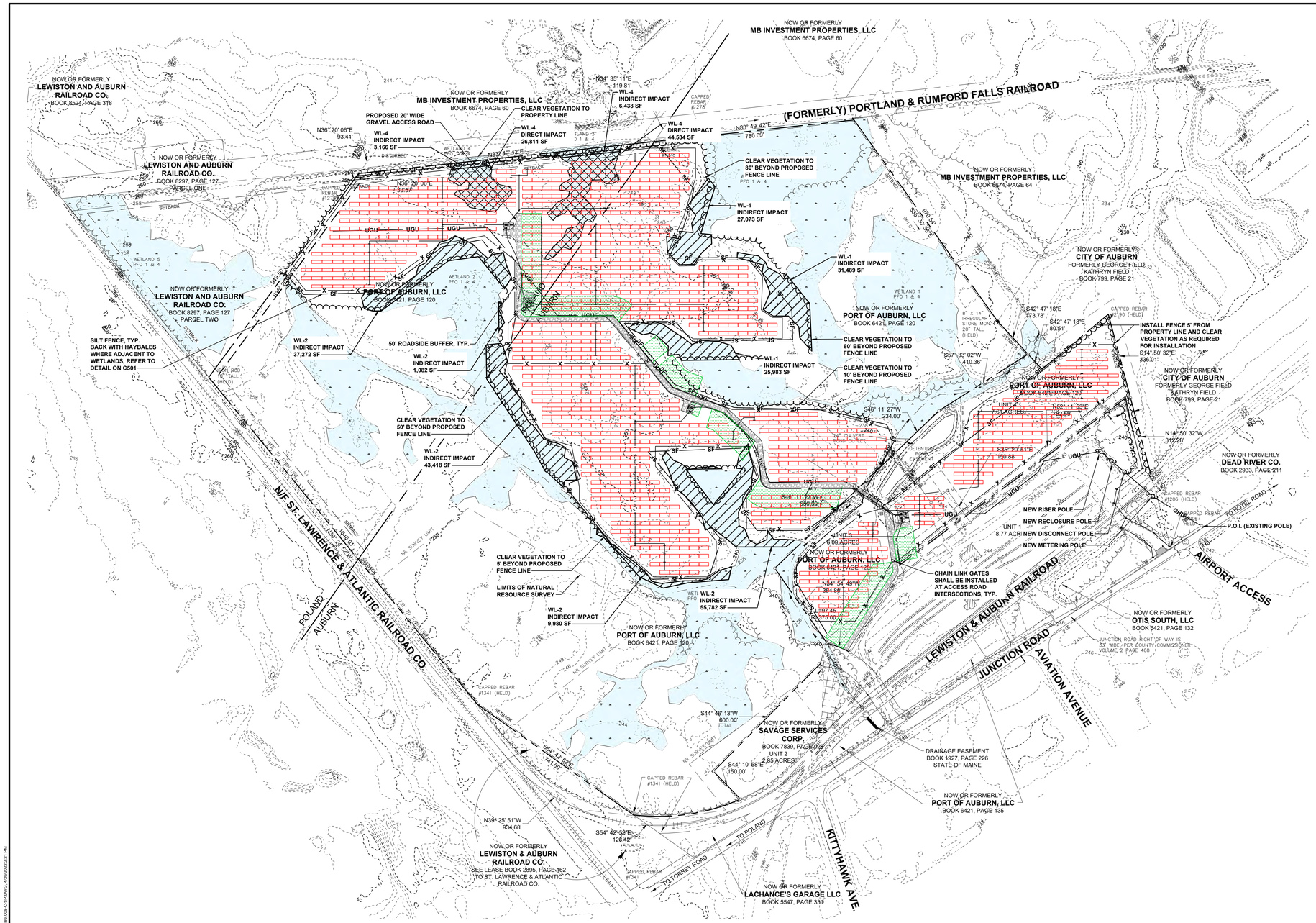
Note: **Element Occurrence Ranks** are determined by the Maine Natural Areas Program for rare plants and rare and exemplary natural communities and ecosystems. The Maine Department of Inland Fisheries and Wildlife determines Element Occurrence ranks for animals.

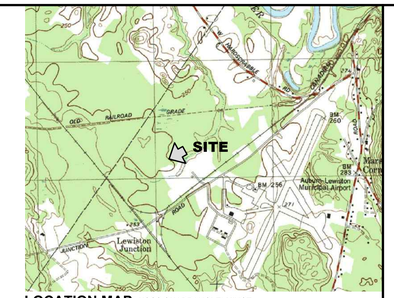
Visit our website for more information on rare, threatened, and endangered species!
http://www.maine.gov/dacf/mnap

APPENDIX 11

DRAWINGS

C101 Site Plan
C501 Details





LOCATION MAP: USGS QUADRANGLE: MINOT
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™, ©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

LEGEND:

- PROPERTY LINE
- WETLAND BOUNDARY
- STREAM
- MAJOR FOOT CONTOUR (240)
- MINOR FOOT CONTOUR (248)
- TREELINE
- CHAINLINK FENCE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- LIMITS OF NATURAL RESOURCE SURVEY
- DIRECT WETLAND IMPACTS
- INDIRECT WETLAND IMPACTS

SOURCE:

1. CAD FILE FOR PORT OF AUBURN, LLC. PREPARED BY PLANIT MAPPING IN JULY OF 2009, NAMED 09-14 BND V2004 EMAIL, COMPLIMENTED WITH LIDAR TOPOGRAPHY COURTESY OF THE MAINE OFFICE OF GIS.

RESOURCE NOTES:

1. NATURAL RESOURCE FIELD SURVEY WAS COMPLETED BY CES INC. IN NOVEMBER 2018, MAY AND AUGUST 2019 ON A PORTION OF THE PROPERTY, AS SHOWN ON THIS PLAN. REFER TO THE ACCOMPANYING SITE CONDITIONS REPORT PREPARED FOR THE SITE, DATED DECEMBER 2019.
2. WETLANDS WERE IDENTIFIED AND DELINEATED IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE 2012 NORTHCENTRAL AND NORTHEAST REGIONAL SUPPLEMENT (VERSION 2.0).
3. APPROPRIATELY TIMED VERNAL POOL FIELD SURVEY WAS COMPLETED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS AND DEFINITIONS, AND THE MAWS VERNAL POOL SURVEY PROTOCOL. ADDITIONAL INFORMATION IS PROVIDED IN THE ACCOMPANYING SITE CONDITIONS REPORT, DATED DECEMBER 2019.
4. NATURAL RESOURCE SITE FEATURES WERE LOCATED USING A SUB-METER CAPABLE TRIMBLE GEO XH (6000 SERIES). DATA WAS POST-PROCESSED ACCORDING TO MANUFACTURER'S RECOMMENDED POST-PROCESSING SETTINGS USING CORS REFERENCE STATIONS. UNDER CERTAIN CONDITIONS, THE POSITIONAL ERROR OF THE GPS DATA MAY EXCEED SUB-METER.

RESOURCE IMPACT SUMMARY:

INDIRECT WETLAND IMPACT: 241,684 SF / 5.55 AC
DIRECT WETLAND IMPACT: 71,345 SF / 1.64 AC

APPROVED: TOWN OF POLAND PLANNING BOARD

DATE:

CHAIRPERSON:

RESOURCE IMPACT TABLE

	Calculation (sq ft)	Comments
Direct Impact	71,345 sq ft	Clearing and grading in Wetlands 3 and 4 Fill for solar panel pilings Wetlands 3 and 4
Temporary Impact	0	Impacts for construction/access
Indirect/Conversion Impact	241,684 sq ft	Vegetation clearing adjacent to panels, in Wetlands 1, 2, 3, and 4 Vegetation in these areas allowed to regrow and maintained to 6 feet in height
TOTAL IMPACT, MDEP	313,029 sq ft	
TOTAL IMPACT, Army Corps	71,345 sq ft	Direct wetland impacts, as described above

MDEP PERMIT NUMBERS:

L-28498-PS-A-N
L-28498-TF-B-N
L-28498-PS-C-M
L-28498-TF-D-M
L-28498-DP-E-N

ARMY CORPS OF ENGINEERS PERMIT NUMBER:

NAE-2019-01673

OWNER:
PORT OF AUBURN, LLC
415 AUBURN ROAD
AUBURN, ME 04210

APPLICANT:
BD SOLAR AUBURN, LLC
ATTN: NICHOLAS MAZUROSKI
622 CONGRESS ST. SUITE 202
PORTLAND, ME 04101

ENGINEER:
HALEY WARD, INC.
ATTN: SEAN THIES
ONE MERCHANTS PLAZA, SUITE 701
BANGOR, ME 04401

PROPOSED SITE PLAN
FOR
BD SOLAR AUBURN, LLC
AUBURN, MAINE

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

CES INC
Engineers • Environmental Scientists • Surveyors
Machias
Brown Building, Main Street
PO Box 87
Machias, ME 04654
T: 207-255-8300
F: 207-255-8307
Lewiston
Bartlett Building, Lisbon Street
Lewiston, ME 04240
T: 207-784-6028
F: 207-784-6028
BWK, a division of CES, Inc.
Corporate Center Drive
Fort Myers, FL 33919
T: 239-481-1515
F: 239-481-1373
Bar Harbor
Bar Harbor Banking & Trust Building, Main Street
Bar Harbor, ME 04609
T: 207-288-0068
F: 207-288-0068
Scarborough
146 Main Street
Suite 2
Scarborough, ME 04074
T: 207-289-9130
F: 207-289-9130
Brewer
Brewer Savings Building, Main Street
PO Box 609
Brewer, ME 04412
T: 207-989-4824
F: 207-989-4881
Waterville
44 Main Street
Waterville, ME 04901
T: 207-873-7112
F: 207-873-7112
Presque Isle
581 Main Street
Presque Isle, ME 04769
T: 207-764-6414
F: 207-764-6414
Sebago
Sebago Technical Park
Building 2, Suite 2
Sebago, ME 04029
T: 207-655-2204
F: 207-655-2204

PROJECT TITLE
BD SOLAR AUBURN, LLC
AUBURN, MAINE

SHEET TITLE
PROPOSED SITE PLAN

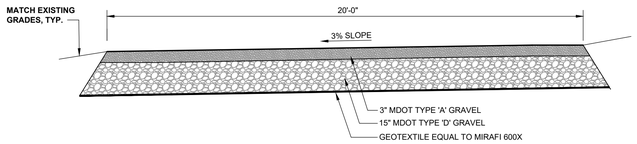
REV.	DESCRIPTION	DATE	DRAWN BY	CHECKED BY
R7				
R6				
R5				
R4				
R3	PER PLANNING BOARD COMMENTS	2022.03.11	WAB	SMT
R2	REVISED HAMMERHEAD DIMENSIONS	2022.02.15	WAB	SMT
R1	PER CITY REVIEW COMMENTS	2020-03-04	BLG	SMT

ISSUE STATUS
NOT FOR CONSTRUCTION

STATE OF MAINE
SEAN M. THIES
No. 10139
04/26/2022
LICENSED
PROFESSIONAL ENGINEER

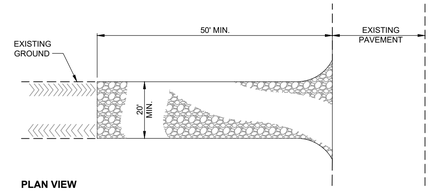
SCALE	1"=200'
DATE	2022.02.22
DRAWN BY	WAB/BLG
CHECKED BY	JED/JES
DESIGNED BY	JED
APPROVED BY	SMT
JOB NUMBER	12186.008
DRAWING NUMBER	C101

P:\12186 GREGO, SOLAR\09-AUBURN-LEWISTON ACT RD SOLAR\PD\02-CAD_DRAWINGS\CIVIL\DESIN_DWGS\12186.008-C-SP.DWG, 4/26/2022 2:21 PM



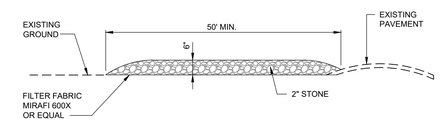
GRAVEL ACCESS ROAD SECTION

N.T.S.



PLAN VIEW

NOTE: CONTRACTOR SHALL ADD STONE TO ENTRANCE AS MUD/SILT MATERIAL ACCUMULATES



SECTION

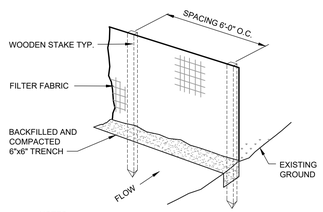
STABILIZED CONSTRUCTION ENTRANCE DETAIL

N.T.S.

EROSION CONTROL NOTES

1. ALL SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE MAINE EROSION AND SEDIMENTATION CONTROL BEST MANAGEMENT PRACTICES (BMPS), PUBLISHED BY THE BUREAU OF LAND AND WATER QUALITY, MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION, LATEST EDITION.
2. SILT FENCE WILL BE INSPECTED, REPLACED AND/OR REPAIRED IMMEDIATELY FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR LOSS OF SERVICEABILITY DUE TO SEDIMENT ACCUMULATION. AT A MINIMUM, ALL EROSION CONTROL DEVICES WILL BE OBSERVED WEEKLY.
3. DURING THE CONSTRUCTION PHASE, INTERCEPTED SEDIMENT WILL BE RETURNED TO CONSTRUCTION SITE.
4. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL AREAS UPSLOPE ARE STABILIZED BY A SUITABLE GROWTH OF GRASS. ONCE A SUITABLE GROWTH OF GRASS HAS BEEN OBTAINED, ALL TEMPORARY EROSION CONTROL ITEMS SHALL BE REMOVED BY THE CONTRACTOR. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THEY ARE REMOVED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED, SEEDED, AND MULCHED IMMEDIATELY.
5. ALL DISTURBED AREAS WILL BE SEEDED WITH 2.5 LBS. RED FESCUE AND 0.5 LBS. RYE GRASS PER 1,000 SQUARE FEET AND MULCHED AT A RATE OF 90 LBS. PER 1,000 SQUARE FEET OR EQUIVALENT APPLICATION OF SEED AND MULCH.
6. A SUITABLE BINDER SUCH AS CURASOL OR TERRTACK WILL BE USED ON THE HAY MULCH FOR WIND CONTROL.
7. IF FINAL SEEDING OF DISTURBED AREAS IS NOT COMPLETED BY SEPTEMBER 15th OF THE YEAR OF CONSTRUCTION, THEN ON THAT DATE THESE AREAS WILL BE GRADED AND SEEDED WITH WINTER RYE AT THE RATE OF 112 POUNDS PER ACRE OR 3 POUNDS PER 1000 SQUARE FEET. THE RYE SEEDING WILL BE PRECEDED BY AN APPLICATION OF 3 TONS OF LIME AND 800 LBS. OF 10-20-20 FERTILIZER OR ITS EQUIVALENT. MULCH WILL BE APPLIED AT A RATE OF 90 POUNDS PER 1000 SQUARE FEET.
8. IF THE RYE SEEDING CANNOT BE COMPLETED BY OCTOBER 1st OR IF THE RYE DOES NOT MAKE ADEQUATE GROWTH BY DECEMBER 1st, THEN ON THOSE DATES, HAY MULCH WILL BE APPLIED AT 150 POUNDS PER 1000 SQUARE FEET.
9. INTERIOR SILT FENCES ALONG CONTOUR DIVIDING FLAT AND STEEP SLOPES, AREAS WITH DIFFERENT DISTURBANCE SCHEDULES, AROUND TEMPORARY STOCKPILES OR IN OTHER UNSPECIFIED POSSIBLE CIRCUMSTANCES SHOULD BE CONSIDERED BY THE CONTRACTOR. THE INTENT OF SUCH INTERIOR SILT FENCES IS TO LIMIT SEDIMENT TRANSPORT WITHIN THE SITE TOWARD THE PROTECTED CATCH BASIN INLETS TO MINIMIZE SEDIMENT REMOVAL REQUIRED BY THE EROSION CONTROL NOTE 9 PROTECTIONS AND EXTEND LIFE OF SUCH DEVICES.
10. MEADOW BUFFERS WILL BE MOWED NO SHORTER THAN SIX INCHES, NO MORE THAN TWICE PER YEAR.
11. MINIMUM EROSION CONTROL MEASURES WILL NEED TO BE IMPLEMENTED AND THE CONTRACTOR WILL BE RESPONSIBLE TO MAINTAIN ALL COMPONENTS OF THE EROSION CONTROL PLAN UNTIL THE SITE IS FULLY STABILIZED. HOWEVER, BASED ON SITE AND WEATHER CONDITIONS DURING CONSTRUCTION, ADDITIONAL EROSION CONTROL MEASURES MAY NEED TO BE IMPLEMENTED. ALL AREAS OF INSTABILITY AND EROSION MUST BE REPAIRED IMMEDIATELY DURING CONSTRUCTION AND NEED TO BE MAINTAINED UNTIL THE SITE IS FULLY STABILIZED OR VEGETATION IS ESTABLISHED. A CONSTRUCTION LOG MUST BE MAINTAINED FOR THE EROSION AND SEDIMENTATION CONTROL INSPECTIONS AND MAINTENANCE

CONTRACTOR WILL BE RESPONSIBLE FOR FOLLOWING PROCEDURES FOUND IN THE "MAINE EROSION AND SEDIMENT CONTROL PRACTICES FIELD GUIDE FOR CONTRACTORS" (PUBLISHED MARCH 2015). THE PUBLICATION CAN BE FOUND AT: HTTP://WWW.MAINE.GOV/DEP/LAND/EROSION/ESCBMPS/INDEX.HTML

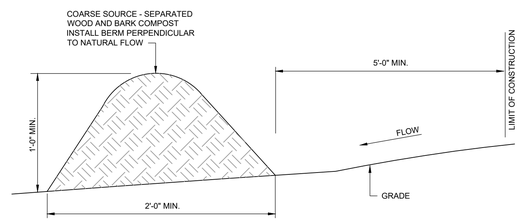


NOTES:

1. KEY FABRIC IN A 6"x6" TRENCH W/BACKFILL AND COMPACT.
2. SILT FENCE SHALL BE A 3' FENCE WITH A MINIMUM GRAB STRENGTH OF 120 LBS.

SILT FENCE DETAIL

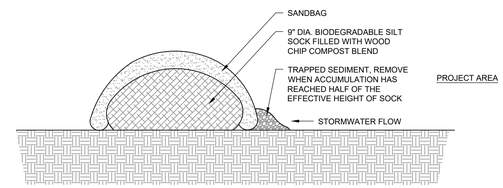
N.T.S.



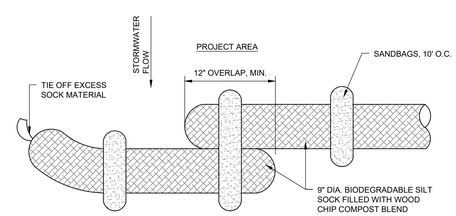
NOTE:
THE EROSION CONTROL MIX MUST BE WELL-GRADED WITH AN ORGANIC COMPONENT THAT IS BETWEEN 50 AND 100% OF DRY WEIGHT, AND THAT IS COMPOSED OF FIBROUS AND ELONGATED FRAGMENTS. THE MINERAL PORTION OF THE MIX SHOULD BE NATURALLY INCLUDED IN THE PRODUCT WITH NO LARGER ROCKS (>4") OR LARGE AMOUNTS OF FINES (SILTS AND CLAYS). IN STUMP GRINDING, THE MINERAL SOIL ORIGINATES FROM THE ROOT BALL AND SHOULD NOT BE REMOVED BEFORE GRINDING. THE MIX SHOULD BE FREE OF REFUSE, MATERIAL TOXIC TO PLANT GROWTH OR UNSUITABLE MATERIAL (BARK CHIPS, GROUND CONSTRUCTION DEBRIS OR REPROCESSED WOOD PRODUCTS).

EROSION CONTROL MIX BERM DETAIL

N.T.S. (MAY BE USED AS AN ALTERNATE TO SILT FENCE)



SECTION

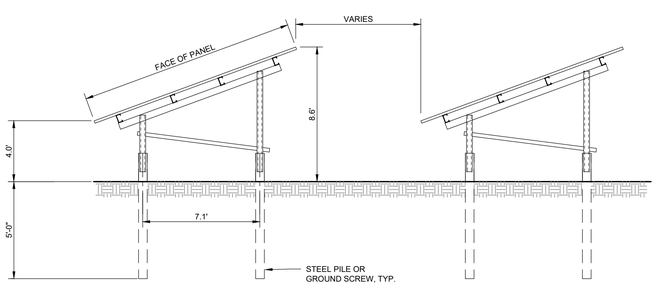


PLAN

SILT SOCK DETAIL

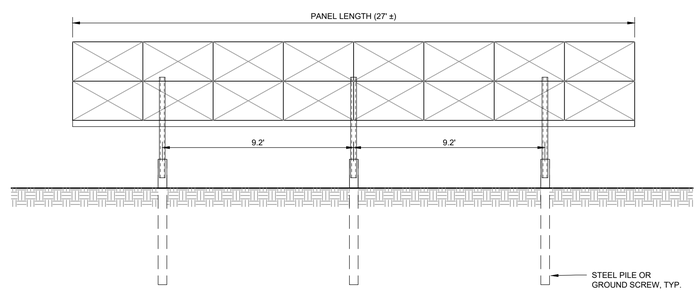
N.T.S. (MAY BE USED AS AN ALTERNATE TO SILT FENCE)

NOTE:
GRASSED AREAS WITHIN THE FENCED AREA SHALL BE MOWED NO MORE THAN TWICE PER YEAR.



SECTION THRU PANEL ASSEMBLY

N.T.S.



PANEL ASSEMBLY ELEVATION

N.T.S.

CES INC
Engineers • Environmental Scientists • Surveyors

Machias
Machias Street
PO Box 87
Machias, ME
T:207-255-8310
F:207-255-8387

Lewiston
Lewiston Street
PO Box 1485
Lewiston, ME
T:207-795-6128
F:207-795-6128

BWK's, a division of CES, Inc.
Fort Myers Corporate Blvd
Fort Myers, FL 33919
T:239-481-1030
F:239-481-1073

Bar Harbor
Bar Harbor Village Green, Suite 101
Bar Harbor, ME
T:207-288-5968
F:207-288-5968

Waterville
44 Main Street
PO Box 28
Waterville, ME
T:207-873-7720
F:207-873-7720

Brewer
Brewer Main Street
PO Box 609
Brewer, ME
T:207-989-4824
F:207-989-4881

Pineapple Isle
549 Main Street
PO Box 1
Pineapple Isle, ME
T:207-764-0477
F:207-764-0414

Sacco
146 Main Street
Suite 2C
Sacco, ME
T:207-283-9151
F:207-283-9130

T:207-605-1000
F:207-605-2304

PROJECT TITLE
BD SOLAR AUBURN, LLC
AUBURN, MAINE

SHEET TITLE
SITE DETAILS

REV.	DESCRIPTION	DATE	DRAWN BY	CHECKED BY
R2	PER MDEP & TOWN REVIEW COMMENTS	2020-04-30	BLG	SMT
R2				
R2				
R4				
R3				
R2				

ISSUE STATUS
NOT FOR CONSTRUCTION

STATE OF MAINE
SEAN M. THIES
No. 10139
04/28/2020
LICENSED
PROFESSIONAL ENGINEER

SCALE	NTS
DATE	2019-12-19
DRAWN BY	WAB
CHECKED BY	SMT
DESIGNED BY	JAD
APPROVED BY	SMT
JOB NUMBER	12186.008
DRAWING NUMBER	C501

APPENDIX 12

APPROVALS

Maine Department of Environmental Protection
Army Core of Engineers
City of Auburn

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

IN THE MATTER OF

BD SOLAR AUBURN, LLC	) SITE LOCATION OF DEVELOPMENT ACT
Auburn and Poland, Androscoggin County	) NATURAL RESOURCES PROTECTION ACT
SOLAR FACILITY	) FRESHWATER WETLAND ALTERATION
L-28498-PS-A-N (approval)	) WATER QUALITY CERTIFICATION
L-28498-TF-B-N (approval)	) FINDINGS OF FACT AND ORDER

Pursuant to the provisions of 38 M.R.S. §§ 481–489-E and §§ 480-A–480-JJ, Section 401 of the Federal Water Pollution Control Act (33 U. S. C. § 1341), and Chapters 310, 315, 373, 375, and 500 of Department rules, the Department of Environmental Protection has considered the application of BD SOLAR AUBURN, LLC with the supportive data, agency review comments, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. PROJECT DESCRIPTION:

A. Summary: The applicant proposes to construct a 14.6-megawatt (MW) solar energy facility on 45.0 acres of land. The development consists of 36,072 photovoltaic panels positioned on fixed racking systems, two electrical transformers with associated equipment pads, and one 20-foot wide gravel access road. The proposed development will create 1.75 acres of developed area, all of which is impervious area. The proposed project can be seen on a set of plans the first of which is titled "Proposed Site Plan," prepared by CES, INC. and dated December 20, 2019, with a last revision date of April 28, 2020. The project site is located on the north side of Lewiston Junction Road in the City of Auburn and Town of Poland.

The applicant is also seeking approval under the Natural Resources Protection Act (NRPA) to permanently alter 80,710 square feet of forested and wet meadow freshwater wetlands and to indirectly alter 266,738 square feet of forested and wet meadow freshwater wetlands. Wetland impacts are further discussed in Finding 17.

The applicant further submitted a Notice of Intent (NOI #69220) to comply with the standards and requirements of the Maine Construction General Permit. NOI #69220 was accepted by the Department on January 2, 2020.

B. Current Use of Site: The site of the proposed project consists of three parcels totaling about 135 acres. The project site is primarily wooded; although, approximately 13 acres of the overall property is developed and contains a rail car storage area. The applicant's parcels are identified as Lots #007 and 16 on Map #142 on the City of Auburn's tax maps and Lot #15-1 on Map #04 on the Town of Poland's tax maps.

2. FINANCIAL CAPACITY:

The total cost of the project is estimated to be $17,608,500.00. The proposed project will be funded by BNRG Renewables Limited, the applicant's parent company. The applicant submitted a letter of commitment from BNRG Renewables Limited, dated November 8, 2018, which indicates that its assets and cash flow exceed the total cost of the proposed project and that funding is readily available, and has been set aside, to design, construct, operate, and maintain the proposed project.

The Department finds that the applicant has demonstrated adequate financial capacity to comply with Department standards.

3. TECHNICAL ABILITY:

The applicant provided resume information for key persons involved with the project and a list of projects successfully constructed by the applicant. The applicant retained the services of CES, INC., a professional engineering firm, to assist in the design and engineering of the project.

The Department finds that the applicant has demonstrated adequate technical ability to comply with Department standards.

4. NOISE:

The proposed project site is located on the north side of Lewiston Junction Road. The project site primarily wooded. The triangular-shaped parcel is bound by railroad tracks on two sides and a primary road. Land uses in the area surrounding the project site are industrial and commercial in nature including an airport, a commercial mulch production business, a railroad switchyard, and other commercial businesses.

The applicant identified two electrical transformers as potential sources of noise that will be generated by the proposed project. The applicant submitted sound energy specifications for the proposed transformers, and an assessment of sound modeling results at the project site. The specifications indicate that noise produced by the transformers will be below the Department's noise standard at the project boundary. The nearest abutting property is a railroad switchyard and is located immediately adjacent to the parcel boundary. The applicant stated that noise emitted from the project site will be below the Department's noise standard at the parcel boundary.

The applicant stated that the proposed project has been designed to be in compliance with the Department's Chapter 375, § 10 Noise Standards.

The Department finds that the applicant has made adequate provisions for the control of excessive environmental noise from the proposed project.

5. SCENIC CHARACTER:

The proposed project site is located on the north side of Lewiston Junction Road. The project site primarily wooded, and land uses in the area surrounding the project site are industrial and commercial in nature.

The proposed project is not located in, on, or over a waterbody used by the general public. Freshwater wetlands are located and contained on the applicant's property. The nearest scenic resource that is visited by the general public, in part, for the use, observation, enjoyment and appreciation of its natural and cultural visual qualities, is the Little Androscoggin River. The proposed project at its closest point is located approximately 3,700 feet from the Little Androscoggin River. Because of land topography and several developments between the project site and the scenic resource, the proposed project will not be visible from the Little Androscoggin River and will not result in an unreasonable impact to visual quality.

Based on the project's location and design, the Department finds that the proposed project will not have an unreasonable adverse effect on the scenic character of the surrounding area. The Department further finds that the proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational or navigational uses.

6. WILDLIFE AND FISHERIES:

The Maine Department of Inland Fisheries and Wildlife (MDIFW) reviewed the proposed project. In its comments, dated May 3, 2019 and January 24, 2020, MDIFW stated that it found no records of any Essential or Significant Wildlife Habitats, or other wildlife habitats of special concern associated with this site. No fisheries concerns were identified.

The Department finds that the applicant has made adequate provision for the protection of wildlife and fisheries. The Department further finds that the activity will not unreasonably harm any significant wildlife habitat, threatened or endangered plant habitat, aquatic or adjacent upland habitat, travel corridor, freshwater, estuarine or marine fisheries or other aquatic life.

7. HISTORIC SITES AND UNUSUAL NATURAL AREAS:

The Maine Historic Preservation Commission reviewed the proposed project and stated in comments, dated September 24, 2019, that the proposed project will have no effect upon any structure or site of historic, architectural, or archaeological significance as defined by the National Historic Preservation Act of 1966.

In comments, dated June 24, 2019, the Maine Natural Areas Program of the Department of Agriculture, Conservation and Forestry stated that its database does not contain any records documenting the existence of rare or unique botanical features on the project site.

The Department finds that the proposed development will not have an adverse effect on the preservation of any historic sites or unusual natural areas either on or near the development site.

8. BUFFER STRIPS:

As part of its stormwater management system, the applicant proposes to utilize roadside vegetated buffers and also revegetated areas under the proposed solar panels, which will act as meadow stormwater buffers. The applicant stated that the roadside buffers will be protected by means of a deed restriction through the operational life of the project. These stormwater buffers are described in further detail in Finding 10.

The Department finds that the applicant has made adequate provision for buffer strips.

9. SOILS:

The applicant submitted a soil survey map and report based on the soils found at the project site. The map and report indicate that the subsurface conditions at the project site can support the proposed project. The staff of the Department reviewed the applicant's report and agreed with the results contained in the report.

The Department finds that, based on the applicant's map and report, the soils on the project site present no limitations to the proposed project that cannot be overcome through standard engineering practices.

10. STORMWATER MANAGEMENT:

The proposed project will result in approximately 1.75 acres of developed area, all of which is impervious area. Approximately 45.0 acres of land will be disturbed. All disturbed areas associated with the solar array portion of the project will be loamed and seeded prior to the installation of the proposed solar panel racking systems, and the final land cover under the panels, will be meadow conditions. The applicant proposes to utilize all of the area under the panels as a meadow buffer to treat storm water from solar panels. In addition, the applicant proposes to utilize 11 roadside vegetated buffers to treat stormwater runoff from the proposed access road.

The proposed project lies within the watershed of the Little Androscoggin River. The applicant submitted a stormwater management plan based on the Basic, General, and Flooding Standards contained in Chapter 500 Stormwater Management rules (06-096 C.M.R. ch. 500, effective August 12, 2015) pursuant to 38 M.R.S. § 420-D. Stormwater runoff generated by the majority of the proposed project will sheet flow into, and be treated by, revegetated areas, which will act as meadow stormwater buffers. Stormwater runoff from the proposed access road will be conveyed to the roadside buffers.

A. Basic Standards:

(1) Erosion and Sedimentation Control: The applicant submitted an Erosion and Sedimentation Control phasing plan (Section 14 of the application) that is based on the performance standards contained in Appendix A of Chapter 500 and the Best Management Practices outlined in the Maine Erosion and Sediment Control BMPs, which were developed by the Department. BLR reviewed the plan and plan sheets containing the details regarding erosion control.

Erosion control details will be included on the final construction plans and the erosion control narrative will be included in the project specifications to be provided to the construction contractor.

(2) Inspection and Maintenance: The applicant submitted a maintenance plan that addresses both short- and long-term maintenance requirements. The applicant will be responsible for the maintenance of the stormwater management system. The maintenance plan is based on the standards contained in Appendix B of Chapter 500 and was reviewed by BLR. BLR commented that all revegetated areas must remain in meadow condition for the life of the project and must not be mowed more than two times in any given calendar year.

(3) Housekeeping: The proposed project will comply with the performance standards outlined in Appendix C of Chapter 500.

Based on BLR's review of the erosion and sedimentation control plan and the maintenance plan, the Department finds that the proposed project meets the Basic Standards contained in Chapter 500, § 4(B).

B. General Standards:

The applicant's stormwater management plan includes general treatment measures that will mitigate for the increased frequency and duration of channel erosive flows due to runoff from smaller storms, provide for effective treatment of pollutants in stormwater, and mitigate potential temperature impacts. This mitigation is being achieved by using BMPs that will treat runoff from no less than 95% of the impervious area and no less than 80% of the developed area associated with the proposed inverters and transformer. The proposed access roads meet the definition of "a linear portion of a project" in Chapter 500, and the applicant is proposing to treat stormwater runoff from no less than 75% of the impervious area and no less than 50% of the developed area from this area.

The roadside meadow stormwater buffers will be protected from alteration through the execution of a deed restriction. The applicant submitted a draft deed restriction that meets Department standards.

Prior to the start of construction, the location of the roadside meadow buffers must be permanently marked on the ground.

The applicant shall execute and record all required deed restrictions within 60 days of the date of this Order, and the applicant shall submit a copy of the recorded deed restriction to the BLR within 60 days of its recording.

The stormwater management system proposed by the applicant was reviewed by, and revised in response to comments from, BLR. After a final review, BLR concluded that the proposed stormwater management system is designed in accordance with the General Standards contained in Chapter 500, § 4(C).

Based on the stormwater system's design and BLR's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the General Standards contained in Chapter 500, § 4(C) provided that, the location of the roadside meadow stormwater buffers is permanently marked on the ground prior to construction and that the applicant executes a deed restriction of the meadow stormwater buffers as described above.

C. Flooding Standard:

The applicant is proposing to utilize a stormwater management system which is based on estimates of pre- and post-development stormwater runoff flows obtained by using Hydrocad, a stormwater modeling software that utilizes the methodologies outlined in Technical Releases #55 and #20, U.S.D.A., Natural Resources Conservation Service (June 1986 and May 1982, respectively) and retains stormwater from 24-hour storms of 2-, 10-, and 25-year frequency. The post-development peak flow from the site will not exceed the pre-development peak flow from the site.

BLR commented that the proposed system is designed in accordance with the Flooding Standard contained in Chapter 500, § 4(F).

Based on the system's design and BLR's review, the Department finds that the applicant has made adequate provision to ensure that the proposed project will meet the Flooding Standard contained in Chapter 500, § 4(F) for peak flow from the project site, and channel limits and runoff areas.

11. GROUNDWATER:

The project site is not located over a mapped sand and gravel aquifer. The proposed project does not propose any withdrawal from, or discharge to, the groundwater.

The Department finds that the proposed project will not have an unreasonable adverse effect on ground water quality.

12. WATER SUPPLY:

No water usage is proposed for the project.

13. WASTEWATER DISPOSAL:

No wastewater will be generated by this project.

14. SOLID WASTE:

The proposed project will generate approximately eight tons of stumps and grubbings. All stumps and grubbings generated will be mulched on-site with the remainder to be used for erosion control or landscaping purposes, all in compliance with the Maine Solid Waste Management Rules.

The proposed project will generate approximately 18 tons of construction debris and demolition debris (primarily in the form of cardboard packaging materials). All construction and demolition debris generated will be disposed of at Casella Recycling in the City of Lewiston, which is currently in substantial compliance with the Maine Solid Waste Management Rules.

Based on the above information, the Department finds that the applicant has made adequate provision for solid waste disposal.

15. FLOODING:

The proposed project is not located within the 100-year flood plain of any river or stream.

The Department finds that the proposed project is unlikely to cause or increase flooding or cause an unreasonable flood hazard to any structure.

16. WATER QUALITY CONSIDERATIONS:

As discussed in Finding 10, the applicant proposes to use erosion and sediment control measures during construction to minimize impacts to water quality from siltation.

The Department does not anticipate that the proposed project will violate any state water quality law, including those governing the classification of the State's waters.

17. WETLAND IMPACTS:

The applicant proposes to permanently fill 80,710 square feet of forested and wet meadow freshwater wetlands due to proposed road construction and post installation associated with the solar panel racking systems. The applicant further proposes to indirectly alter 266,738 square feet of forested and wet meadow wetlands as a result of vegetation removal and shading of the solar panels over the wetlands.

The Wetland and Waterbodies Protection Rules, 06-096 C.M.R. ch. 310 (effective November 11, 2018), interpret and elaborate on the Natural Resources Protection Act (NRPA) criteria for obtaining a permit.

The rules guide the Department in its determination of whether a project's impacts would be unreasonable. A proposed project would generally be found to be unreasonable if it would cause a loss in wetland area, functions and values and there is a practicable alternative to the project that would be less damaging to the environment. Each application for a NRPA permit that involves a freshwater wetland alteration must provide an analysis of alternatives in order to demonstrate that a practicable alternative does not exist.

A. Avoidance. No activity may be permitted if there is a practicable alternative to the project that would be less damaging to the environment. The applicant submitted an alternative analysis for the proposed project completed by CES, INC. and dated December 20, 2019. The purpose of the project is to develop a solar energy facility to generate renewable energy and provide a source of energy for New England's electricity grid. The applicant considered alternate parcels, but the sites were rejected as unsuitable or already being considered for other development. Some wetland impacts are unavoidable if the project is constructed at a viable size.

B. Minimal Alteration. The amount of freshwater wetland to be altered must be kept to the minimum amount necessary for meeting the overall purpose of the project. Minimization strategies include maximizing the use of existing cleared areas and available upland area. During the Department's review, the applicant further minimized impacts to onsite wetlands by reducing the width of the proposed access road from 24 feet wide to 20 feet wide. The applicant stated that as it is currently designed, the proposed project minimizes impacts to freshwater wetlands to the maximum extent practicable.

C. Compensation. In accordance with Chapter 310, § 5(C)(6)(a)(ii), compensation is required to achieve the goal of no net loss of wetland functions and values when alterations in a freshwater wetland exceed 15,000 square feet. The proposed amount of permanent freshwater wetland fill at the project site is 80,710 square feet.

The applicant submitted a plan of the proposed project site that identifies the areas of wetlands, titled "Natural Resources Map," prepared by CES, INC. and dated December 20, 2019. The applicant also submitted a functions and values assessment of the freshwater wetland. The assessment identified wildlife habitat as the principal function and value of the freshwater wetlands impacted by the proposed project.

To compensate for lost wetland functions and values, the applicant proposes to make a contribution into the In-Lieu Fee program of the Maine Natural Resource Conservation Program in the amount of $305,083.80. Prior to the start of construction, the applicant must submit a payment in the amount of $305,083.80, payable to "Treasurer, State of Maine", and directed to the attention of the In-Lieu Fee Program Administrator at 17 State House Station, Augusta, Maine 04333.

The Department finds that the applicant has avoided and minimized freshwater wetland impacts to the greatest extent practicable, and that the proposed project represents the

least environmentally damaging alternative that meets the overall purpose of the project provided that prior to project construction, the applicant submits the In Lieu Fee payment as described above.

18. DECOMMISSIONING PLAN:

In order to facilitate and ensure appropriate removal of the solar components when they reach the end of their useful life or if the applicant ceases operation of the facility, the Department requires applicants to demonstrate, in the form of a decommissioning plan, the means by which decommissioning will be accomplished. The applicant submitted a decommissioning plan that includes a description of the trigger for implementing the decommissioning, a description of the work required, an estimate of decommissioning costs, a schedule for contributions to its decommissioning fund, and a demonstration of financial assurance.

A. Trigger for implementation of decommissioning. The solar panels have an expected operational life of approximately 40 years. However, other factors may trigger the requirement for decommissioning before 40 years have passed. The applicant proposes to discontinue and decommission the solar facility when the facility ceases to generate electricity for a continuous period of twelve months. In the case of a force majeure or other event which causes the project to fail to generate electricity for 12 months, the applicant can submit to the Department, for review, reasonable evidence that the project can be operational within 12 months.

   If reasonable evidence cannot be supplied, or if the applicant chooses to forgo this submission to the Department, decommissioning must begin within 18 months of the cessation of power generation at the facility.

B. Description of work. The description of work contained in the application outlines the applicant's proposal for the manner in which the arrays and other components of the proposed project would be dismantled and removed from the site. Above-ground and subsurface components would be removed and disturbed areas would be re-seeded. The proposed access road and its associated roadside stormwater buffers will permanently remain in place.

C. Financial Assurance. The applicant estimates that the current cost for decommissioning the project will be $211,110.84. The applicant submitted an estimated breakdown of costs associated with decommissioning of the project and a letter of commitment from BNRG Renewables Limited which indicates that funding is readily available, and has been set aside, to restore the project area back to natural conditions when the project no longer generates power. However, these funds have not been placed in an escrow account and the applicant has not provided any other financial assurance that these funds will be available to the Department should the project be required to be decommissioned. Prior to the start of construction, the applicant must submit, to the Department for review and approval, a decommissioning plan with a financial assurance mechanism and means to re-

evaluate the decommissioning cost and financial assurance at least every five years. At least every five years after the start of construction, updated proof of acceptable financial assurance must be submitted to the Department for review and approval.

Based on the applicant's proposal outlined above, the Department finds that the applicant's proposal would adequately provide for decommissioning of the proposed project, provided the applicant submits the decommissioning plan as described above.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 481–489-E:

A. The applicant has provided adequate evidence of financial capacity and technical ability to develop the project in a manner consistent with state environmental standards.

B. The applicant has made adequate provision for fitting the development harmoniously into the existing natural environment and the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities.

C. The proposed development will be built on soil types which are suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment nor inhibit the natural transfer of soil.

D. The proposed development meets the standards for storm water management in 38 M.R.S. § 420-D and the standard for erosion and sedimentation control in 38 M.R.S. § 420-C provided that, the location of the roadside meadow stormwater buffers is permanently marked on the ground prior to construction and that the applicant executes a deed restriction of the meadow stormwater buffers as described in Finding 10.

E. The proposed development will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur.

F. The applicant has made adequate provision of utilities, including water supplies, sewerage facilities and solid waste disposal required for the development and the development will not have an unreasonable adverse effect on the existing or proposed utilities in the municipality or area served by those services.

G. The activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties nor create an unreasonable flood hazard to any structure.

H. The applicant has made adequate provisions to achieve decommissioning of the solar power facility provided that the applicant meets the requirements of Finding 18.

BASED on the above findings of fact, and subject to the conditions listed below, the Department makes the following conclusions pursuant to 38 M.R.S. §§ 480-A–480-JJ and Section 401 of the Federal Water Pollution Control Act:

A. The proposed activity will not unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses.

B. The proposed activity will not cause unreasonable erosion of soil or sediment.

C. The proposed activity will not unreasonably inhibit the natural transfer of soil from the terrestrial to the marine or freshwater environment.

D. The proposed activity will not unreasonably harm any significant wildlife habitat, freshwater wetland plant habitat, threatened or endangered plant habitat, aquatic habitat, travel corridor, freshwater, estuarine, or marine fisheries or other aquatic life provided that, prior to construction, the applicant makes a contribution to the In-Lieu Fee program as described in Finding 17.

E. The proposed activity will not unreasonably interfere with the natural flow of any surface or subsurface waters.

F. The proposed activity will not violate any state water quality law including those governing the classifications of the State's waters.

G. The proposed activity will not unreasonably cause or increase the flooding of the alteration area or adjacent properties.

H. The proposed activity is not on or adjacent to a sand dune.

I. The proposed activity is not on an outstanding river segment as noted in 38 M.R.S. § 480-P.

THEREFORE, the Department APPROVES the application of BD SOLAR AUBURN, LLC to construct a 14.6 MW solar energy facility as described in Finding 1, SUBJECT TO THE FOLLOWING CONDITIONS and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached.

2. In addition to any specific erosion control measures described in this or previous orders, the applicant shall take all necessary actions to ensure that its activities or those of its agents do not result in noticeable erosion of soils or fugitive dust emissions on the site during the construction and operation of the project covered by this approval.

3. Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

4. Prior to the start of construction, the location of the roadside meadow stormwater buffers shall be permanently marked on the ground.

5. The applicant shall execute and record the required stormwater buffer deed restrictions within 60 days of the date of this Order. The applicant shall submit a copy of the recorded deed restrictions to the BLR within 60 days of its recording.

6. Prior to the start of construction, the applicant shall submit a payment in the amount of $305,083.80, payable to "Treasurer, State of Maine", to the attention of the In-Lieu Fee Program Administrator at 17 State House Station, Augusta, Maine 04333.

7. The area under the solar panels shall not be mowed more than two times per year.

8. At the time of decommissioning, the applicant shall submit a plan for continued beneficial use of any components proposed to be left on-site to the Department for review and approval.

9. Prior to the start of construction, the applicant shall submit to the Department for review and approval, a decommissioning plan with a financial assurance mechanism and means to re-evaluate the decommissioning cost and financial assurance at least every five years.

10. At least every five years after the start of construction, updated proof of acceptable financial assurance for decommissioning shall be submitted to the Department for review and approval.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED IN AUGUSTA, MAINE, THIS 26TH DAY OF MAY, 2020.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
For: Gerald D. Reid, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

BC/L28498AN&BN/ATS#85476,85477

FILED
May 27, 2020
State of Maine
Board of Environmental Protection

Department of Environmental Protection

SITE LOCATION OF DEVELOPMENT (SITE) STANDARD CONDITIONS

A. Approval of Variations from Plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation. Further subdivision of proposed lots by the applicant or future owners is specifically prohibited without prior approval of the Board, and the applicant shall include deed restrictions to that effect.

B. Compliance with All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Compliance with All Terms and Conditions of Approval. The applicant shall submit all reports and information requested by the Board or the Department demonstrating that the applicant has complied or will comply with all preconstruction terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

D. Advertising. Advertising relating to matters included in this application shall refer to this approval only if it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

E. Transfer of Development. Unless otherwise provided in this approval, the applicant shall not sell, lease, assign or otherwise transfer the development or any portion thereof without prior written approval of the Board where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval shall be granted only if the applicant or transferee demonstrates to the Board that the transferee has the technical capacity and financial ability to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant.

F. Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the Board for a new approval. The applicant may not begin construction or operation of the development until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

G. Approval Included in Contract Bids. A copy of this approval must be included in or attached to all contract bid specifications for the development.

H. Approval Shown to Contractors. Work done by a contractor pursuant to this approval shall not begin before the contractor has been shown by the developer a copy of this approval.

Natural Resources Protection Act (NRPA)
Standard Conditions

THE FOLLOWING STANDARD CONDITIONS SHALL APPLY TO ALL PERMITS GRANTED UNDER THE NATURAL RESOURCES PROTECTION ACT, 38 M.R.S. § 480-A ET SEQ., UNLESS OTHERWISE SPECIFICALLY STATED IN THE PERMIT.

A. Approval of Variations From Plans. The granting of this permit is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the applicant. Any variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

B. Compliance With All Applicable Laws. The applicant shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

C. Erosion Control. The applicant shall take all necessary measures to ensure that his activities or those of his agents do not result in measurable erosion of soils on the site during the construction and operation of the project covered by this Approval.

D. Compliance With Conditions. Should the project be found, at any time, not to be in compliance with any of the Conditions of this Approval, or should the applicant construct or operate this development in any way other the specified in the Application or Supporting Documents, as modified by the Conditions of this Approval, then the terms of this Approval shall be considered to have been violated.

E. Time frame for approvals. If construction or operation of the activity is not begun within four years, this permit shall lapse and the applicant shall reapply to the Board for a new permit. The applicant may not begin construction or operation of the activity until a new permit is granted. Reapplications for permits may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

F. No Construction Equipment Below High Water. No construction equipment used in the undertaking of an approved activity is allowed below the mean high water line unless otherwise specified by this permit.

G. Permit Included In Contract Bids. A copy of this permit must be included in or attached to all contract bid specifications for the approved activity.

H. Permit Shown To Contractor. Work done by a contractor pursuant to this permit shall not begin before the contractor has been shown by the applicant a copy of this permit.

Revised September 2016

STORMWATER STANDARD CONDITIONS

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITIONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL

Standard conditions of approval. Unless otherwise specifically stated in the approval, a department approval is subject to the following standard conditions pursuant to Chapter 500 Stormwater Management Law.

(1) Approval of variations from plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed to by the permittee. Any variation from these plans, proposals, and supporting documents must be reviewed and approved by the department prior to implementation. Any variation undertaken without approval of the department is in violation of 38 M.R.S. §420-D(8) and is subject to penalties under 38 M.R.S. §349.

(2) Compliance with all terms and conditions of approval. The applicant shall submit all reports and information requested by the department demonstrating that the applicant has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

(3) Advertising. Advertising relating to matters included in this application may not refer to this approval unless it notes that the approval has been granted WITH CONDITIONS, and indicates where copies of those conditions may be obtained.

(4) Transfer of project. Unless otherwise provided in this approval, the applicant may not sell, lease, assign, or otherwise transfer the project or any portion thereof without written approval by the department where the purpose or consequence of the transfer is to transfer any of the obligations of the developer as incorporated in this approval. Such approval may only be granted if the applicant or transferee demonstrates to the department that the transferee agrees to comply with conditions of this approval and the proposals and plans contained in the application and supporting documents submitted by the applicant. Approval of a transfer of the permit must be applied for no later than two weeks after any transfer of property subject to the license.

(5) Time frame for approvals. If the construction or operation of the activity is not begun within four years, this approval shall lapse and the applicant shall reapply to the department for a new approval. The applicant may not begin construction or operation of the project until a new approval is granted. A reapplication for approval may include information submitted in the initial application by reference. This approval, if construction is begun within the four-year time frame, is valid for seven years. If construction is not completed within the seven-year time frame, the applicant must reapply for, and receive, approval prior to continuing construction.

(6) Certification. Contracts must specify that "all work is to comply with the conditions of the Stormwater Permit." Work done by a contractor or subcontractor pursuant to this approval may not begin before the contractor and any subcontractors have been shown a copy of this approval with the conditions by the permittee, and the permittee and each contractor and subcontractor has certified, on a form provided by the department, that the approval and conditions have been received and read, and that the work will be carried out in accordance with the approval and conditions. Completed certification forms must be forwarded to the department.

(7) Maintenance. The components of the stormwater management system must be adequately maintained to ensure that the system operates as designed, and as approved by the Department. If maintenance responsibility is to be transferred from the permittee to another entity, a transfer request must be filed with the Department which includes the name and contact information for the person or entity responsible for this maintenance. The form must be signed by the responsible person or agent of the responsible entity.

(8) 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.

(a) All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) 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.

(c) The stormwater maintenance plan for the site is being implemented as approved by the Department, and the maintenance log is being maintained.

(d) All proprietary systems have been maintained according to the manufacturer's recommendations. Where required by the Department, the permittee shall execute a 5-year maintenance contract with a qualified professional for the coming 5-year interval. The maintenance contract must include provisions for routine inspections, cleaning and general maintenance.

(e) The Department may waive some or all of these recertification requirements on a case-by-case basis for permittees subject to the Department's Multi-Sector General Permit ("MSGP") and/or Maine Pollutant Discharge Elimination System ("MEPDES") programs where it is demonstrated that these programs are providing stormwater control that is at least as effective as required pursuant to this Chapter.

(9) Transfer of property subject to the license. If any portion of the property subject to the license containing areas of flow or areas that are flooded are transferred to a new property owner, restrictive covenants protecting these areas must be included in any deeds or leases, and recorded at the appropriate county registry of deeds. Also, in all transfers of such areas and areas containing parts of the stormwater management system, deed restrictions must be included making the property transfer subject to all applicable terms and conditions of the permit. These terms and conditions must be incorporated by specific and prominent reference to the permit in the deed. All transfers must include in the restrictions the requirement that any subsequent transfer must specifically include the same restrictions unless their removal or modification is approved by the Department. These restrictions must be written to be enforceable by the Department, and must reference the permit number.

(10) Severability. The invalidity or unenforceability of any provision, or part thereof, of this permit shall not affect the remainder of the provision or any other provisions. This permit shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: November 2018 **Contact: (207) 287-2452**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's (DEP) Commissioner: (1) an administrative process before the Board of Environmental Protection (Board); or (2) a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This information sheet, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S. §§ 341-D(4) & 346; the *Maine Administrative Procedure Act*, 5 M.R.S. § 11001; and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 C.M.R. ch. 2.

DEADLINE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed more than 30 calendar days after the date on which the Commissioner's decision was filed with the Board will be dismissed unless notice of the Commissioner's license decision was required to be given to the person filing an appeal (appellant) and the notice was not given as required.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017. An appeal may be submitted by fax or e-mail if it contains a scanned original signature. It is recommended that a faxed or e-mailed appeal be followed by the submittal of mailed original paper documents. The complete appeal, including any attachments, must be received at DEP's offices in Augusta on or before 5:00 PM on the due date; materials received after 5:00 pm are not considered received until the following day. The risk of material not being received in a timely manner is on the sender, regardless of the method used. The appellant must also send a copy of the appeal documents to the Commissioner of the DEP; the applicant (if the appellant is not the applicant in the license proceeding at issue); and if a hearing was held on the application, any intervenor in that hearing process. All of the information listed in the next section of this information sheet must be submitted at the time the appeal is filed.

INFORMATION APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time the appeal is submitted:

1. *Aggrieved Status*. The appeal must explain how the appellant has standing to maintain an appeal. This requires an explanation of how the appellant may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions, or conditions objected to or believed to be in error*. The appeal must identify the specific findings of fact, conclusions regarding compliance with the law, license conditions, or other aspects of the written license decision or of the license review process that the appellant objects to or believes to be in error.
3. *The basis of the objections or challenge.* For the objections identified in Item #2, the appeal must state why the appellant believes that the license decision is incorrect and should be modified or reversed. If possible, the appeal should cite specific evidence in the record or specific licensing requirements that the appellant believes were not properly considered or fully addressed.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested*. The Board will limit its consideration to those matters specifically raised in the written notice of appeal.
6. *Request for hearing.* If the appellant wishes the Board to hold a public hearing on the appeal, a request for public hearing must be filed as part of the notice of appeal, and must include an offer of proof in accordance with Chapter 2. The Board will hear the arguments in favor of and in opposition to a hearing on the appeal and the presentations on the merits of an appeal at a regularly scheduled meeting. If the Board decides to hold a public hearing on an appeal, that hearing will then be scheduled for a later date.
7. *New or additional evidence to be offered.* If an appellant wants to provide evidence not previously provided to DEP staff during the DEP's review of the application, the request and the proposed evidence must be submitted with the appeal. The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered in an appeal only under very limited circumstances. The proposed evidence must be relevant and material, and (a) the person seeking to add information to the record must show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process; <u>or</u> (b) the evidence itself must be newly discovered and therefore unable to have been presented earlier in the process. Specific requirements for supplemental evidence are found in Chapter 2 § 24.

OTHER CONSIDERATIONS IN APPEALING A DECISION TO THE BOARD

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, and is made easily accessible by the DEP. Upon request, the DEP will make application materials available during normal working hours, provide space to review the file, and provide an opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer general questions regarding the appeal process.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed, the license normally remains in effect pending the processing of the appeal. Unless a stay of the decision is requested and granted, a license holder may proceed with a project pending the outcome of an appeal, but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

WHAT TO EXPECT ONCE YOU FILE A TIMELY APPEAL WITH THE BOARD

The Board will formally acknowledge receipt of an appeal, and will provide the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, any materials submitted in response to the appeal, and relevant excerpts from the DEP's application review file will be sent to Board members with a recommended decision from DEP staff. The appellant, the license holder if different from the appellant, and any interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. The appellant and the license holder will have an opportunity to address the Board at the Board meeting. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, the license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court (see 38 M.R.S. § 346(1); 06-096 C.M.R. ch. 2; 5 M.R.S. § 11001; and M.R. Civ. P. 80C). A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452, or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

DEPARTMENT OF THE ARMY
NEW ENGLAND DISTRICT, CORPS OF ENGINEERS
696 VIRGINIA ROAD
CONCORD, MASSACHUSETTS 01742-2751

REPLY TO ATTENTION OF

MAINE GENERAL PERMITS (GPs)
AUTHORIZATION LETTER AND SCREENING SUMMARY

NICHOLAS MAZUROSKI
BD SOLAR AUBURN, LLC
P.O. BOX 9729
PORTLAND, MAINE 04104

CORPS PERMIT # NAE-2019-01673
CORPS GPs 13
STATE ID# L-28498-PS-A-N
L-28498-TF-B-N

DESCRIPTION OF WORK:
Place permanent fill in approximately 71,345 SF (1.64 ac.) of freshwater wetland off Lewiston Junction Road at Auburn, Maine in order to construct associated infrastructure for a 14.6 MW solar array. In addition, approximately 9,604 SF (0.22 ac.) of forested wetland will be cleared and subsequently maintained as emergent wetland in order to install perimeter fencing. This work is shown on the attached plans entitled "LOCATION MAP" in one sheet dated "2019-04-26" and "PROPOSED SITE PLAN" in one sheet dated "2020-03-04".
See GENERAL and SPECIAL CONDITIONS attached.

LAT/LONG COORDINATES: 44.051496º N -70.297831° W **USGS QUAD:** MINOT, MAINE

I. CORPS DETERMINATION:
Based on our review of the information you provided, we have determined that your project will have only minimal individual and cumulative impacts on waters and wetlands of the United States. **Your work is therefore authorized by the U.S. Army Corps of Engineers under the Federal Permit, the Maine General Permits (GPs) which can be found at:** https://www.nae.usace.army.mil/Missions/Regulatory/State-General-Permits/Maine-General-Permit/ Accordingly, we do not plan to take any further action on this project.

You must perform the activity authorized herein in compliance with all the terms and conditions of the GPs [including any attached special conditions and any conditions placed on the State 401 Water Quality Certification including any required mitigation]. Please review the GPs, including the GPs conditions beginning on page 5, to familiarize yourself with its contents. You are responsible for complying with all of the GPs requirements; therefore you should be certain that whoever does the work fully understands all of the conditions. You may wish to discuss the conditions of this authorization with your contractor to ensure the contractor can accomplish the work in a manner that conforms to all requirements.

If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them.

Condition 45 of the GPs (page 19) provides one year for completion of work that has commenced or is under contract to commence prior to the expiration of the GPs on October 14, 2025. You will need to apply for reauthorization for any work within Corps jurisdiction that is not completed by October 14, 2026.

This authorization presumes the work shown on your plans noted above is in waters of the U.S. Should you desire to appeal our jurisdiction, please submit a request for an approved jurisdictional determination in writing to the undersigned.

No work may be started unless and until all other required local, State and Federal licenses and permits have been obtained. **This includes but is not limited to a Flood Hazard Development Permit issued by the town if necessary.**

II. STATE ACTIONS: PENDING [ ], ISSUED [X], DENIED [ ] DATE 27MAY2020

APPLICATION TYPE: PBR:___, TIER 1:_____, TIER 2 :_____, TIER 3:___X__, LURC: _____ DMR LEASE: _____ NA: _____

III. FEDERAL ACTIONS:

JOINT PROCESSING MEETING: 9JAN2020 LEVEL OF REVIEW: SELF-VERIFICATION:___ PRE-CONSTRUCTION NOTIFICATION: _X_

AUTHORITY (Based on a review of plans and/or State/Federal applications): SEC 10_____, 404____X___ 10/404_____, 103_____

EXCLUSIONS: The exclusionary criteria identified in the general permit do not apply to this project.

FEDERAL RESOURCE AGENCY OBJECTIONS: EPA_NO__, USF&WS_NO__, NMFS_NO__

If you have any questions on this matter, please contact my staff at 978-318-8676 at our Augusta, Maine Project Office. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at: http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0

COLIN M. GREENAN
PROJECT MANAGER
MAINE PROJECT OFFICE

FRANK J. DEL GIUDICE
CHIEF, PERMITS & ENFORCEMENT BRANCH
REGULATORY DIVISION

US Army Corps of Engineers ®
New England District

PLEASE NOTE THE FOLLOWING GENERAL AND SPECIAL CONDITIONS FOR DEPARTMENT OF THE ARMY MAINE GENERAL PERMIT 13 PERMIT NO. NAE-2019-01673

GENERAL CONDITIONS

23. Soil Erosion, Sediment, and Turbidity Controls: a. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, installation of sediment control barriers (i.e. silt fence, vegetated filter strips, geotextile silt fences, erosion control mixes, hay bales or other devices) downhill of all exposed areas, retention of existing vegetated buffers, application of temporary mulching during construction, and permanent seeding and stabilization shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. They shall be capable of preventing erosion; of collecting sediment, suspended and floating materials; and of filtering fine sediment. b. Temporary sediment control barriers shall be removed upon completion of work, but not until all disturbed areas are permanently stabilized. The sediment collected by these sediment barriers shall be removed and placed at an upland location and stabilized to prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

33. Permit(s)/Authorization Letter On-Site. The permittee shall ensure that a copy of the terms and conditions of these GPs and any accompanying authorization letter with attached plans are at the site of the work authorized by these GPs whenever work is being performed and that all construction personnel performing work which may affect waters of the U.S. are fully aware of the accompanying terms and conditions. The entire permit authorization shall be made a part of any and all contracts and subcontracts for work that affects areas of Corps jurisdiction at the site of the work authorized by these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term “entire permit authorization” means all terms and conditions of the GPs, the GPs, and the authorization letter (including its drawings, plans, appendices and other attachments) and subsequent permit modifications as applicable. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or subcontract. Although the permittee may assign various aspects of the work to different contractors or subcontractors, all contractors and subcontractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization,

34. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is eligible for authorization under these GPs, is being, or has been performed in accordance with the terms and conditions of these GPs. To facilitate these inspections, the permittee shall complete and return to the Corps the Work-Start Notification Form and the Compliance Certification Form when either is provided with an authorization letter. **These forms are attached after the plans.**

SPECIAL CONDITIONS

1. This permit authorizes impacts to only those areas of wetlands/waterway shown on the attached plans. No other filling, clearing or other disturbance in waters of the United States shall occur without the necessary authorization from the Corps.

2. In the event additional wetland/waterway fill is authorized, the permittee may be required to provide appropriate compensatory mitigation to offset cumulative impacts at the site.

3. The approximately 0.22 ac. of forested wetland to be cleared shall be allowed to grow back and maintained as emergent wetland; no grubbing or other fill activities shall occur in this area.

4. Compensatory mitigation shall consist of purchasing 1.7 ac. credits from the Maine Natural Resource Conservation Fund. As of the date of this authorization letter, the current cost to purchase these credits is $280,575.04. The permittee must send a cashier’s check or bank draft for this amount, as calculated on the enclosed “In-Lieu-Fee (ILF) Project Impact Worksheet” to: ME DEP, Attn: ILF Program Administrator, State House Station 17, Augusta, ME 04333. The check must include the Corps file number “NAE-2019-01673” and the statement: “For ILF account only”. No impacts authorized by this permit shall begin until the Corps receives a copy of the letter from the Maine Department of Environmental Protection (MaineDEP) to the permittee stating that the MaineDEP has received the check and accepts responsibility for mitigation. The in-lieu-fee amount is valid for one year from the date of this authorization letter and is subject to change.

5. No tree cutting shall occur between June 1st and July 31st of any year and to the maximum extent practicable, tree cutting shall occur between October 16th and April 9th of any year in order to minimize potential impacts to federally threatened northern long-eared bats.

MAINE IN-LIEU-FEE (ILF)
PROJECT IMPACT WORKSHEET

DEP Invoice # *Filled in by ILF Administrator in Augusta*

Project name: BD Auburn Solar, LLC 14.6 MW Solar Array

Permittee: Nicholas Mazurowski, BD Auburn Solar, LLC

DEP/Corps permit #: L-28498-PS-A-N/NAE-2019-01673 *Attach a copy of the permit*

DEP/Corps Project Manager: Beth Callahan/Colin Greenan

ILF Fee Amount:
Direct impact to wetlands: 71,345 SF x ($3.61 + $0.17) = $269,684.10
Secondary impact to wetlands: 9,604 SF x ($3.61 + $0.17) x 0.30 = $10,890.94
TOTAL ILF FEE AMOUNT: $280,575.04

Check Date: *Filled in by ILF Administrator in Augusta*

Project address: off Lewiston Junction Road at Auburn, Maine (Androscoggin County) *Attach a locus map*

Biophysical region - Section: Central and Western Mountains

Biophysical region - Subsection: Central Maine Embayment

Total impact area subject to compensation: 1.7 ac. (0.22 x 0.30; conversion of PFO to PEM)

Resource(s) impacted:

Resource Types (list all that apply)	**Functions & Values** (for wetland impacts) (list all that apply, by resource type)	**Types of Impacts** (list all that apply, by resource type)	**SF Impacted** (by resource type)	**Linear FT of Streams Impacted (for Corps use)**
PFO	STR, NR, R, VQ, WH	vegetation conversion PFO to PEM	9,604	
PFO	STR, NR, R, VQ, WH	grubbing/fill	71,345	
		Total impacts:	80,949	

Resource Types: Wetlands by NWI Type (PEM, PFO, PSS, PUB, M1, M2, E1, E2, etc), significant vernal pool depression (SVP), significant vernal pool critical terrestrial habitat (VPCTH), shorebird feeding & staging habitat (shorebird), inland waterfowl & wading bird habitat (IWWH), Tidal waterfowl & wading bird habitat (TWWH), lake or pond (L1, L2), river/stream/brook (RSB)
Wetland Functions & Values: Groundwater recharge/discharge (GWR); floodflow alteration (FF); fish & shellfish habitat (FSH); sediment toxicant retention (STR); nutrient removal (NR); production export (PE); sediment/shoreline stabilization (SS); recreation (R); education/scientific value (ESV); uniqueness/heritage (UH); and visual quality/aesthetics (VQ); wildlife habitat (WH)
Types of Impacts: May include: filling, dredging, vegetation conversion (e.g. forested to shrub/scrub), excavation with associated discharge, etc.

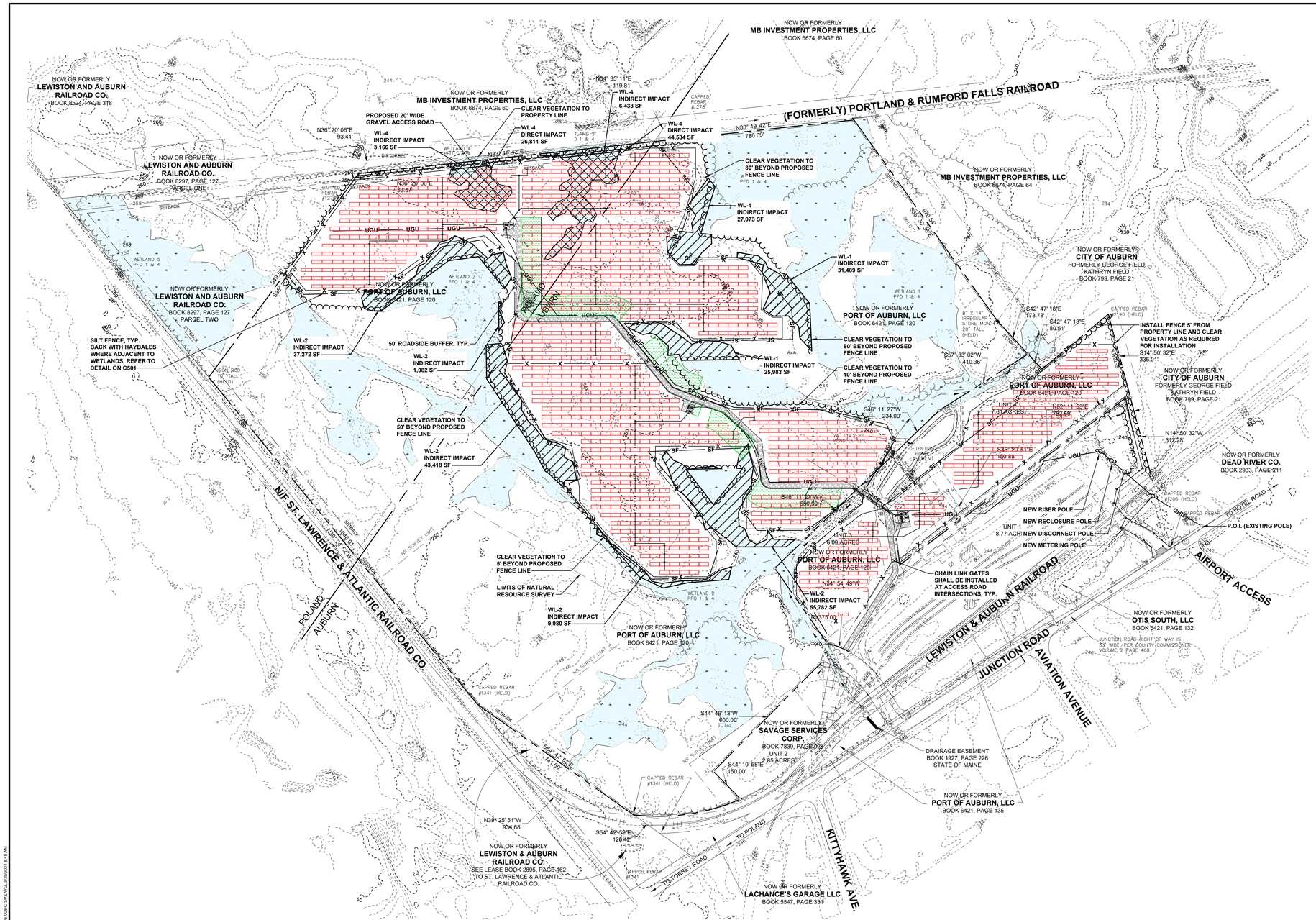
SOURCE:
BING MAPS

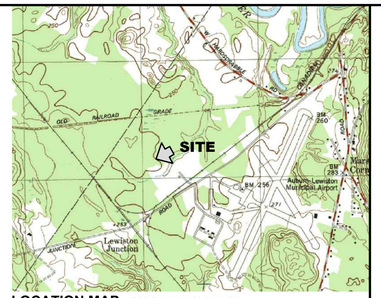
SCALE: 1:2000

CES INC

DIRIGO SOLAR
AUBURN, MAINE
LOCATION MAP

2019-04-26
12186.008





LOCATION MAP: USGS QUADRANGLE: MINOT
SCALE: 1"=2000'
MAPTECH® USGS TOPOGRAPHIC SERIES™, ©MAPTECH®, INC. 978-933-3000
WWW.MAPTECH.COM/TOPO

LEGEND:

- PROPERTY LINE
- WETLAND BOUNDARY
- STREAM
- MAJOR FOOT CONTOUR (240)
- MINOR FOOT CONTOUR (248)
- TREELINE
- CHAINLINK FENCE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- LIMITS OF NATURAL RESOURCE SURVEY
- DIRECT WETLAND IMPACTS
- INDIRECT WETLAND IMPACTS

SOURCE:

1. CAD FILE FOR PORT OF AUBURN, LLC. PREPARED BY PLANIT MAPPING IN JULY OF 2009, NAMED 09-14 BND V2004 EMAIL, COMPLIMENTED WITH LIDAR TOPOGRAPHY COURTESY OF THE MAINE OFFICE OF GIS.

RESOURCE NOTES:

1. NATURAL RESOURCE FIELD SURVEY WAS COMPLETED BY CES INC. IN NOVEMBER 2018, MAY AND AUGUST 2019 ON A PORTION OF THE PROPERTY, AS SHOWN ON THIS PLAN. REFER TO THE ACCOMPANYING SITE CONDITIONS REPORT PREPARED FOR THE SITE, DATED DECEMBER 2019.
2. WETLANDS WERE IDENTIFIED AND DELINEATED IN ACCORDANCE WITH 1987 CORPS OF ENGINEERS WETLAND DELINEATION MANUAL AND THE 2012 NORTHCENTRAL AND NORTHEAST REGIONAL SUPPLEMENT (VERSION 2.0).
3. APPROPRIATELY TIMED VERNAL POOL FIELD SURVEY WAS COMPLETED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS AND DEFINITIONS, AND THE MAWS VERNAL POOL SURVEY PROTOCOL. ADDITIONAL INFORMATION IS PROVIDED IN THE ACCOMPANYING SITE CONDITIONS REPORT, DATED DECEMBER 2019.
4. NATURAL RESOURCE SITE FEATURES WERE LOCATED USING A SUB-METER CAPABLE TRIMBLE GEO XH (6000 SERIES). DATA WAS POST-PROCESSED ACCORDING TO MANUFACTURER'S RECOMMENDED POST-PROCESSING SETTINGS USING CORS REFERENCE STATIONS. UNDER CERTAIN CONDITIONS, THE POSITIONAL ERROR OF THE GPS DATA MAY EXCEED SUB-METER.

RESOURCE IMPACT SUMMARY:

INDIRECT WETLAND IMPACT: 241,684 SF / 5.55 AC
DIRECT WETLAND IMPACT: 71,345 SF / 1.64 AC

RESOURCE IMPACT TABLE

	Calculation (sq ft)	Comments
Direct Impact	71,345 sq ft	Clearing and grading in Wetlands 3 and 4 Fill for solar panel pilings Wetlands 3 and 4
Temporary Impact	0	Impacts for construction/access.
Indirect/Conversion Impact	241,684 sq ft	Vegetation clearing adjacent to panels, in Wetlands 1, 2, 3, and 4 Vegetation in these areas allowed to regrow and maintained to 6 feet in height
TOTAL IMPACT, MDEP	313,029 sq ft	
TOTAL IMPACT, Army Corps	71,345 sq ft	Direct wetland impacts, as described above

OWNER:
PORT OF AUBURN, LLC
415 AUBURN ROAD
AUBURN, ME 04210

APPLICANT:
BD SOLAR AUBURN, LLC
ATTN: NICHOLAS MAZUROSKI
PO BOX 9729
PORTLAND, ME 04104

ENGINEER:
CES, INC.
ATTN: SEAN THIES
PO BOX 639
BREWER, ME 04412

PROPOSED SITE PLAN
FOR
BD SOLAR AUBURN, LLC
AUBURN, MAINE

GRAPHIC SCALE
200 0 100 200 400 800
(IN FEET)
1 inch = 200 ft.

Machias
Corporate Center Street
PO Box 639
Machias, ME 04654
T:207-255-8310
F:207-255-8387

Lewiston
Corporate Center Street
Lewiston, ME
T:207-795-6100
F:207-795-6108

Bar Harbor
Corporate Center Street
Bar Harbor Way 170
Bar Harbor, ME 04609
T:207-288-5083
F:207-288-5087

Brewer
Corporate Center Street
PO Box 639
Brewer, ME 04412
T:207-989-4824
F:207-989-4881

Portland
Corporate Center Street
Portland, ME 04101
T:207-764-6412
F:207-764-6414

Presque Isle
Corporate Center Street
Presque Isle, ME
T:207-764-0475
F:207-764-0477

Bangor
Corporate Center Street
Bangor, ME 04401
T:207-945-9220
F:207-945-9229

Waterville
Corporate Center Street
Waterville, ME
T:207-873-7772
F:207-873-7774

Saco
Corporate Center Street
Saco, ME 04072
T:207-283-9136
F:207-283-9137

BWK, a division of CES, Inc.
Corporate Center Street
Fort Myers, FL 33919
T:239-481-1049
F:239-481-1073

CES INC
Engineers • Environmental Scientists • Surveyors

PROJECT TITLE
BD SOLAR AUBURN, LLC
AUBURN, MAINE

SHEET TITLE
PROPOSED SITE PLAN

REV.	DESCRIPTION	DATE	DRAWN BY	CHECKED BY
R1	PER CITY REVIEW COMMENTS	2020-03-04	BLQ	SMT

ISSUE STATUS
NOT FOR CONSTRUCTION

SCALE	1"=200'
DATE	2019-12-18
DRAWN BY	WAB/BLQ
CHECKED BY	JED/JES
DESIGNED BY	JED
APPROVED BY	SMT
JOB NUMBER	12186.008
DRAWING NUMBER	C101

P:\12186\DRWGS_BD\A09-AUBURN-LEWISTON_ACT RD SOLAR-SMT\02-CAD_DRAWINGS\DIVA\DESIGN_DWGS\12186.008-C-SPT.DWG, 3/23/2021 8:40 AM

US Army Corps of Engineers®
New England District

GENERAL PERMIT
WORK-START NOTIFICATION FORM
(Minimum Notice: Two weeks before work begins)

EMAIL TO: colin.m.greenan@usace.army.mil

-or-

MAIL TO: Colin M. Greenan
U.S. Army Corps of Engineers, New England District
Maine Project Office
442 Civic Center Drive, Suite 350
Augusta, Maine 04330

A Corps of Engineers Permit (No. NAE-2019-01673) was issued to Nicholas Mazuroski, BD Solar Auburn, LLC. The permit authorized the permittee to place permanent fill in approximately 71,345 SF (1.64 ac.) of freshwater wetland off Lewiston Junction Road at Auburn, Maine in order to construct associated infrastructure for a 14.6 MW solar array. In addition, approximately 9,604 SF (0.22 ac.) of forested wetland will be cleared and subsequently maintained as emergent wetland in order to install perimeter fencing.

The people (e.g., contractor) listed below will do the work, and they understand the permit's conditions and limitations.

PLEASE PRINT OR TYPE

Name of Person/Firm: _____

_____

_____

Business Address: _____

_____

_____

Telephone: (____) _____ (____) _____

Proposed Work Dates: Start: _____

Finish: _____

PERMITTEE'S SIGNATURE: _____ DATE: _____

PRINTED NAME: _____ TITLE: _____

FOR USE BY THE CORPS OF ENGINEERS

Project Manager: GREENAN Submittals Required: No

Inspection Recommendation: routine Maine General Permits compliance

US Army Corps of Engineers®
New England District

(Minimum Notice: Permittee must sign and return notification within one month of the completion of work.)

COMPLIANCE CERTIFICATION FORM

Corps of Engineers Permit No: NAE-2019-01673

Name of Permittee: Nicholas Mazuroski, BD Solar Auburn, LLC

Permit Issuance Date: April 1, 2021

Please sign this certification and return it to the following address upon completion of the activity and any mitigation required by the permit. You must submit this after the mitigation is complete, but not the mitigation monitoring, which requires separate submittals.

```
*********************************************************************
* MAIL TO:  U.S. Army Corps of Engineers, New England District      *
*           Policy & Technical Support Branch                       *
*           Regulatory Division                                     *
*           696 Virginia Road                                       *
*           Concord, Massachusetts 01742-2751                       *
*********************************************************************
```

Please note that your permitted activity is subject to a compliance inspection by an U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification, or revocation.

I hereby certify that the work authorized by the above referenced permit was completed in accordance with the terms and conditions of the above referenced permit, and any required mitigation was completed in accordance with the permit conditions.

_____	_____
Signature of Permittee	Date
_____	_____
Printed Name	Date of Work Completion
( ) _____	( ) _____
Telephone Number	Telephone Number

City of Auburn, Maine
Office of Planning and Permitting
60 Court Street, Auburn, Maine 04210
www.auburnmaine.gov 207.333.6601

May 5, 2023

Applicant:
BD Solar Auburn, LLC
Attn: Nicholas Mazuroski
PO Box 9729
Portland, ME 04104

Agent:
Haley Ward, Inc.
Attn: Sean Thies
1 Merchants Plaza, Suite 701
Bangor, ME 04401

Re: Extension of Approval of the Amendment to the Approval of BD Solar Auburn, LLC Granted on March 10, 2020 to Split the Approved Project into Two Projects with Two Ground Leases for State Regulatory Purposes and to Amend the Port of Auburn Planned Unit Development to Add Additional Land to Unit 4 at the Parcel Located on Lewiston Junction Road (PID: 142-007) in the Industrial Zoning District.

Dear Mr. Thies,

This letter is to notify you that the approval for your application, on behalf of BD Solar Auburn, LLC which was granted by the Auburn Planning Board at their March 10, 2020 and April 13, 2021 meeting is extended pursuant to Section 60-1308 of the Ordinances of the City of Auburn. The City finds that the circumstances and delays associated with the PUC, CMP and ISO NE processes described in your letter dated April 11, 2023 resulted in delays that are out of the control of BD Solar and fall under the intent of the language of Section 60-1308 of the Ordinances of the City of Auburn. This extension is intended to require and allow for permitting and construction to commence by April 2025. Construction may continue after that date if permits are approved prior to April 30, 2025.

The approval and extension include the following findings and conditions:
Findings: The Planning Board approved the project with the following findings:
A. Subdivision, Section 60-1359:

1. Will not result in undue water, air or noise pollution. In making this determination it shall at least consider:
    a. The elevation of land above sea level and its relation to the floodplains, the nature of soils and subsoils and their ability to adequately support waste disposal;
    b. The slope of the land and its effect on effluents;
    c. The availability of steams for disposal of effluents; and
    d. The applicable state and local health and water resources regulations, including stormwater management requirements in accordance with section 60-1301(14).
2. Has sufficient water available for the reasonably foreseeable needs of the subdivision;
3. Will not cause an unreasonable burden on an existing water supply, if one is to be utilized;
4. Will not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result;
5. Will not cause unreasonable highway or public road congestion or unsafe conditions with respect to use of the highways or public roads existing or proposed;
6. Will provide for adequate sewage waste disposal;
7. Will not cause an unreasonable burden on the ability of a municipality to dispose of solid waste and sewage if municipal services are to be utilized;
8. Will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas;
9. Is in conformance with a duly adopted subdivision regulation or ordinance, comprehensive plan, development plan, or land use plan, if any;

10. Is funded by a subdivider which has adequate financial and technical capacity to meet the standards of this section;
11. Will not adversely affect the character of the surrounding neighborhood and will not tend to depreciate the value of property adjoining the neighboring property under application;
12. Has provisions for on-site landscaping that are adequate to screen neighboring properties from unsightly features of the development;
13. Will not create a fire hazard and has provided adequate access to the site for emergency vehicles;
14. Will not, alone or in conjunction with existing activities, adversely affect the quality or quantity of groundwater;
15. Does not have long-term cumulative effects of the proposed subdivision that unreasonably increase a great pond phosphorus concentration during the construction phase and life of the proposed subdivision.

B. Sec. 60-1365. General Subdivision Requirements:

1. *Subdivision plan shall conform to the comprehensive plan.* Any proposed subdivision shall be in conformity with the comprehensive plan of the city and with the provisions of all pertinent state and local codes and ordinances.
2. Preservation of natural and historic features. The board may require that a proposed subdivision design include a landscape plan that will show the preservation of existing trees and vegetation, graded contours, streams and the preservation of scenic, historic or environmentally desirable areas. The street and lot layout shall be adapted to the topography. Extensive grading and filling shall be avoided as far as possible.
3. Lots. A. The lot size, width, depth, shape and orientation and the minimum building setback lines shall be appropriate for the location of the subdivision and for the type of development and use contemplated. B. Depth and width of properties reserved or laid out for all purposes shall be adequate to provide for off-street parking and service facilities for vehicles required by the type of use and development contemplated. C. No personal shall make a subdivision within the City unless all lots of the proposed subdivision have frontage, as regulated by the zoning ordinance, upon a way granting legal access.

As part of their review, the Planning Board also granted a 12-month Site Plan/Special Exception extension in accordance with Section 60-1308 of the Auburn Code of Ordinances on the original March 10, 2020 approval.

This approval is granted based on the following **Condition** being met:

1. All conditions from the original BD Solar Auburn, LLC plan granted on March 10, 2020 shall be addressed as part of this approval.
2. Should the leases constitute any changes to the Site Plan approved by the Planning Board, those changes shall be identified and brought to Staff for a determination as to whether they can be approved at a Staff Level or require Planning Board approval.

Eric J. Cousens, Director of Planning and Permitting

C: File

BD Solar Auburn LLC and BD Solar Lewiston Junction LLC
254 Commercial Street, Suite 101
Portland, Maine 04101

April 11, 2023
City of Auburn
ATTN: Eric Cousens, Director
60 Court Street
Auburn, ME 04210

Re: BD Solar Auburn LLC and BD Solar Lewiston Junction LLC (collectively "BD Solar") / Development Review Application / Extension Request (Sec. 60-1308)

Dear Mr. Cousens:

I am reaching out on behalf of BD Solar to request an extension to the permit approved by the Planning Board in April 2021 and further extended in April 2022 for the BD Solar Auburn, LLC and BD Solar Lewiston Junction, LLC.

Since the extension was granted, it has not been possible to start construction due to ongoing and significant delays associated with the Central Maine Power Company's (CMP) so called "Cluster Study" with ISO NE, the regional grid operator. This process has been unforeseen and totally outside BD Solar's control, especially considering the project applied to connect to the grid in August 2019.

The BD Solar project is one of 8 facilities developed by Dirigo Solar LLC and BNRG Renewables Ltd that was awarded a long-term contract by the Maine Public Utilities Commission (PUC) (Docket No. 2015-00026), selling power at the record low price of $3.4 cents per kWh. Except for BD Solar, the 7 other solar facilities are now operating, having not faced delays from CMP or ISO NE, further demonstrating the extraordinary circumstances with our Auburn project.

BD Solar submitted its interconnection applications to CMP in August 2019 but were included in the "Hotel Road" cluster study group for ISO New England's Section I.3.9 approval. That process, which had consumed 3 years, reached conclusion in August 2022 when the project received its formal I.3.9 approval. Despite receiving its approval, BD Solar was told that it could not connect to the grid until Q1 2028 because of pre-existing upgrades that CMP must complete. This timeline was recently improved to Q3 2025 as of March 2, 2023. Project cannot interconnect until these upgrades within CMP scope are complete.

BD Solar respectfully request the Planning Department consider and approve further extension of the permit. We feel these unforeseen circumstances that are completely outside BD Solar control fall under intent of language under Section 60-1308 of Code of Ordinances of City of Auburn.

Please let us know if you have any questions or need additional information.

Sincerely,

DocuSigned by:
Nicolas Holman
117C4A10326E4E2...

Nicolas Holman

BD Solar Auburn LLC

BD Solar Lewiston Junction LLC

APPENDIX 13

DECOMISSIONING PLAN

Decomissioning Plan
Financial Assurance Letter

DECOMMISSIONING PLAN

1. Project Description

BD Solar Auburn, LLC / BD Solar Lewiston Junction, LLC (BD Solar) is proposing to develop a solar energy farm in Auburn and Poland, Maine. A solar array consists of photovoltaic panels that transform sunlight into usable energy. The facility will have approximately 36,072 individual panels transforming sunlight each day into usable energy that is fed into the regional electric grid. Annually the project will generate enough electricity to power over 3,000 Maine homes. The estimated operational life of the project will be 40 years with the option to extend.

The project consists of a 14.6 Megawatt ("MW") solar array to generate power that will be sold under a long-term contract to Central Maine Power under the Maine Community Renewables Program ("MCR"). The MCR program was established to promote the construction of small-scale renewable energy projects in the State of Maine that would be owned by qualified Maine companies to maximize the value of renewables to local communities.

2. Construction

The solar energy farm will be located on a property that is currently an undeveloped wooded area. The ground-mounted solar panels will be located within a fenced area approximately 100 acres in size. A gravel road will be constructed to access the solar panels within the fenced area. Each solar panel will rest on a galvanized steel and aluminum frame and will be located on a metal pole that will be driven into the ground. Utility trenches will be excavated to install the underground electrical lines leading to each string of solar panels. Once the utilities are installed, the utility trench will be filled and seeded to maintain a consistent grassed surface. Concrete slabs will be installed to hold the necessary inverters/transformers required to operate the solar array.

3. Decommissioning Process

This section sets out the details and different steps of decommissioning the solar farm.

a) Erosion and Sediment Control

Prior to any decommissioning, erosion and sediment control measures will be installed, similar to those used during construction of the solar energy farm. Erosion and sediment control systems will be inspected, and restored, when necessary, throughout the decommissioning process.

b) Deconstruction: DC-Cabling

All inverter systems and electrical components of the PV-System will be switched off. In following, all plug-in connectors and string cables will be disconnected. To remove the cables which are laid in the ground, all cable trenches will be opened. In the following all cables will be removed and separated. After the uninstalling of the wiring the materials will be deposed in accordance to the disposal regulations for metal waste which apply at the installation site at the time.

c) Deconstruction: PV-Modules

All PV-Modules would be removed and separated from the mounting system and removed from the site. After removal the PV-Modules will be reused or recycled.

d) Deconstruction: Inverters / Transformers / Substation

After the uninstallation of the entire monitoring system (cabling + components) the inverter / transformer stations as well as the substation will be removed from the site. The concrete foundations will be removed, and the holes will be filled with soil. Then the transformer stations will be removed and disposed in accordance with the disposal regulations for metal and concrete waste which apply at the installation site at the time.

e) Deconstruction: Mounting System

The mounting system will be removed completely. The deconstruction shall proceed as follows: I. module carrier system, II. purlin profiles, III. posts The disposal of the materials will be done in accordance with the disposal regulations for metal waste which apply at the installation site at the time.

f) Deconstruction: AC- Cabling / Earthing

All AC-cables and combiner boxes will be disconnected and removed. To remove the cables which are laid in the ground, all cable trenches will be opened. In the following all cables and earth stripes will be removed and separated. The cable trenches will be back filled and paved again. Additionally, all utility poles and overhead cables will be removed by first laying the cables on the ground, and then removing the utility poles. After the uninstalling of the entire wiring, the materials would be disposed in accordance to the disposal regulations for metal waste and utility poles which apply to the installation site at the time.

g) Deconstruction: Fence and Alarm System

All parts of the fence, as well as the alarm system, will be removed. The disposal of the materials follows in accordance with the disposal regulations for metal waste which apply to the installation site at the time.

h) Ground Regulation

When the decommission works are completed the land will be returned to its original state. Any disturbed area will be revegetated and stabilized according to the Maine Department of Environmental Protection's Best Management Practices, and native, pollinator friendly seed mixtures will be used to provide ground coverage as needed. Prior to decommissioning, BD Solar will work with the landowner and Town of Poland to determine whether any access roads may remain in place after the solar energy farm is removed. Any roads that the landowner and Town agree should be decommissioned will be removed and returned to their original state.

All equipment and fixtures removed from the solar farm will either be reused, recycled, or disposed of at the time of decommissioning. Upon decommissioning of this solar farm, reuse of the solar panels will be the priority. If reuse is not feasible, the solar panels will be recycled in accordance with the PV CYCLE USA waste management scheme, or similar. Items that are not able to be reused or recycled will be disposed of in accordance with local rules and regulations.

4. Cost

Based on the value of recyclable materials that make up the solar farm, it is expected that the salvage cost will outweigh the labor cost to remove the materials and restore the site. However, we have researched the current price estimates for the disassembly and disposal of the solar equipment site restoration and have made the following assumptions:

- Current labor costs have been approximated to be $20 per hour for the state of Maine, according to the Bureau of Labor Statistics.
- We have assumed 2% inflation per annum over the lifetime of the projects (30 years).

BD Solar will provide a performance guarantee before the start of construction for the Projected Cost of Decommissioning, $294,990.87. This cost estimate will be updated every five years following the issuance of the Poland Conditional Use Permit.

Projected Cost of Decommissioning		
Labour Costs		
Item	Tasks	Estimated Current Labor Cost
1	Remove PV Modules	$153,482.73
2	Remove Inverters	$5,194.80
3	Remove Transformer	$1,889.02
4	Dismantle and Remove Racking Frames	$10,861.85
5	Dismantle and remove Racking Posts	$13,931.51
6	Remove LV Wiring	$20,779.20
7	Remove MV Wiring and equipment	$6,139.31
8	Remove MV Poles and Overhead Lines	$22,500.00
9	Remove Fence	$16,292.78
10	Remove Concrete	$1,889.02
11	Remove Gravel	$30,224.29
12	Re-seed	$5,903.18
13	Transportation costs	$5,903.18
Total Cost		**$294,990.87**

5. Force Majeure

An exception to these requirements will be allowed for a force majeure event, which is defined as any event or circumstance that wholly or partly prevents or delays the performance of any material obligation arising under the Project permits, but only to the extent:

- Such event is not within the reasonable control, directly or indirectly, of BD Solar (including without limitation event such as fire, earthquake, flood, tornado, hurricane, acts of God and natural disasters; war, civil strike, or similar violence);
- BD Solar has taken all responsible precautions and measures to prevent or avoid such event or mitigate the effect of such event on BD Solar's ability to perform its obligations under the Project permits and which, by the exercise of due diligence, it has been unable to overcome; and
- Such an event is not the direct or indirect result of the fault of negligence of BD Solar.

In the event of force majeure event, which results in the absence of electrical generation by one or more solar panels for 12 months, BD Solar will demonstrate to the Maine Department of Environmental Protection (MDEP) by the end of the 12 months of non-operation that the Project, or any single solar panel, will be substantially operational and producing electricity within 24 months of the force majeure event. If such a demonstration is not made to MDEP's satisfaction, the decommissioning of any single solar panel only (and no other part of the Project that is operational) or if the entire Project is not substantially operational and producing electricity, then decommissioning of the Project will be initiated 18 months after the force majeure event.

BD Solar Auburn LLC
BD Solar Lewiston Junction LLC
254 Commercial Street, Suite 101
Portland, ME 04101

May 24, 2023

To Whom It May Concern:

BD Solar Auburn LLC / BD Solar Lewiston Junction LLC hereby confirms that we intend to provide decommissioning security for $294,990.87 in any of the below forms as we reasonably deem suitable:

(i) A surety bond, or
(ii) An irrevocable letter of credit, or
(iii) Other form of financial assurance acceptable to the Poland Select Board.

We look forward to engaging with you to agree on the appropriate mechanism for the decommissioning security. The decommissioning security will be obtained and delivered to the Poland Planning Department after Planning Board approval and prior to the start of construction.

Sincerely,
BD Solar Auburn LLC / BD Solar Lewiston Junction LLC

By:
Name: Nicolas Holman
Title: Authorized Signatory

Engineering Review Memorandum

To: **Town of Poland Planning Board** **(STI # 20089)**

From: **James Seymour, P.E., Planning Consultant, Sebago Technics, Inc.**

Date: **June 20, 2023**

Subject: **June 27, 2023 Planning Board Meeting**

Project: **BD Solar Auburn, LLC-Solar Farm,**
Site Plan Responses Review

Applicant: **BD Solar Auburn, LLC, 622 Congress St-Suite 202, Portland, ME 04104**
Tax Map 4 Lots 16 & 15-1

I. Project Description and Background

This project qualifies as a new Site Plan application as the previous approval granted in 2022 has lapsed from its one-year approval. The project is the same as the project approved in 2022 which entails development for BD Solar Auburn LLC proposed Solar Farm facilities located off Lewiston Junction Road. However, since the approval in 2022, the Town of Poland has adopted a Solar Energy Systems Ordinance (Chapter 16 of the Poland CLUC). In General, the Project proposal is identical to the 2022 approval which is to remove wood vegetation and utilize the natural land topography for the most part to construct two 4.99 MW solar arrays consisting of 36,504 panels spread out over 45+ acres.

The project is in General Purpose 3 Zone, consisting of 42.6 acres. The site is currently wooded, and scrub shrub/meadow vegetated, and has been historically used for agricultural purposes. Our understanding that this project will direct impact a significant area of wetlands (1.64 Acres) located within the development area. The project does require one waiver, which is to reduce the setbacks from the rear and side yard, which under the new Solar Energy Systems. & Chapter 16 Solar Energy Systems. We have prepared the following memorandum review comments to facilitate better understanding of the project, and site plan requirements.

II. Technical Review

We have reviewed the revised submitted information for the purposes of determining if the project is compliant with the Site Plan Standards (Sect 509.8) and meets the requirements as applied for the proposed commercial/industrial or private utility company development. This review is based on responses from CES Inc Engineering dated May 30, 2023.

Site Plan Review:
The site design for the project essentially only includes a small area of the site for paving or structural addition to the existing site. Below are our concerns with the project as proposed:

1. The Property is fairly complex given the access will originate in Auburn cross the Lewiston Auburn Railroad company, before entering the owned/leased property. Upon review of the original documents of interest, and purchase sales agreement, it appears that the closing of the land must occur within 24 months of the agreement being signed. That agreement was signed in December of

2020. The terms of the agreement shall be clarified by the applicant, and if updates are in place or required the Planning Board shall make those a condition for approval.

2. The proposed access is proposed 20 wide of gravel travel lane. While most of the access is located in Auburn there is a dead-end section located in Poland. We would request that without a formal grading plan provided for the total access, that as part of the approval that the Town require a third-party review to confirm and review in the field during construction of the road section for the access drive to account for required ditching, use of meadow buffers to at least verify the site contractor executes the buffer locations to match the road slopes. Additionally, we have noticed that the soils are soft sands with extremely high groundwater, and have been difficult to access during highwater tables. This tends to create construction issues and we recommend that a dewatering plan be considered to address how to dry the site out for construction, prior to construction start. The Fire Department shall verify the hammerhead design is in conformance with their equipment turning requirements.

3. Stormwater, appears to account that the roadway access is the major contributing factor towards impervious surface impacts. We noted that the applicant downplayed the woods quality and, in the Pre-Developed condition, and typically we assess woods in this type of condition as good which will create a wider gap between pre and post conditions/peak flows. Also, the driveway design will need to be assessed for grading as the length is near 4000 LF, we suspect pipe culverts and ditching will be necessary to keep this accessible year-round or the driveway elevated through wetland areas. No details were discussed or presented for likely cross culverts or open channel development. Again, this should be made part of the construction process and as-builts could be required by the Board to the Town upon completion to show all drainage revisions or additions from field changes.

4. We would suggest that the Site Plan indicate the proposed setbacks from side and rear property lines as the panels are located approximately 30 feet against the rear property line. Under the new Solar Energy ordinance there are specific setback requirements (see Below)

B. Setbacks –

1. SES that are less than 10,000 square feet of total airspace over the ground, shall meet the structure setbacks of the zone in which they are located.

2. SES that are greater than 10,000 square feet of total airspace over the ground, shall meet a minimum structure setback of 75 feet from all property lines. When no other appropriate place on the site exists for the SES to operate as determined by the Planning Board, the location for the system setbacks shall be reduced for:

a. Setbacks of meeting the structure setbacks of the zone in which they are located for a side or rear lot line shared with a utility easement or utility corridor provided the system will not impact visibility along a travel-way or;

b. Setbacks of 50 feet from any rear or side lot line provided the system will not substantially have a visual impact any adjacent residence or business building occupying abutting properties.

In the General Purpose 3 district the setbacks are as follows:

The minimum principal structure setbacks shall be as follows:

a. Front 50 feet
b. Rear 25 Feet
c. Side 40 Feet
d. Normal High Water Mark Great Pond 100 feet
e. Upland edge of a Wetland 75 feet

The minimum accessory structure setbacks shall be as follows:

a. Front 50 feet
b. Rear 25 Feet
c. Side 20 Feet
d. Normal High Water Mark Great Pond 100 feet
e. Upland edge of a Wetland 75 feet

The applicant has requested a waiver, but we feel that the waiver in this case can only be approved by the Zoning Board of Appeals, as it's a setback requirement, and the Planning Board can only reduce down to a 50-foot setback with specific conditions. Based on the information we feel the Planning Board cannot grant this waiver. We leave final setback determination with the Code Enforcement Officer and bring this up for general discussion for meeting zonal requirements in the General Purpose 3 District.

5. Other items:

a. We did notice that the terms and discussion for Financial Capacity is based on a letter form 2018. We feel that several things in the financials likely have changed in the World Markets and for BNRG Renewables in the last 5 years, since this was prior to Covid -19 impacts, and the elevation of Global interest rates, which may alter their overall funding availability. We feel they likely have adequate financing, but the statement shall be updated since it is more than 5 years in age.
b. The applicant has provided a decommissioning plan and estimate value of $294,990.87 which we feel is adequate for the plan. The Planning board shall discuss in what form Escrow, or letter of credit it wishes to hold the Bond for the site decommissioning.

III. <u>Recommendations:</u>

Overall, the largest portion of the project is in the City of Auburn, and that municipality will be dealing with most of the impacts of the solar farm. However, upon review of the information provided in the submitted plans and documentations updated through May 30, 2023, we would recommend that the submission requirements be completed and reviewed as suggested. The project is for a site plan with the largest concern is seeing wetland impacts and applied compensation through US Army Corp, Maine DEP Stormwater PBR approvals, road access design for drainage, and fire/emergency access that are associated with a solar farm.

The access road intends to address treatment with buffers as designed, and could address water quality but some details and locations as to how the road runoff is collected, and treated, are not clearly shown. Hence our recommendation for third party construction review. We do feel that a discussion to address the requested waiver for setbacks for a solar energy system greater than 10,000 Sf need to be made part of the final approval.

We suggest the applicant work through the final plan items with the Code Enforcement Officer for verification of setbacks and discuss with the Planning Board at this hearing. We feel the list of items are fairly important, especially the design issues of the access drive, but they can be worked through with additional information and as a possible condition. The Planning Board could vote for final re=approval with conditions, or require the applicant return with a final plan if concerns are raised at the hearing. As always these are recommendations to the Planning Board and not final determinations but merely offer guidance, and approvals if appropriate, are left with the Planning Board at their discretion

Respectfully Submitted,
SEBAGO TECHNICS, INC.

James R. Seymour, P.E.
Engineering Consultant

MINOR SUBDIVISION APPLICATION
FOR
POLAND TAX MAP 13 - LOT 33 & 33A

KNOLL ROAD SUBDIVISION
PHASE 2 (LOTS 4, 5 & 6)

PREPARED FOR:

KNOLL ROAD TRUST
& HKL TRUST
16 ROCKY ROAD
OTISFIELD, MAINE 04270

REGARDING PROPERTIES LOCATED ON:

KNOLL ROAD
POLAND, MAINE

PREPARED BY:

DAVIS LAND SURVEYING
STUART A. DAVIS
PROFESSIONAL LAND SURVEYOR #2208
990 MINOT AVENUE
AUBURN, MAINE 04210

JOB #23-013

JUNE 27, 2023

Davis Land Surveying, LLC
990 Minot Avenue
Auburn, ME 04210

(207) 345-9991 office
(207) 782-3685 office
(207) 240-9949 cell
Email: stuart@davislandsurveying.net
www.davislandsurveying.net

June 27, 2023

Town of Poland
Planning Board
1231 Maine Street
Poland, ME 04274

RE: 3 Lot Minor Subdivision – Tax Map 13-33 & 33A (Knoll Road Subdivision Phase 2)

Dear Planning Board Members,

On May 24, 2022, the Town of Poland Planning Board approved a 3 Lot Minor Subdivision known as Knoll Road Subdivision **Phase 1** (Lots 1, 2 & 3). The plan that was submitted at that time showed the potential future buildout with the additional proposed Phases 2, 3 & 4 and being shown on said Plan as recorded in the Androscoggin County Registry of Deeds in Plan Book 54, Page 57. We are now seeking Planning Board approval of **Phase 2**, which presently consists of Lots 33 and 33A on Town of Poland Tax Map, which will become proposed Lots 4, 5 & 6 on the enclosed plans.

Terradyn Consultants - Engineers has prepared a Stormwater Management Plan and Phosphorus Control Plan, and has submitted a stormwater permit application that includes Phase 2 to DEP. Knoll Road and Lynn's Way will be upgraded per Chapter 8 Street & Road Construction Standards for Private Roads and has been Engineered with Road Profiles, Phosphorus Control, Erosion & Sedimentation Control and Stormwater. The Engineer has been addressing the Stormwater Permit application submitted to DEP for approval and the Town of Poland Stormwater requirements per ordinance with minor changes to date, however full approval has not been granted as of this date and still under review. The submittals include calculations and design for all of proposed Knoll Road and Lynn's Way. James Seymour, Engineer from Sebago Technics, provided a 3rd party review of all engineering plans as part of the Phase 1 submittal process for the Town of Poland.

Phase 2 of the Knoll Road Subdivision is located on property located off Knoll Road with 638.64' frontage and shown on Town of Poland Tax Map 13, Lots 33 and 33A. Proposed **Phase 2** of the Knoll Road Subdivision consists of a 6.9-acre parcel acquired by Knoll Road Trust as described in a Deed dated May 23, 2019 and recorded in the Androscoggin County Registry of Deeds in Book 10090, Page 112. In September of 2020, Knoll Road Trust conveyed a portion of the parcel (Lot 33A) to HKL Trust (Registry of Deeds Book 10478, Page 133); the remaining land was retained by Knoll Road Trust as Lot 33. The current **Phase 2** proposal will create one additional lot (for a total of three lots designated Lots 4, 5, and 6), all of which meet or exceed the minimum frontage for the Village 3 Zone of 200 feet along Knoll Road and also meet or exceed the minimum sq. ft. of 80,000 sq.ft.

The Lynn's Way/ Temporary Turnaround will be built out to at least the first 60 feet and is to be used as the temporary turnaround for Phase 2 as with Phase 1.

In the previous submittal for Phase 1, a letter was included from Tom Printup, Fire Chief for the Town of Poland, that states that the temporary hammerhead turn-around on Lynn's Way is acceptable for emergency apparatus. Additionally, there are two dry hydrants: one located at Potash Brook and at the other at or near the Tripp Lake boat launch area. Per Mr. Printup, the one near Tripp Lake boat launch is within the 3500 feet from proposed subdivision and will be sufficient for fire suppression of Phase 1 and Phase 2.

All lots will be serviced by individual wells and the site should adequately supply the properties. All lots will be serviced with individual subsurface wastewater disposal systems. Test Pit analysis by Erik Lema, LSE#419 of Basswood Environmental has been provided for each Lot of **Phase 2**. The analysis indicates that the property contains suitable building sites and subsurface wastewater disposal systems. The wetlands as shown have been delineated across the entire 6.9 acres for Phase 2 by Basswood Environmental in March of 2023 with a small wetland area as shown in the northeast corner of Lot 4. Lots 5 and 6 have no wetlands associated within said lots. As part of the delineation, Basswood Environmental also provided a walkover to determine any other resources of particular regulatory importance. None were found.

Hydro geologic assessment. As indicated from the Basswood Environmental analysis and findings the property contains suitable soils for building sites and subsurface wastewater disposal systems. No adverse impacts on ground water quantity or quality are anticipated from the proposed subdivision. With residential development, the major concern is nitrate contamination from septic systems. Each system will be installed to meet the Maine Subsurface Wastewater Disposal Rules, dated August 2015, as amended**.**

The property is not located within a Special Flood Hazard Zone according to FIRM 23001C0287E dated July 8, 2013. Based on MIF&W and the Maine State GIS, a small portion of the Lot 6 is mapped as Deer Wintering Area (see Ex 9; however, based on information from MIF&W, this DWA is not significant. There are no Inland Water Fowl Wading Bird Habitat (IWWH) on the 6.9 acres.

We look forward to the opportunity to discuss the project with the Planning Board and welcome any comments and suggestions.

Respectfully Submitted,

Stuart Davis, PLS

TABLE OF CONTENTS

Town of Poland, Maine
Planning Board

Minor Subdivision Application Instructions

Instructions:

1. Read every part of this document. Failure to follow requirements can and will delay the Planning Board's decisions.
2. Fill out the forms And Obtain copies of information as required by the application on these pages.
   A) Obtain names and addresses of "Abutters" *(within 500 feet of your lot)* from the Assessor's Office.
      i) You will need to deliver this list to the Planning Board Office. It is needed for the official abutters' notification to be sent by this office of your request.
      ii) An "Agenda Request form should be filed at the same time so that a meeting date with proper notification to the abutters can be set.
3. Use the "Submission Checklist" to make sure submission requirements are met.
   A) The checklist is a summary of the standard requirements in Section 606.3 of the Comprehensive Land Use Code.
      i) The actual Code wording may be found on-line at www.polandtownoffice.org. Go to the "*Code Enforcement*" page and then select "*Comprehensive Land Use Code*". Hardcopies are available for purchase at the town office.
   B) Make sure all waiver requests have a written statement for each request. Check with the Code Enforcement Office to make sure items stated as "On File" are indeed in the town office.
   C) Some requirements may need only a one paragraph or one sentence statement. Make sure all requests are answered.
4. Make the necessary copies of all information requested.
5. NUMBER OF COPIES OF THE APPLICATION AND DUE DATES
   A) A total of 14 copies of the plans are needed.
      i) Four (4) of the copies are required for Department Heads and should be attached to the department head notice. (The Recreation Dept. need to be notified but usually does not need a copy of the application)
      ii) The applicant is responsible for the delivery of the Road Commissioner's, the Fire/Rescue Chief's, the Police Dept, and the School Departments application copies.
   B) Department heads require at least fourteen days to review the applications. If insufficient time is given to the department heads for review, their response to the Planning Board will delay the Planning Board's decision.
   C) The Code Enforcement Office must receive an original application *(An application with original signatures)* and an additional 13 copies for the Board members along with the appropriate fees by 1:00 p.m. eleven (11) days before the stated meeting to remain on the upcoming agenda.
   D) If review for completeness of information by the Code Enforcement Officer is desired, a copy must be submitted to the CEO at least 14 days prior to the meeting.
   E) The application will be put on display for public review 7 days prior to the meeting.
   F) Applications received after the agenda is posted may not be reviewed by the Board for your scheduled meeting date.

PROJECT NAME: Subdivide TM 13-33 & 33A to 3 lots (Knoll Road Subdivision – Phase 2)

Date of Planning Board Review: June / 27 / 2023 Application #

LOT INFORMATION:

Tax Assessor's Map # 13 Lot # 33 & 33A Sub-lot #

Lake Watershed: Thompson Lake

Road Location: Knoll Road (off Johnson Hill Road)

Lot Size. 295,874 Sq. Ft. Water frontage None Ft. Road Frontage: 638.64 Ft.

Year lot created: 1922 Est (Book 318, Page 279) *(If unknown, give best estimate with "est." after date)*

Zoning District(s): V-3 Village 3 Flood Zone: Zone X Per FIRM Panel #23001C0287E Aquifer Overlay: N/A

Current use of lot: Undeveloped

LAND OWNER(s): Submit copy of deed and copy of Tax Assessor's information card

Name(s): Knoll Road Trust and HKL Trust

Company:

Mail Address: 16 Rocky Road Phone: 207-515-5624 -

Town/State/Zip Otisfield, Maine 04270

APPLICANT or CONTACT PERSON:

Applicant is: X Landowner ____ Contractor ____ Renter ____ Buyer

If landowner, write "Same" below and continue to next block below. If not the landowner, submit a letter of permission to construct on or use the land, or copy of a contract to buy from the landowner, along with the following information:

Name(s): Same

Company: ____

Mail Address: ____ Phone: ____ - ____ - ____

Town/State/Zip ____

THIS APPLICATION IS FOR: (Check all that apply)

- ☐ Commercial
- ☐ Industrial
- ☐ Institutional
- ☐ Governmental
- ☐ Residential
- ☒ New Development
- ☐ Change in Use
- ☐ Expansion of Use
- ☐ Expansion of Structure(s)
- ☐ Resumption of Use

EXISTING LOT CONDITIONS

1. General
   - i) Does this lot have any existing development? *(If no, go to next page)* ____ Yes X No
   - b. Is there an existing Well ____ Yes X No
   - c. Is there an existing Septic System ____ Yes X No
     - i) *If yes, submit a copy of a septic permit, or drawing(s) showing size & location.*
   - d. Is there an existing Road Entrance or driveway? X Yes ____ No
     - i) If yes, will there be any changes/modifications? X Yes ____ No
     - ii) *(If no, submit copy of appropriate road entry application if entrance is onto a state or town road.)*
   - e. Any structures to be removed ____ Yes X No
     - i) *If yes, submit information about the structure to be removed and how any debris will be disposed of.*
2. Existing Land Development & Improvements NOT Including Buildings
   - a. Size of lawns N/A Sq. Ft. or Acres
   - b. Size of fields N/A Sq. Ft. or Acres
   - c. Size of driveways/roads ____ Sq. Ft
   - d. Size of paths & other non-vegetated areas N/A Sq. Ft.
   - e. Wetlands already filled N/A Sq. Ft.
3. Existing Main Structure
   - a. Ground Footprint N/A Sq. Ft.
   - b. Total Gross Floor Space *(exterior dimensions of all floors)* N/A Sq. Ft.
   - c. Road Frontage Setback ____ Ft.
   - d. Side Setback ____ Ft.
   - e. Rear Setback ____ Ft.
   - f. Distance to Great Pond ____ Not applicable (over 250') N/A Ft.
   - g. Distance to Stream ____ Not applicable (over 250') N/A Ft.
   - h. Distance to Wetlands ____ Not applicable (over 250') ____ Ft.
   - i. Foundation

     ____ Full Basement ____ Frost Walls ____ Slab ____ Piers
4. Existing Accessory Structure(s)
   - a. Total Number of Structures None
   - b. Total Ground Footprint ____ Sq. Ft.
   - c. Total Floor Space ____ Sq. Ft.
   - d. Closest Road Setback ____ Ft.
   - e. Closest Side Setback ____ Ft.
   - f. Closest Rear Setback ____ Ft.
   - g. Distance to Great Pond ____ Not applicable (over 250') ____ Ft.
   - h. Distance to Streams ____ Not applicable (over 250') ____ Ft.
   - i. Distance to Wetlands ____ Not applicable (over 250') ____ Ft.

PROPOSED Development

SUBMISSION REQUIREMENTS:

1. Standard submissions requirements shall follow Section 606.2 Comprehensive Land Use Code.
2. Additional information requested by the Planning Board at the Pre-application Sketch Plan and/or the Site Inspection meetings shall be added to the standard submission requirements.
3. Information shall be submitted in the order shown in the check list.
4. Submit information on status of any necessary state and/or federal permit.

DISCLOSURE: *(READ BEFORE SIGNING)*

1. I hereby acknowledge that I have read this application and pertinent sections of the ordinances, and state that the information in this document is to the best of my knowledge true and accurate. I agree to comply with all the Town of Poland's ordinances and the State of Maine's statutes regulating the activities sought in this application as well as any permit(s) approved for this application.
2. I understand that all construction of structures shall conform to the *Maine Uniform Building and Energy Code* and the NFPA-101 *Life Safety Code, 2006.*
3. I understand that any approval is valid for only the use(s) as specified in this application. The permitting authority must approve any change(s) made to the use(s) sought in the application. Any approval issued for this application is approved on the basis of truthful information provided by the applicant(s), and as allowed by the ordinances of the town.
4. I understand that it is my responsibility to assure that the lot description herein accurately describes its ownership, its boundary lines, and the setback measurements from the legal boundary lines.
5. I understand that I have the burden of proof as to the legal right to use the property, and that approval of this application in no way relieves me of this burden. Any approval issued does not constitute a resolution in favor of me or the landowner in any matters regarding the property boundaries, ownership, or similar titles.
6. I understand that all necessary Building and Use Permits shall be secured from the Code Enforcement Office after the Planning Board grants approval of this application.
7. I understand that a Certificate of Occupancy shall be required prior to the start of any use or occupancy associated with this application unless a signed written waiver is issued with the permit. Fines and penalties may be issued if use or occupancy is started prior to the issuance of the certificate.
8. I understand that the approval becomes invalid if construction or use has not commenced within twelve (12) months of the approval date, construction is suspended for more than six (6) months and no notice for just cause is submitted prior to the end of the six (6) months, or it is found that false statements have been furnished in this application.
9. I understand that if I fail to comply with the aforementioned statements, a "STOP WORK" order may be issued for which I will immediately halt any construction and/or use(s) that are approved for this application. This failure may also require that I return the property to its natural state or as closely thereto before the use(s) was/were approved.
10. I understand that failure to follow these requirements will lead to Violation Notices and Citations that have fines and penalties. This in turn can lead to civil proceedings in District Court.
11. I understand that all state and federal permits are my responsibility as the applicant and/or owner.
12. Anything agreed to verbally or in writing during the application process must be adhered to and will be enforced.

Agent

Applicant's Signature

June 27, 2023

Date

Submissions CHECKLIST:

Plan Name: Knoll Road Subdivision Phase 2

The following list is the information required by Chapter 606.3 of the Comprehensive Land Use Code for the Town of Poland, Maine for a Minor Subdivision Plan Application. Please check in the columns on the left if the information has been provided, a request of a waiver, or you believe the information is not applicable to your application. If a waiver is requested, or the information is not applicable, a written explanation is required.

For Applicant Use				For Planning Board Use			
Provided	Waiver Request	Not Applicable		Received	On File	Waived	Not Applicable
			Section 606.3 Submission requirements				
x			A. Application form				
x			B. Location Map				
x			B.1. Existing subdivision in proximity				
x			B.2. Location & names of streets				
x			B.3. Zoning Districts				
x			B.4. Outline of subdivision & holdings				
			C. Final Plan				
			* 2 Originals plans				
			* 12 copies of application				
			* Board Endorsement area				
			* Digital form of plan				
x			D.1. Proposed name				
x			D.2. Names & address of all involved				
x			D.3. Date plan prepared				
x			D.4. Existing physical features				
x			* Number of acres				
x			* Property lines				
		x	* Existing buildings				
x			* Vegetative cover type				
		x	* Trees >24" DBH				
x			* Clearing area for lawns & structures				
x			* Restrictions on clearings				
		x	D.5. Location of water bodies				
x			D.6. Contours at requested intervals				
x			D.7. Zoning Districts				
			D.8 Location, names, widths of:				
x			* Roads				
x			* Easements				
		x	* Buildings				
		x	* Parks				
		x	* Open Spaces				
x			D.9. Title, rights, & interests				
x			D.10. Standard boundary survey				
x			D.11. Copy of most recent deed on parcel				
x			D.12. Intended deed restrictions				
x			D.13. Type of sewage disposal				
x			D.13.a. SSWS pit locations & analyses				
		x	D.14.a. Public water supply approval				
x			D.14.b. Private wells adequate supply				
		x	D.14.c. Adequate central supply				
x			D.15. Wetland identified				
x			D.16. Phosphorous analysis				
X			D.17. Location of sewers, water mains, culverts, & drainage ways				

For Applicant Use				For Planning Board Use			
Provided	Waiver Request	Not Applicable		Received	On File	Waived	Not Applicable
		x	D.19. Dedicated public use land				
			* Offers to town				
			* Selectmen look favorable on offer				
		x	D.20. Flood prone areas				
		x	D.21. Hydrogeologic assessment				
		x	D.21.a. Sand & gravel aquifers				
		x	D.21.b. Average dwelling density				
			* Potential for adverse impact				
x			D.22. Storm water management plan				
x			D.23. Erosion & sedimentation plan				
x			D.23.a Permit from DEP				
x			D.24 Areas of wildlife habitat				
		x	D.25. Areas on NRHP				
		x	D.26. Disposal of debris				
			* DEP permit				
		x	D.27. Scenic sites				
		x	D.28. Agricultural areas				
		x	D.29. Archeological resources				
			D.30. Technical & financial ability				
			Supplemental Information				
			Notification of fire, rescue, road, & school departments				
			Status of State and/or Federal permits (Stormwater Permit Submitted by Terradyn)				
			Condition A.				
			Condition B.				
			Condition C.				
			Condition D.				
			Condition E.				
			Condition F.				

This pre-application was first looked at by the Planning Board on_____/ /____but does not create vested rights in the initiation of the review process.

By vote of the Board this application requires an on-site inspection: Yes No

If yes, an onsite inspection is scheduled for _____/_____/_____at_____:_____ ___AM ___PM

Special Requirements for Formal Site Review:

_____

_____

_____

_____

_____ _____/_____/_____

Planning Board Chair *Date*

On-site Inspection

ITEM	Requirements Met	Deficient	Waived	Not Applicable
A. Less than 6 inches of snow on the ground				
B. Structures, roads, parking, etc. flagged				
C. Notice of inspection posted				
D. Public allowed to accompany on-site inspection				
E. PB reviewed site findings at next meeting				
F. PB set contour intervals for formal application				

Knoll Road Trust and HKL Trust
16 Rocky Road
Otisfield, Maine 04270

June 9, 2023

Town Of Poland
Planning Board
1231 Maine Street
Poland, Maine 04274

Dear Board Members,

I authorize Stuart Davis of Davis Land Surveying, LLC to act as my agent for applications to the Town of Poland in regards to my property off Knoll Road.

Sincerely,

Lawrence Roakes, Trustee Knoll Road Trust & HKL Trust

Abutters w/in 500 Feet to TM 13-33 & 33A

Town of Poland, ME

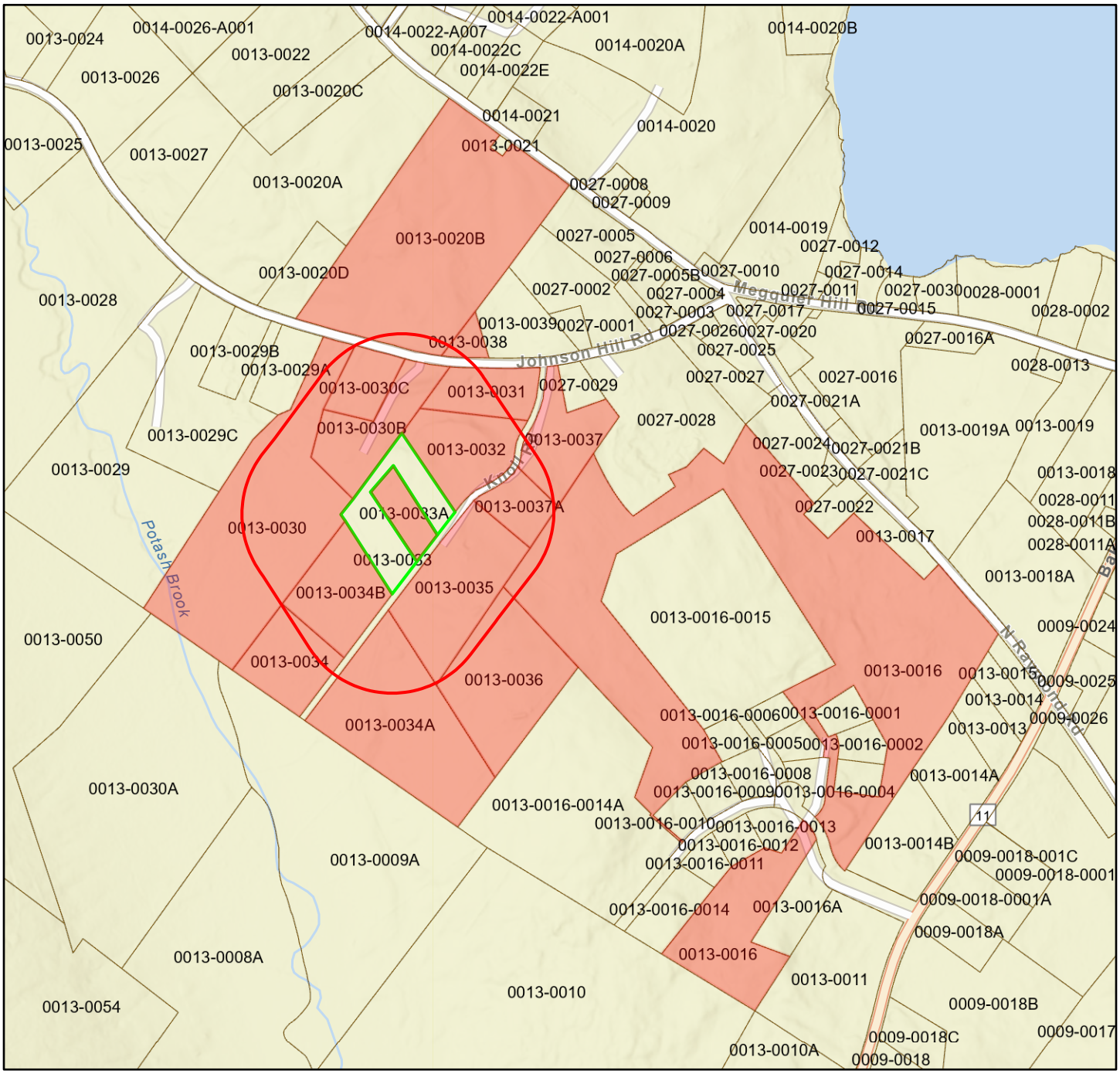
1 inch = 750 Feet

CAI Technologies
Precision Mapping. Geospatial Solutions.

www.cai-tech.com

June 7, 2023

0 750 1500 2250



Parcel - Poly

Parcel Lines - No Orthos

World Hillshade

500 feet Abutters List Report

Poland, ME
June 07, 2023

Subject Properties:

Parcel Number:	0013-0033	Mailing Address:	KNOLL ROAD TRUST 16 ROCKY ROAD OTISFIELD, ME 04270
CAMA Number:	0013-0033		
Property Address:	KNOLL RD.		

Parcel Number:	0013-0033A	Mailing Address:	ROAKES, LAWRENCE - TRUSTEE 16 ROCKY ROAD OTISFIELD, ME 04270
CAMA Number:	0013-0033A		
Property Address:	KNOLL RD.		

Abutters:

Parcel Number:	0013-0016	Mailing Address:	WILDWOOD HOMEOWNERS ASSOCIATION 58 WATSON RD POLAND, ME 04274
CAMA Number:	0013-0016		
Property Address:	BAKERSTOWN RD.		

Parcel Number:	0013-0020B	Mailing Address:	GOSS, WALTER S 311 ELM STREET MECHANIC FALLS, ME 04256
CAMA Number:	0013-0020B		
Property Address:	MEGQUIRE HILL RD.		

Parcel Number:	0013-0030	Mailing Address:	FORTIN, DONALD 76 JOHNSON HILL RD. POLAND, ME 04274
CAMA Number:	0013-0030		
Property Address:	76 JOHNSON HILL RD.		

Parcel Number:	0013-0030B	Mailing Address:	FLATLEY, ASHLEY L 62 JOHNSON HILL ROAD POLAND, ME 04274
CAMA Number:	0013-0030B		
Property Address:	62 JOHNSON HILL RD.		

Parcel Number:	0013-0030C	Mailing Address:	DIXON, MARGARET J 68 JOHNSON HILL ROAD POLAND, ME 04274
CAMA Number:	0013-0030C		
Property Address:	68 JOHNSON HILL RD.		

Parcel Number:	0013-0031	Mailing Address:	EMERY, STEVEN B 42 JOHNSON HILL ROAD POLAND, ME 04274
CAMA Number:	0013-0031		
Property Address:	42 JOHNSON HILL RD.		

Parcel Number:	0013-0032	Mailing Address:	MORNEAU, JULIA 23 KNOLL RD POLAND, ME 04274
CAMA Number:	0013-0032		
Property Address:	23 KNOLL RD.		

Parcel Number:	0013-0033A	Mailing Address:	ROAKES, LAWRENCE - TRUSTEE 16 ROCKY ROAD OTISFIELD, ME 04270
CAMA Number:	0013-0033A		
Property Address:	KNOLL RD.		

Parcel Number:	0013-0034	Mailing Address:	L & P TRUST 16 ROCKY RD OTISFIELD, ME 04270
CAMA Number:	0013-0034		
Property Address:	KNOLL RD.		

500 feet Abutters List Report

Poland, ME
June 07, 2023

Parcel Number:	0013-0034A	Mailing Address:	CASCO TIMBER COMPANY, INC.
CAMA Number:	0013-0034A		1267 POLAND SPRING ROAD
Property Address:	KNOLL RD.		CASCO, ME 04015
Parcel Number:	0013-0034B	Mailing Address:	HKL TRUST
CAMA Number:	0013-0034B		16 ROCKY ROAD
Property Address:	KNOLL RD.		OTISFIELD, ME 04270
Parcel Number:	0013-0035	Mailing Address:	ROAKES, LAWRENCE - TRUSTEE
CAMA Number:	0013-0035		16 ROCKY ROAD
Property Address:	36 KNOLL RD.		OTISFIELD, ME 04270
Parcel Number:	0013-0036	Mailing Address:	ROAKES, LAWRENCE
CAMA Number:	0013-0036		16 ROCKY ROAD
Property Address:	OFF KNOLL RD.		OTISFIELD, ME 04270
Parcel Number:	0013-0037	Mailing Address:	FRIEDMAN, PAUL D
CAMA Number:	0013-0037		18 KNOLL ROAD
Property Address:	18 KNOLL RD.		POLAND, ME 04274
Parcel Number:	0013-0037A	Mailing Address:	AVERY, KATHERINE D
CAMA Number:	0013-0037A		26 KNOLL ROAD
Property Address:	26 KNOLL RD.		POLAND, ME 04274
Parcel Number:	0013-0038	Mailing Address:	COFFIN, CANDI L
CAMA Number:	0013-0038		49 JOHNSON HILL ROAD
Property Address:	49 JOHNSON HILL RD.		POLAND, ME 04274

Bk 10090 Ps112 #7952
05-28-2019 @ 11:39a

Lot 33

WARRANTY DEED

KNOW ALL PERSONS BY THESE PRESENTS,

THAT I, **JULIA MORNEAU** with a mailing address of 23 Knoll Road, Poland, Maine 04274

grant to **LAWRENCE A. ROAKES, Trustee of Knoll Road Trust** u/d/t dated May 23, 2019, to be recorded herewith, with a mailing address of 16 Rocky Road, Otisfield, Maine 04270

with WARRANTY COVENANTS;

PARCEL 1

A CERTAIN lot or parcel of land in the Town of Poland, on the Westerly side of the Old County Road, leading from West Poland to Johnson Hill, bounded and described as follows, to wit:

COMMENCING on the Westerly side of said highway at a stone wall there situated;

THENCE in a Westerly direction on said stone wall one hundred and fifty (150) yards, more or less, to a corner;

THENCE at right angles and in a Northerly course also on a stone wall there situated two hundred (200) yards to a point to be identified by an iron stake;

THENCE at right angles and in an Easterly course one hundred and fifty (150) yards, more or less, to the Westerly side of said highway as aforesaid to a point identified by an iron stake;

THENCE at right angles and in a Southerly course on the Westerly side of said highway as aforesaid two hundred (200) yards to the point of beginning.

ALSO conveyed hereby is an easement in common with Poland Gun Club, Inc. as is more particularly described in a certain deed from Franklin I. Strout, Sr., et als, to Poland Gun Club, Inc., dated November 2, 1989 in the Androscoggin County Registry of Deeds in Book 2496, Page 226.

BEING the same premises conveyed to Julia Morneau, by Deed of Distribution from Julia Morneau, Personal Representative of the Estate of Franklin I. Strout, Sr., dated July 11, 2018, and recorded in the Androscoggin County Registry of Deeds, in Book 9884, Page 338.

ALSO hereby conveying all rights, privileges, and easements pertinent to the aforesaid premises.

PARCEL 2

A certain parcel of land in Poland, Androscoggin County, Maine being ten feet (10') in width, bounded on the South by the northerly sideline of Knoll Road, so-called and extending along the entire southerly boundary of the parcel shown as Lot 32 on Town of Poland Tax Map 13.

RESERVING, however, to the Grantor a right of way over the current driveway for access and egress to said Lot 32.

Being a portion of that conveyed to Grantor by deed of Julia Morneau, Personal Representative of the Estate of Franklin I. Strout, Sr., by Maine Short Form Deed of Distribution and dated July 11, 2018, and recorded in the Androscoggin County Registry of Deeds, in Book 9884, Page 337.

MAINE REAL ESTATE
TRANSFER TAX PAID

WITNESS my hand and seal this 23rd day of May, 2019.

WITNESS

JULIA MORNEAU

STATE OF MAINE
OXFORD, ss.

May 23, 2019

Then personally appeared the above-named **JULIA MORNEAU** and acknowledged the foregoing instrument to be her free act and deed.

Before me:

Attorney at Law - ~~Notary Public~~

Alan J Perry

Print Name

~~My Commission Expires:~~_____

ANDROSCOGGIN COUNTY
TINA M CHOUINARD
REGISTER OF DEEDS

QUITCLAIM DEED
WITH COVENANTS

KNOW ALL PERSONS BY THESE PRESENTS that **LAWRENCE A. ROAKES, Trustee of the KNOLL ROAD TRUST,** a Maine Trust, with a mailing address of 16 Rocky Road, Otisfield, ME 04270, for consideration paid, grant to **LAWRENCE A. ROAKES, TRUSTEE of the HKL TRUST,** a Maine Trust, with a mailing address of 16 Rocky Road, Otisfield, ME 04270, with **QUITCLAIM COVENANTS**, the land in the Town of Poland, County of Androscoggin, State of Maine, bounded and described as follows:

See Exhibit A attached hereto.

Meaning and intending to describe only a portion of land as conveyed from Julia Morneau to Lawrence Roakes, Trustee of the Knoll Road Trust as described in a deed dated May 23, 2019 and recorded in the Androscoggin County Registry of Deeds in Book 10090, Page 112.

WITNESS my hand and seal this 3rd day of September 2020.

Witness

Lawrence A. Roakes

STATE OF MAINE
COUNTY OF CUMBERLAND, ss. September 3, 2020

Personally, appeared the above-named, Lawrence A. Roakes and acknowledged the foregoing instrument to be his free act and deed.

Before me,

Notary Public
Type or Print Name:_____
My commission expires:_____

SHANNON McCONKEY
Notary Public - State of Maine
My Comm. Expires Aug. 21, 2021

EXHIBIT A

A certain parcel of land situated on the apparent westerly sideline of Knoll Hill Road in the Town of Poland, County of Androscoggin, State of Maine and being more particularly described as follows:

BEGINNING at a 5/8" capped rebar inscribed PLS 2208 along the apparent westerly sideline of said Knoll Road in Poland, Maine. Said 5/8" capped rebar being located N 39° 30' 08" W, a distance of two hundred seventy-nine and 90/100 feet (279.90') from an iron pin 5/8" capped rebar inscribed PLS 1229 at the northwesterly corner of land now or formerly of Lawrence A. Roakes, Trustee of L&P Trust as described in a deed dated May 23, 2019 and recorded in the Androscoggin County Registry of Deeds in Book 10090, Page 103 and at the northeasterly corner of land now or formerly of Hancock, M.S. Inc as described in a deed dated January 8, 1951 and recorded in said Registry of Deeds in Book 650, Page 258.

THENCE, N 52°08'49" E along the apparent westerly sideline of said Knoll Road, a distance of two hundred and 00/100 feet (200.00') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, N 17°15'28" W, a distance of four hundred twenty-nine and 11/100 feet (429.11') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, S 52°19'40" W, a distance of two hundred twenty-two and 66/100 feet (222.66') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, S 20°10'14" E, a distance of four hundred twenty-two and 35/100 feet (422.35') to the **POINT OF BEGINNING**.

The above described parcel of land contains 1.9 acres, more or less. All bearings referred to above are referenced to Magnetic North 2019.

Meaning and intending to describe only a portion of land as conveyed from Julia Morneau to Lawrence Roakes, Trustee of Knoll Road Trust as described in a deed dated May 23, 2019 and recorded in the Androscoggin County Registry of Deeds in Book 10090, Page 112.

TOGETHER WITH sixty foot (60') private right of way for ingress and egress and all customary utilities therein and being more particularly described as follows:

BEGINNING at a 5/8" capped rebar inscribed PLS 2208 at the apparent southerly sideline of said Johnson Hill Road in Poland, Maine and at the northeasterly corner of land now or formerly of Steven B. Emery as described in a deed dated February 7, 2011 and recorded in the Androscoggin County Registry of Deeds in Book 8114, Page 96. Said 5/8" capped rebar being located S 79° 45' 46" E, a distance along a tie line of seventy-one and 99/100 feet (71.99') from a 5/8" capped rebar inscribed

PLS 2208 at the northwesterly corner of land now or formerly of Lawrence Roakes as described in a deed dated December 20, 2019 and recorded in the said Registry of Deeds in Book 10273, Page 39;

THENCE, S 23°43'47" W along land of said Emery, a distance of one hundred sixty-eight and 34/100 feet (168.34') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, S 30°48'56" W along land of said Emery, a distance of ninety-five and 78/100 feet (95.78') to a 5/8" capped rebar inscribed PLS 2208 at the southeast corner of said Emery;

THENCE, N 69°50'39" W along the southerly land of said Emery, a distance of nine and 73/100 feet (9.73') to a point at the northeast corner of land now or formerly of Julia Morneau as described in a deed dated July 11, 2018 and recorded in the said Registry of Deeds in Book 9884, Page 337. Said point being located S 69°50'39" E a distance of eight and 27/100 feet (8.27') from a 5/8" capped rebar inscribed PLS 1271;

THENCE, S 30°48'56" W along the easterly sideline of said Morneau, a distance of one hundred fifty-five and 93/100 feet (155.93') to an angle point;

THENCE, S 40°32'27" W along the easterly sideline of said Morneau, a distance of thirty-five and 07/100 feet (35.07') to an angle point;

THENCE, S 50°50'15" W along the easterly sideline of said Morneau, a distance of forty-three and 39/100 feet (43.39') to an angle point;

THENCE, S 61°19'08" W along the easterly sideline of said Morneau, a distance of fifty-four and 81/100 feet (54.81') to an angle point;

THENCE, S 73°07'22" W along the easterly sideline of said Morneau, a distance of one hundred five and 00/100 feet (105.00') to an angle point;

THENCE, S 69°59'20" W along the easterly sideline of said Morneau, a distance of sixty-six and 91/100 feet (66.91') to an angle point;

THENCE, S 51°45'18" W along land of said Morneau, a distance of twenty-three and 51/100 feet (23.51') to a 5/8" capped rebar inscribed PLS 2208 at the southeasterly corner of land now or formerly of Knoll Road Trust as described in a deed dated May 23, 2019 and recorded in said Registry of Deeds in Book 10090, page 112;

THENCE, S 52°08'49" W along land of said Knoll Road Trust, a distance of two hundred thirteen and 65/100 feet (213.65') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, S 52°08'49" W along land of said Knoll Road Trust, a distance of two hundred and 00/100 feet (200.00') to a 5/8" capped rebar inscribed PLS 2208. Said 5/8" capped rebar being located N 39° 30' 08" E, a distance of two hundred seventy-nine and 90/100 feet (279.90') from a 5/8" capped

rebar inscribed PLS 1129 at the northwesterly corner of land now or formerly of Lawrence A. Roakes, Trustee of L&P Trust as described in a deed dated May 23, 2019 and recorded in the Androscoggin County Registry of Deeds in Book 10090, Page 103 and at the northeasterly corner of land now or formerly of Hancock, M.S. Inc as described in a deed dated January 8, 1951 and recorded in said Registry of Deeds in Book 650, Page 258;

THENCE, S 41°09'47" E along a tie line, a distance of sixty and 10/100 feet (60.10'), to a 5/8" capped rebar inscribed PLS 2208 along the northerly land of L&P Trust as described in a deed dated May 23, 2019 and recorded in said Registry of Deeds in Book 10090, Page 103;

THENCE, N 52°08'49" E along land of said L&P Trust, a distance of two hundred twenty-four and 46/100 feet (224.46') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, N 52°08'49" E along land of said L&P Trust, a distance of one hundred eighty-five and 92/100 feet (185.92') to an angle point;

THENCE, N 51°45'18" E along land of said L&P Trust, a distance of fourteen and 08/100 feet (14.08') to a 5/8" capped rebar inscribed PLS 2208 at the northwest corner of land now or formerly of Lawrence Roakes as described in a deed dated December 20, 2019 and recorded in said Registry of Deeds in Book 10273, Page 39. Said 5/8" capped rebar being located S 45° 52' 55" W, a distance of four hundred fifty-five and 92/100 feet (455.92') from a 5/8" capped rebar inscribed PLS 2208 at the southeasterly corner of said Emery and at the northeasterly corner of said Morneau. Said rebar at said Emery land and said Morneau land located S 69° 50' 39" E, a distance of eighteen and 00/100 feet (18.00') from an iron pin;

THENCE, N 69°59'20" E along the westerly sideline of said Roakes, a distance of fifty-five and 64/100 feet (55.64') to an angle point;

THENCE, N 73°07'22" E along the westerly sideline of said Roakes, a distance of one hundred nine and 56/100 feet (109.56') to an angle point;

THENCE, N 61°19'08" E along the westerly sideline of said Roakes, a distance of sixty-six and 51/100 feet (66.51') to an angle point;

THENCE, N 50°50'15" E along the westerly sideline of said Roakes, a distance of fifty-four and 30/100 feet (54.30') to a 5/8" capped rebar inscribed PLS 2208. Said 5/8" capped rebar being located S 19° 11' 34" W, a distance of two hundred twelve and 11/100 feet (212.11') from a 5/8" capped rebar inscribed PLS 2208 at the southeasterly corner of land of said Emery and at the northeasterly corner of land of said Morneau. Said rebar at said Emery land and said Morneau land located S 69° 50' 39" E, a distance of eighteen and 00/100 feet (18.00') from a 5/8" capped rebar inscribed PLS 1271;

THENCE, N 40°32'27" E along the westerly sideline of said Roakes, a distance of forty-five and 58/100 feet (45.58') to an angle point;

THENCE, N 30°48'56" E along the westerly sideline of said Roakes, a distance of one hundred sixty-two and 84/100 feet (162.84') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, S 59°11'04" E along the northerly sideline of said Roakes, a distance of nine and 73/100 feet (9.73') to a 5/8" capped rebar inscribed PLS 2208;

THENCE, N 30°48'56" E along the westerly sideline of said Roakes, a distance of ninety-five and 78/100 feet (95.78') to an angle point;

THENCE, N 36°00'17" E along the westerly sideline of said Roakes, a distance of one hundred fourteen and 25/100 feet (114.25') to an angle point;

THENCE, N 14°01'50" E along the westerly sideline of said Roakes, a distance of eighty-two and 06/100 feet (82.06') to a 5/8" capped rebar inscribed PLS 2208 along the apparent southerly sideline of said Johnson Hill Road. Said 5/8" capped rebar being located N 84° 30' 41" E along a tie line, a distance of sixty-four and 12/100 feet (64.12') from a 5/8" capped rebar inscribed PLS 2208 at the northerly corner of land now or formerly of Lewis E. and Carlene A. Gray as described in a deed dated May 8, 1974 and recorded in said Registry of Deeds in Book 1103, Page 11.

THENCE, N 82°52'03" W along the apparent southerly sideline of said Johnson Hill Road, a distance of twelve and 66/100 feet (12.66') to an angle point;

THENCE, N 79°49'49" W along the apparent southerly sideline of said Johnson Hill Road, a distance of forty-five and 09/100 feet (45.09') to an angle point;

THENCE, N 76°47'59" W along the apparent southerly sideline of said Johnson Hill Road, a distance of fourteen and 29/100 feet (14.29') to the **POINT OF BEGINNING** and being the terminus of said 60-foot Private right of way.

AMENDED AND RESTATED
DECLARATION OF COVENANTS
OF
KNOLL ROAD ASSOCIATION

WITNESS THIS AMENDED AND RESTATED DECLARATION OF COVENANTS, made effective this ___ day of _____, 2022, by the following:

NAME	MAILING ADDRESS	TOWN OF POLAND MAP/LOT
Julia Morneau	23 Knoll Road Poland, ME 04274	Map 13, Lot 32
Roakes, Lawrence A., Trustee of the Knoll Road Trust	16 Rocky Road Otisfield, ME 04270	Map 13, Lot 33 (Portion of)
Roakes, Lawrence A., Trustee of the HKL Trust	16 Rocky Road Otisfield, ME 04270	Map 13, Lot 33A
Roakes, Lawrence A., Trustee of the HKL Trust	16 Rocky Road Otisfield, ME 04270	Map 13, Lot 34 (Portion of)
Roakes, Lawrence A., Trustee of the L&P Trust	16 Rocky Road Otisfield, ME 04270	Map 13, Lot 34 (Portion of)
Roakes, Lawrence A., Trustee of the L&P Trust	16 Rocky Road Otisfield, ME 04270	Map 13, Lot 35
Roakes, Lawrence A.,	16 Rocky Road Otisfield, ME 04270	Map 13, Lot 36
Paul G. Friedman and AnnMarie Friedman	18 Knoll Road Poland, ME 04274	Map 13, Lot 37

collectively referred to as the "Declarant".

WHEREAS, Declarant are the owners of real property designated by the following Map and Lot numbers shown on the tax maps of the Town of Poland (the "Lot" or "Lots"):

Map 13, Lots 32, 33, 34, 35, 36, and 37;

WHEREAS, Declarant desires to provide for the maintenance of private roadways serving and benefitting the Lots, comprising several subdivisions or parcels of land located in said Town of Poland, known as and hereafter collectively referred to as "Knoll Road Association" all to provide the owners of Lots in Knoll Road Association (sometimes referred to as "KRA" and hereinafter referred to as the "Association"), their successors and assigns, for the use, benefit, and enjoyment of the individual Lots, easements, and roads. Declarant has heretofore entered into and recorded a Declaration of Covenants of Knoll Road Association dated December 1, 2021 and recorded in the Androscoggin County Registry of Deeds in **Book 10961, Page 240**.

NOW, THEREFORE, Declarant hereby declares that the Lots shall be held, occupied, improved, transferred, sold, leased, and conveyed subject to the covenants, and that said covenants, are intended to enhance and protect the value and desirability of the Lots as a whole, to mutually benefit each of the parcels located thereon, and shall be deemed to run with the land and be a burden and benefit to and enforceable by all such persons, including Declarant, and Declarant's grantees, successors, administrators, heirs and assigns.

I. Definitions

The following words, shall, as used herein, have the following meanings, unless the context plainly requires otherwise:

a. Road. A certain right-of-way known as Knoll Road, so-called, to the Lots, and appurtenant to and benefitting the Lots in Knoll Road Association.

b. Declarant. Individually and collectively, Julie Morneau and Lawrence A. Roakes, Individually and as Trustee of the Knoll Road, Trust, Trustee of the HKL Trust, and Trustee of the L&P Trust, as aforesaid, and any successor to all of Declarant's right, title, and interest in and to the Lots.

c. Owner. The record Owner, whether one or more persons or entities, of the fee simple title to any Lot; however, the term shall exclude those having an interest merely as security for the performance of an obligation until and unless the holder of the interest has acquired title pursuant to foreclosure or any proceeding in lieu of foreclosure.

II. Member Voting. Lot Owners shall be Members of the Association and shall be entitled to one (1) vote per Lot. Membership shall be appurtenant to and may not be separated from ownership. When a Lot is owned of record in joint tenancy or tenancy in common, the membership as to such Lot shall be joint, and the right of such membership (including the voting power arising therefrom) shall be exercised only by the joint action of all Owners of record of such Lot. If the same Owner holds recorded title to more than one Lot, such Owner will be treated as a separate Owner for each Lot.

III. By-laws. The Association is established by Articles of Incorporation and its operation will be governed by the By-laws. The conduct of persons on the property will be governed by this Declaration, the By-laws and rules and regulations adopted by the Board of Directors.

IV. Easements. The respective rights and easements pertaining to the Lots shall pass with the title to each Lot, as applicable, subject to the provisions of this Declaration.

A. Access. Every Lot Owner shall have an easement, in common with Declarants and their successors or assigns, for access over and use of the Road, for all purposes of ingress and egress by pedestrian and vehicular traffic.

B. Utilities. Every Lot Owner shall have an easement, in common with and reserving unto the Declarant, their successors and/or assigns, for the right within the limit of the Road to erect, construct, maintain, protect through cutting and trimming of growth, and operate overhead and underground wires, cables, poles, conduits and apparatus for the transmission of electrical energy and for telephone lines, and for the furnishing of water, gas, sewer service or for other public utility service.

C. Maintenance. The Road shall be further subject to an easement for the benefit of the Lots as required for repair or maintenance of the travel way, and appurtenant ditches, culverts and other related improvements. The easement may be exercised by Lot Owners or the Association for purposes of repairing and maintaining the Road, and its appurtenances (such as culverts and ditches), and shall include the rights to enter with workers and equipment within the bounds of the Road.

1) The Association will be solely responsible for costs of maintenance of the Road, including without limitation, all costs with respect to the maintenance, repair and snowplowing of the Road. Such maintenance obligations shall not affect the Association's rights to or claims against third parties for damages or contribution for damages to the roadways exceeding ordinary wear and tear.

2) The Road shall be kept open and free of debris for the passage ofDeclarants' and Owners' vehicles. All culverts and cross drainages will be kept open and free of debris to allow the unrestricted passage of water.

3) The surface of the travel way shall be of gravel or crushed rock surface, or such other surface as shall be determined by a vote of the majority of the Members.

4) Unless a special assessment is approved for improvements and repairs under the provisions of this Declaration, upkeep and maintenance of the Road will be limited to snowplowing and sanding and that required by virtue of erosion and ordinary wear to the road surface (including, without limitation, correction of the effects of ordinary winter travel and snowplowing). The terms of this Declaration shall not be construed to obligate the Association or Owners to correct or repair any damage to the Road due to use attributable to third parties having rights in the Road.

V. Owner's Responsibility for Repairs. Each Member shall repair or cause to be repaired, at his or her own expense, any damage caused by such Member, or his family, agents, or invitees, to the Road which exceeds ordinary all season wear and tear which would occur through usage for ordinary family and residential purposes.

VI. Unobstructed Passage. No Member shall obstruct, hinder, or interfere or permit the obstruction, hindrance or interference with the free and uninterrupted use of the Road for access by all Members, and their families, tenants, or guests.

VII. Assessments. Each Member is required to pay annual and special assessments.

A. Application. The assessments levied by the Association shall be used exclusively to manage, maintain and care for the Road. The rights of membership, including voting rights, are subject to the payment of the annual and special assessments levied by the Association and imposed against each member and, as hereafter specified, such assessments become a lien upon the Lot owned or leased by the Member and the personal obligation of the Member. Barring exceptional circumstances, each Lot shall be assessed its pro-rata share of each annual and special assessment, based on the total number of Lots in the Association.

B. Purpose of Assessments. The assessments may be levied against the Lots for the purpose of establishing such reserves as the Association deems necessary and for raising funds in order to provide for the costs of administering and enforcing the terms of this Declaration. Assessments shall be used to pay the administrative costs and expenses of the Association.

C. Computation of Operating Budget and Assessment. The Board of Directors of the Association, at least thirty (30) days prior to the Association's annual meeting, shall prepare a budget covering the estimated costs of establishing the reserves, administering and enforcing the Declaration, and maintaining the Road during the coming year. The Board

shall cause the budget and the proposed assessments to be levied against each Lot for the following year, to be delivered to each Member at least twenty-one (21) days prior to the meeting. The budget and assessments shall be deemed ratified and approved unless disapproved at the annual meeting by a vote of a majority of the total votes cast at the meeting whether or not a quorum is present at that meeting. In the event the budget is disapproved, the budget last approved by the Members shall be continued until such time as the Members approve a subsequent budget proposed by the Board. The Board shall determine the total amount required, including the operational items such as repairs, reserves, maintenance, and other operating expenses, as well as charges to cover any deficits from prior years and capital improvements approved by the Board. The total annual requirements and any supplemental requirements shall be allocated between, assessed to, and paid by the Members as follows:

1) Annual Assessments. Except as provided above, each Lot shall be assessed and the Owner or Owners thereof shall pay a fraction of said requirements, the numerator of which shall be one (1) and the denominator of which shall be equal to the number of Lots subject to this Declaration. Any lot on which there does not exist a structure shall be required to pay one-half (1/2) the annual assessment. Notwithstanding the foregoing, Julia Morneau shall not be required to pay an annual assessment exceeding $400.00 for so long as Julia Morneau owns a Lot. The sum due the Association from each individual Owner shall constitute an assessment of the Board of Directors and unpaid assessments shall constitute liens on the individual Lots, subject to foreclosure as hereinafter provided.

The annual assessments shall be due and payable within thirty (30) days after the annual meeting.

2) Special Assessments. In addition to the annual assessments, the Association, acting through its Board of Directors, may levy special assessments in any year for the purpose of defraying the cost of any construction or reconstruction, or unexpected repair or replacement of any portion of the Road, and the establishment of reasonable reserves and payment of debts of the Association, provided that such special assessment shall have the assent of a majority of the Members voting at the annual meeting or a special meeting called for such purpose.

Special assessments shall be due and payable within sixty (60) days of approval unless the Board of Directors adopts another due date.

3) Effect of Non-Payment of Assessment. If any assessment or any other charges payable pursuant to this Declaration are not paid on the date

when due as provided herein, then such assessments and charges shall become delinquent and shall, together with interest thereon and costs of collection become a continuing lien upon the Lot and appurtenant easements, against which such assessments are made and shall bind such property in the hands of the then Owner, his heirs, devisees, personal representatives, successors and assigns. Such lien shall be prior to all other liens except: (a) tax or assessment liens on the Lot by the taxing subdivision of any governmental authority, including but not limited to State, County, and Town taxing agencies; and (b) all sums unpaid on any first mortgage of record encumbering the Lot. The personal obligation of the then Owner to pay such assessment or charges shall remain his personal obligation and shall not pass to his successors in title (except insofar as the Lot remains subject to the lien imposed by this Declaration) unless expressly assumed by them.

If any assessment or charges are not paid within thirty (30) days after the delinquent date, the assessments or charges shall bear interest from the date of delinquency at the rate of eighteen percent (18%) per annum and the Owners or the Association, whichever is applicable, may bring an action at law against the Owner personally obligated to pay the same or to foreclose the lien against the property by any method allowed under Maine law for foreclosure of mortgages, and there shall be added to the amount of such assessment or charges the costs of preparing and filing the complaint in such action, and in the event a judgment is obtained, such judgment shall include interest on the assessment or charges as above provided and a reasonable attorney's fee to be fixed by the court, together with the costs of this action. No Owner may waive or otherwise escape liability for assessments provided herein by non-use of a Lot.

VIII. Severability. Invalidation of any one of these covenants or restrictions by judgment or court order shall in no way affect any other provisions which shall remain in full force and effect.

IX. Enforcement. Without limited any rights of the Association or Declarants to seek enforcement in their respective names, each Owner shall have the right to enforce this Agreement against any other Owner by legal or equitable action. In the event the Association is required to seek enforcement of this Declaration, including but not limited to the requirement to pay assessments or charges as set forth herein, the Owner against whom enforcement is sought shall pay to the Association the costs incurred by the Association for enforcement, including but not limited to reasonable attorney's fees and costs of suit.

X. Amendment. This Declaration may be amended only by a written agreement of the Owners. The covenants and restrictions of this Declaration shall run with and bind the land, for a term of twenty (20) years from the date hereof, after which time they shall be automatically extended for successive ten (10) year periods, unless by a vote of 2/3rds of the Members it is agreed to amend or revoke this Declaration in whole or in part. This Declaration may be amended by an instrument signed by no less than a 2/3rds of the Lot Owners. Any amendment must be recorded.

XI. Successors and Assigns. This Declaration shall be binding upon and inure to the benefit of the undersigned and its respective successors and/or assigns.

XII. Counterpart Signatures. This Declaration may be executed in counterparts, each of which shall be deemed to be an original, and all of which together shall be deemed to be one and the same instrument.

XIII. Compliance with Stormwater Maintenance Plan. The Knoll Road Subdivision shall comply with the maintenance requirements of the Maintenance Plan of Stormwater Management Facilities in accordance with the Stormwater Management Report approved by the Maine Department of Environmental Protection and attached hereto as Exhibit A.

{signature page follows}

IN WITNESS WHEREOF, the parties hereto have executed this Amended and Restated Declaration of Covenants of Knoll Road Association as of the date first above written.

KNOLL ROAD TRUST

By: _____
Name: Lawrence A. Roakes, Trustee
(Owner of portion of Lot 33, and Lot 37A)

HKL TRUST

By: _____
Name: Lawrence A. Roakes, Trustee
(Owner of Lot 33A, and a portion of Lot 34)

L&P TRUST

By: _____
Name: Lawrence A. Roakes, Trustee
(Owner of portion of Lot 34, Lot 35,)

By: _____
Julia Morneau (Owner of Lot 32)

By: _____
Lawrence A. Roakes (Owner of Lot 36)

By: _____
Paul G. Friedman (Owner of Lot 37)

By: _____
AnnMarie. Friedman (Owner of Lot 37)

State of Maine
County of _____, ss May _____, 2022

Then personally appeared before me the above named Lawrence A. Roakes and acknowledged the foregoing to be his free act and deed .

Before me,

_____
Notary Public/Attorney at Law
Name: _____

Property Card: **KNOLL RD.**

Poland, ME

NO PHOTO AVAILABLE

Parcel ID: 0013-0033
Trio Account #: 1592

Owner: KNOLL ROAD TRUST
Co-Owner:
Mailing Address: 16 ROCKY ROAD
OTISFIELD, ME 04270

Valuation

Card Number: 1
Acreage: 6.2
Land Value: $33,530
Building Value: $0
Total Value: $0
Taxes: $476

Building Sketch

NO SKETCH AVAILABLE

Building Information

Year Built: **Remodled:**

Living Area (sqft):
Basement:
Finished Basement:
Number of Rooms:
Number of Bedrooms:
Number of Full Baths:
Number of Half Baths:

Stories:
Exterior Walls:
Roofing Materials:
Foundation:
Insulation:
Fireplace:
Heating:
A/C:
Attic:

Property Card: **KNOLL RD.**

Poland, ME

NO PHOTO AVAILABLE

Parcel ID: 0013-0033A
Trio Account #: 3943

Owner: ROAKES, LAWRENCE - TRUSTEE
Co-Owner:
Mailing Address: 16 ROCKY ROAD
OTISFIELD, ME 04270

Valuation	Building Sketch

March 28, 2023

Davis Land Surveying
C/O Stuart Davis, PLS
990 Minot Ave
Auburn, ME 04210

Re: Test Pit Results – Proposed Subdivision, Phase II on Knoll Road, Poland, Maine

Mr. Davis,

A Maine-licensed Site Evaluator with Basswood Environmental LLC (Erik Lema, LSE #419) excavated test pits at three locations on the approximately 6.7-acre site located on Knoll Road in the Town of Poland, Maine. The test pits (TP-6 to TP-8) are in the approximate locations of suitable building sites in each of the respective three lots proposed for Phase II of the development, identified as Lots 4, 5, and 6. Each pit was excavated by hand to a depth ranging between 18 and 25 inches until a restrictive layer was encountered that prohibited further excavation. A 54-inch tile probe was also used to determine the depth to bedrock, however this was not encountered in any test pit location.

The soils in all upland areas on site are a relatively uniform sandy loam to loamy sand overlying a firm hardpan layer between 18 and 25 inches in depth. A seasonal high-water table was observed at 13 to 14 inches in all pits, as identified by the presence of drainage mottles. All test pit locations are suitable sites for the installation of subsurface wastewater disposal systems intended to serve a typical single-family residence per the Maine Subsurface Wastewater Disposal Rules, dated August 2015, as amended. The sites would all require a medium-large disposal field; the equivalent stone-bed type leachfield would be sized at approximately 900 square feet, or 20' x 45' for a typical three-bedroom residence.

Attached, please find the soil logs for the respective test pit locations. The locations have been located by GPS and submitted to Davis land Surveying, Inc. for inclusion onto site plans as necessary. If there is additional detail or clarity that Basswood can provide regarding the above report, please do not hesitate to contact Erik Lema at 207-518-8442 or by email at erik@basswoodenv.com.

Best regards,

Erik Lema

Erik Lema LSE #419, Owner/Principal
Basswood Environmental LLC

SUBSURFACE WASTEWATER DISPOSAL SYSTEM APPLICATION

Maine Dept.Health & Human Services
Division of Environmental Health
(207) 287-5672 Fax: (207) 287-3165

Town, City, Plantation	Street, Road, Subdivision	Owner's Name
POLAND	KNOLL ROAD	ROAKES, LAWRENCE

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-6 ☒ Test Pit ☐ Boring

0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0	LOAM		BROWN	NONE
10	SANDY LOAM	FRIABLE	BROWNISH YELLOW	
20			GRAY	COMMON DISTINCT
30		FIRM		
40				
50				

Soil Classification	Slope	Limiting Factor	
3 Profile / D Condition	3 %	14 "	[X] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole TP-7 ☒ Test Pit ☐ Boring

0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0	LOAM		DARK BROWN	
10	LOAMY SAND	FRIABLE	BROWNISH YELLOW	NONE
20		FIRM	OLIVE BROWN	COMMON DISTINCT
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
3 Profile / D Condition	1 %	13 "	[X] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

SOIL DESCRIPTION AND CLASSIFICATION (Location of Observation Holes Shown Above)

Observation Hole TP-8 ☒ Test Pit ☐ Boring

0 " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0	LOAM		DARK BROWN STRONG BROWN	
10	LOAMY SAND	FRIABLE	STRONG BROWN	NONE
20		FIRM	GRAY	COMMON DISTINCT
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
3 Profile / D Condition	1 %	13 "	[X] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Observation Hole _____ ☐ Test Pit ☐ Boring

_____ " Depth of Organic Horizon Above Mineral Soil

Depth Below Mineral Soil Surface (inches)	Texture	Consistency	Color	Mottling
0				
10				
20				
30				
40				
50				

Soil Classification	Slope	Limiting Factor	
Profile / Condition	%	"	[ ] Ground Water [ ] Restrictive Layer [ ] Bedrock [ ] Pit Depth

Site Evaluator Signature: [signature] SE #: 419 Date: 3/28/23

March 28, 2023

Davis Land Surveying
C/O Stuart Davis, PLS
990 Minot Ave
Auburn, ME 04210

Re: **Natural Resources Survey** –Poland Tax Map 13, Lot 34A, Knoll Road, Poland, Maine.

Mr. Davis,

The following summary concerns the natural resource survey performed on March 27th, 2023 on an approximately 6.7-acre trio of parcels along Knoll Road in Poland, Maine. Erik Lema, owner and principal scientist at Basswood Environmental, Inc. (Basswood) conducted the survey in support of the proposed project. This included a wetland and stream delineation, and walkover to determine any other resources of particular regulatory importance. Spatial data of the resource boundaries as identified by Basswood has been submitted to Davis Land Surveying for inclusion onto site plans.

The standard three-parameter approach was used for identifying and delineating jurisdictional wetlands, as detailed in the U.S. Army Corps of Engineers' *Regional Supplement to the Corps of Engineers Wetland delineation Manual: Northcentral and Northeast Region (V2.0*). This approach uses a combination of wetland vegetation, soils and hydrology to determine the boundary of a wetland that is under the regulatory jurisdiction of the U.S. Army Corps of Engineers (ACOE), the Maine Department of Environmental Protection (DEP), and possibly the municipality under local ordinances. In addition, the survey area was also examined for the presence of jurisdictional streams and other protected natural resources, such as vernal pools, that may affect the proposed project. All wetland boundaries are clearly marked with sequentially numbered "wetland delineation" type pink flagging. Streams are likewise demarcated with blue flagging. All flags are located with a Juniper Geode™ GPS receiver capable of submeter accuracy.

The site is located on the west side of the Knoll Road extension and represents the second phase of the proposed subdivision on site. The three parcels have frontage along Knoll Road and extend west until a forested area surrounding a perennial stream off-site. The site is crowned in the central parcel and extends outward. It has been extensively cleared and disturbed; however, this clearing is not recent and the entire site is vegetated by low-growing field species and several remnant trees.

One wetland area was identified on site during the survey. This wetland is the forested fringe at the northwest corner of proposed Lot #4 and extends off-site around the perennial stream. The remaining land area is entirely upland, characterized by well-drained sandy soils overlying a hardpan layer.

The potential for vernal pools was assessed while on site. There was no potential vernal pool habitat observed on site and it is Basswood's professional opinion that no further vernal pool-specific surveys are needed.

Regulatory Implications

There are no anticipated permitting requirements associated with these lots under the Maine Natural Resources Protection Act (NRPA) or Section 404 of the Clean Water Act under the Jurisdiction of ACOE, assuming the wetland area at the rear of Lot #4 is avoided. This wetland is considered a Wetland of Special Significance within 25-feet of the nearby stream and would require an individual NRPA permit to impact. The stream itself is also afforded a 75-foot setback to disturbance. If development of the nearby upland area is anticipated, demarcation of this stream with the permission of the adjacent landowner would be required to determine this setback limit and any associated impacts within.

If there is additional detail or clarity that Basswood can provide regarding the above report, please do not hesitate to contact Erik Lema at 207-518-8442 or by email at erik@basswoodenv.com.

Best regards,

Erik Lema, Owner/Principal
Basswood Environmental LLC

Attachment: Site resource photos

Figure 1: Forested wetland area, northwest corner of survey area.

DWA Adjacent to TM 13-33 & 33A

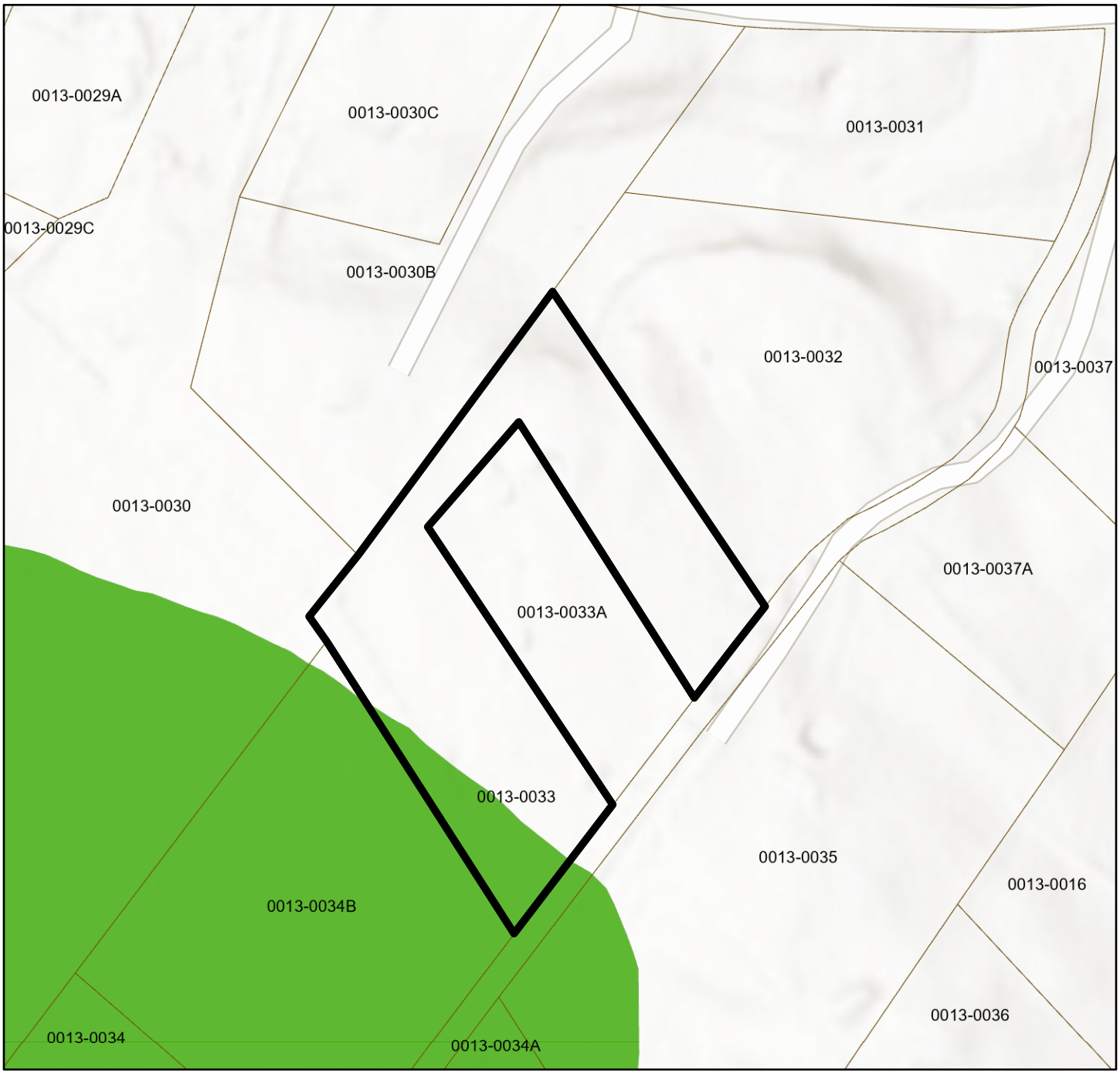
Town of Poland, ME

1 inch = 188 Feet

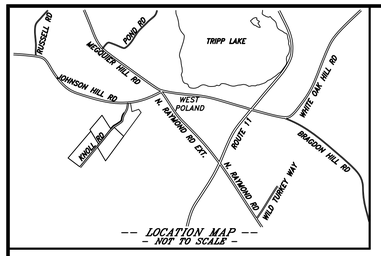
June 7, 2023

0 188 376 564

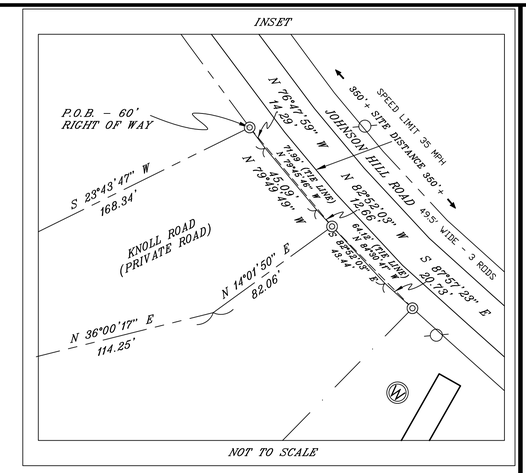
CAI Technologies
Precision Mapping. Geospatial Solutions.
www.cai-tech.com



Parcel - Poly
Parcel Lines - No Orthos
Deer Wintering Areas - MGIS
World Hillshade

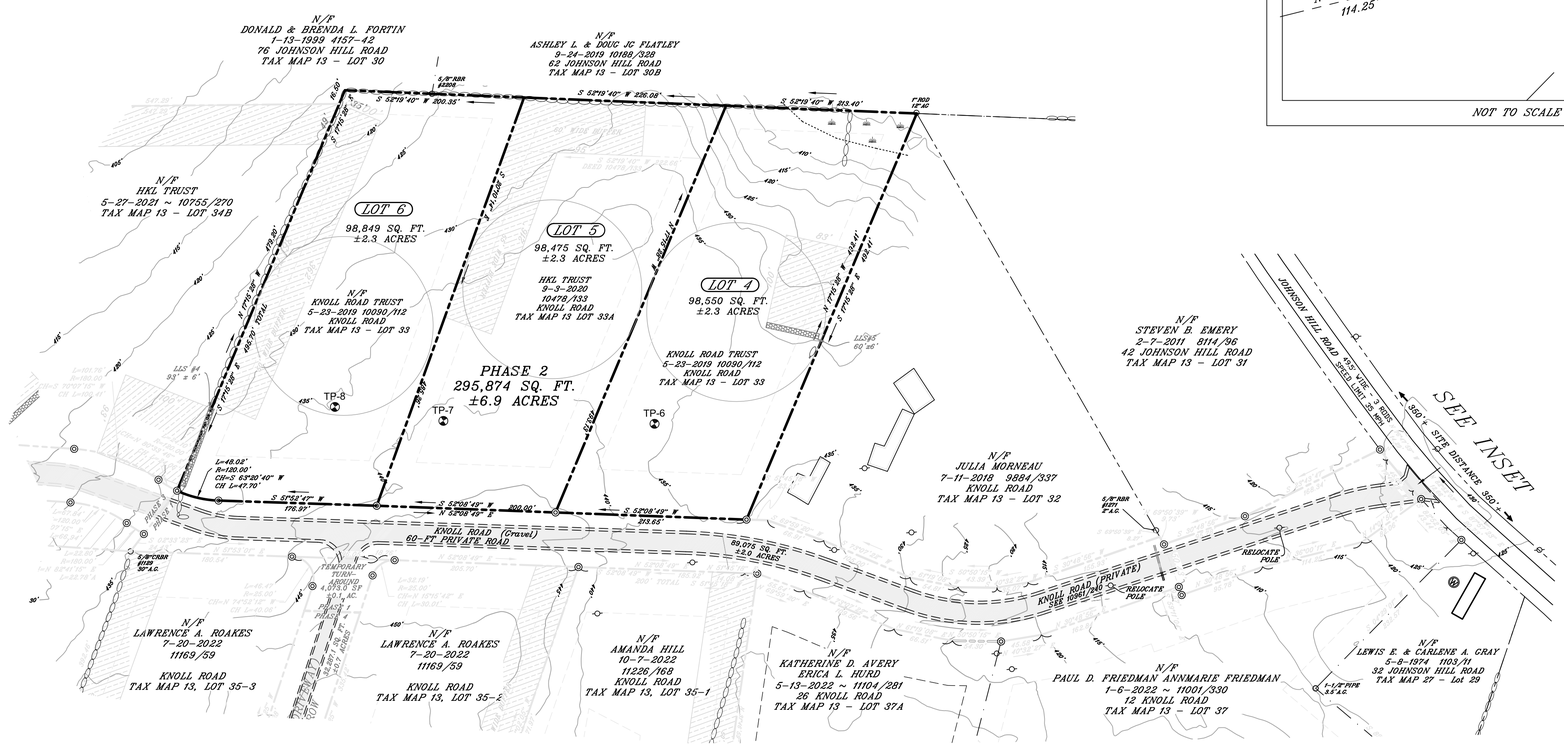


-- LOCATION MAP --
- NOT TO SCALE -



LEGEND

- PROPERTY LINES
- RIGHT OF WAY/ABUTTING LOT LINES
- PROPOSED PROPERTY LINE
- STONE WALL
- 5/8" CAPPED REBAR SET #2208
- IRON PIN FOUND
- UTILITY POLE
- WETLAND
- GRAVEL ROAD
- SETBACKS
- 5' INTERVAL' CONTOURS (5')
- TP-2 TEST PIT
- BUFFER
- LEVEL LIP SPREADER



NOTES:

1) BEARINGS ARE REFERENCED TO MAGNETIC NORTH 2019

2) DEED REFERENCES ARE MADE TO THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS - AUBURN, MAINE.

3) THE PARCEL IS LOCATED IN THE VILLAGE 3 (V-3) ZONING DISTRICT.

4) THE PARCEL IS NOT LOCATED WITHIN A 100-YEAR FLOOD HAZARD AREA AS SHOWN ON THE F.E.M.A. FLOOD INSURANCE RATE MAP COMMUNITY PANEL 23001C0287E, EFFECTIVE DATE 7/8/2013.

5) EACH LOT WILL BE SERVICED WITH INDIVIDUAL WELLS.

6) EACH LOT WILL BE SERVICED WITH INDIVIDUAL SUBSURFACE WASTEWATER TREATMENT SYSTEMS.

7) NATURAL RESOURCES SURVEY PERFORMED BY BASSWOOD ENVIRONMENTAL ON SEPTEMBER 30, 2021. THIS INCLUDED A WETLAND AND STREAM DELINEATION AND WALKOVER TO DETERMINE ANY OTHER RESOURCES OF PARTICULAR REGULATORY IMPORTANCE.

8) SOIL TEST PITS EXCAVATED AND ANALYZED BY ERIC LEMA, LSE #419 FROM BASSWOOD ENVIRONMENTAL.

9) STREETS INDICATED AS PRIVATE-OWNED STREET SHALL REMAIN PRIVATE STREETS TO BE MAINTAINED BY THE DEVELOPER OR THE LOT OWNERS AND SHALL NOT BE ACCEPTED NOR MAINTAINED BY THE MUNICIPALITY UNLESS SAID STREET HAS BEEN BROUGHT UP TO OR, OTHERWISE, MEETS THE CURRENT STREET CONSTRUCTION STANDARDS AND CERTIFIED BY A STATE OF MAINE REGISTERED PROFESSIONAL ENGINEER.

10) KNOLL ROAD IS A PRIVATE-OWNED ROAD. A DECLARATION OF COVENANTS OF KNOLL ROAD ASSOCIATION REGARDING MAINTENANCE IS RECORDED AT THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN BOOK 10961, PAGE 240.

11) CONTOURS SHOWN ON THIS PLAN LOCATED WITH THE BOUNDARIES OF KNOLL ROAD ARE BASED ON TOPOGRAPHIC SURVEY BY DAVIS LAND SURVEYING IN NOVEMBER 2021. CONTOURS BEYOND THOSE AREAS ARE BASED NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) DIGITAL COAST DATA ACCESS VIEWER. CUSTOM PROCESSING OF "2009 USGS LIDAR: ANDROSCOGGIN COUNTY (ME)". CHARLESTON, SC: NOAA OFFICE FOR COASTAL MANAGEMENT. ACCESSED NOV 04, 2021 AT HTTPS://COAST.NOAA.GOV/DATAVIEWER.

12) CONTOUR ELEVATIONS ARE REFERENCED TO NAVD88.

13) THIS PLAN IS FOR KNOLL ROAD SUBDIVISION PHASE 2 WHICH INCLUDES LOTS 4, 5, & 6. AS SHOWN ON THIS PLAN. FUTURE PHASES WILL REQUIRE ADDITIONAL PLANS FOR EACH INDIVIDUAL PHASE'S AND APPROVAL FROM THE PLANNING BOARD.

14) KNOLL ROAD AND LYNN'S WAY WILL BE GRAVEL. KNOLL ROAD DESIGNED BASED ON POLAND COMPREHENSIVE LAND USE CODE STREET DESIGN STANDARDS TABLE 807.1-III-PRIVATE ROAD. LYNN'S WAY DESIGNED BASED ON 807.1-IV-BACK LOT.

15) ALL PROPOSED DEVELOPMENT WILL BE SERVICED BY UNDERGROUND UTILITIES.

REFERENCES:

1) PLAN OF LAND ROUTE 11 PREPARED FOR HANCOCK LAND CO. INC. PREPARED BY SAWYER ENGINEERING & SURVEYING, INC DATED MARCH 12, 2014, REVISED 2-13-2015.

2) MASTER PLAN - PHASE 1 WILDWOOD SUBDIVISION PREPARED FOR AUTUMN, INC PREPARED BY R.W. BATON ASSOCIATES DATED OCTOBER 2011, REVISED 12-10-2011 RECORDED IN THE ANDROSCOGGIN COUNTY REGISTRY OF DEEDS IN PLAN BOOK 49, PAGE 67.

3) PLAN OF TOWN OF POLAND TRACED FROM A VERY OLD PLAN BELONGING TO MRS. CHARLES ANDREWS OF OXFORD BY WALDO N. SEAVEY DATED 1883 RECORDED IN SAID REGISTRY OF DEEDS AS PLAN UPOL-1.

4) 3 LOT SUBDIVISION, KNOLL ROAD SUBDIVISION PHASE 1 PREPARED BY DAVIS LAND SURVEYING, LLC DATED MAY 24, 2022 AND RECORDED IN SAID REGISTRY OF DEEDS IN PLAN BOOK 54, PAGE 57

VILLAGE 3 (V-3) ZONING DISTRICT

MINIMUM LOT AREA:80,000 SQ. FT.
MINIMUM ROAD FRONTAGE: 200'
MINIMUM FRONT SETBACK: 50 FEET (FROM ROW EDGE)
MINIMUM SIDE SETBACK: 25 FEET
MINIMUM REAR SETBACK: 25 FEET
MAXIMUM IMPERVIOUS SURFACE RATIO: 75%

SCHEDULE OF AREAS
KNOLL ROAD SUBDIVISION

DESCRIPTION	SQ. FT.	ACRES
PHASE 2 - LOTS		
LOT 4	98,550	2.3
LOT 5	98,475	2.3
LOT 6	98,849	2.3
PHASE 2 TOTAL	295,874	6.9

WAIVERS:

1) WAIVER FOR 1,320 FOOT SETBACK FROM DEER WINTERING AREA (DWA) PER POLAND COMPREHENSIVE LAND USE CODE (CLUC) CHAPTER 6, SECTION 612.8.C.2. BASED ON LETTERS FROM MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE (MDIF&W) ON FILE WITH THE TOWN OF POLAND. THE DWA IS NOT RECOGNIZED AS A SIGNIFICANT WILDLIFE HABITAT UNDER NATURAL RESOURCES PROTECTION ACT (NRPA) IN ORGANIZED TOWNSHIPS. A "NO-CUT BUFFER" ALONG A PORTION OF THE DWA ON PROPOSED FUTURE LOT 8 BETWEEN THE ROAD RIGHT OF WAY AND THE ABUTTING HANCOCK PARCEL WILL BE PROVIDED.

WAIVER AS APPROVED AND GRANTED ON MARCH 8, 2022 PLANNING BOARD MEETING MINUTES. FINDINGS OF FACTS AND CONCLUSION OF LAW SIGNED AND APPROVED SEPTEMBER 13, 2022.

CONDITIONS OF APPROVAL

SUBDIVISION IS SUBJECT TO MDEP STORMWATER MANAGEMENT PERMIT. ANY ALTERATION OF ROADS OR LOT DEVELOPMENT WILL REQUIRE AMENDMENT BY BOTH THE TOWN OF POLAND AND MAINE DEP.

TOWN OF POLAND PLANNING BOARD: DATE:

CHAIRPERSON:

RECORDING INFORMATION:

STATE OF MAINE, ANDROSCOGGIN, ss
REGISTRY OF DEEDS

RECEIVED _____ 20__
AT__HR __MIN. _M. AND RECORDED
IN PLAN BOOK _____, PAGE _____

ATTEST: _____
REGISTER

REVISIONS:

NO.	DESCRIPTION:	DATE:

OWNER OF RECORD:

KNOLL ROAD TRUST
5-23-2019 ~ 10090/112
TAX MAP 13 - LOT 33

THE HKL TRUST
9-3-2020 ~ 10478/133
TAX MAP 13 LOT 33A

16 ROCKY ROAD
OTISFIELD, ME 04270

SCALE : 1" = 80'

0 40 80 160 240 320

PRELIMINARY

CERTIFICATION:

TO THE BEST OF MY KNOWLEDGE, INFO AND BELIEF, THE SURVEY AND PLAN SHOWN HEREON IS TRUE AND ACCURATE. I AM PLACING MY SEAL AND SIGNATURE ON THIS PLAN AS A RESULT OF A FIELD SURVEY PERFORMED UNDER MY DIRECT SUPERVISION OR THE FIELD WORK REQUIRED FOR THIS PLAN WAS PERFORMED BY PERSONS ACCEPTABLE TO ME. I AM PROFESSIONALLY RESPONSIBLE FOR THE PRESENTATION OF THIS PLAN. I AM A LICENSED LAND SURVEYOR IN THE STATE OF MAINE. THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE SURVEYOR.

PLAN PREPARED BY: S.A.D. & D.E.H.
PLAN CHECKED BY: S.A.D. THIS PLAN IS NOT VALID UNLESS EMBOSSED WITH THE SEAL OF THE SURVEYOR.

DAVIS LAND SURVEYING, LLC
990 MINOT AVENUE
AUBURN, MAINE 04210
OFFICE (207) 345-9891 ~ (207) 782-3685 ~ CELL (207) 240-9949
EMAIL: stuart@davislandsurveying.net
WEBSITE: www.davislandsurveying.net

JUNE 9, 2023

--- PROPOSED SUBDIVISION PLAN ---
3 LOT MINOR SUBDIVISION
OF TM 13-33 & 33A
KNOLL ROAD POLAND, MAINE

KNOLL ROAD TRUST & THE HKL TRUST
16 ROCKY ROAD
OTISFIELD, ME 04270

JOB NO.: 23-013
FILE NO.: 583

Engineering Review Memorandum

To: **Town of Poland Planning Board** **(STI # 220180)**

From: **James Seymour, P.E., Planning Consultant, Sebago Technics, Inc.**

Date: **Knoll Road Subdivision (materials received- June 13, 2023)**

Subject **Planning Board Meeting for June 27, 2023**

Project: **Knolls Road Subdivision Amendment**
Residential Subdivision Review

Applicant: **Lawrence Roakes, 16 Rocky Road, Otisfield, ME 04270**
Tax Map 13 Lot 35

I. Project Description and Background

This project states it is a minor subdivision but appears to qualify as a Major Subdivision Application as it proposes to contain more than four lots or dwelling units. The applicant proposes to amend the three-lot Knoll Road Subdivision approved June 2022 and recorded in the Androscoggin County Registry of Deeds (ACRD) Plan Book 54 Page 57 to provide an additional three-lots identified as Phase 2 Lot 4, 5, and 6 on the application materials. The proposed lots front Knoll Road, an existing 20-foot-wide gravel private way constructed to access Lots 1, 2, and 3. The project is set on multiple parcels owned by Lawrence Roakes or his estate, totaling ±26.8 acres in the Village 3 zoning district.

We have prepared the following memorandum review comments to facilitate a better understanding of the road, utilities, and stormwater management requirements described in the Town's subdivision ordinance regulations and needed information to assist the Planning Board in its deliberations.

II. Technical Review

We have reviewed the amended subdivision plan prepared and submitted by Davis Land Surveying, LLC and supporting application materials for the purposes of determining if the project is compliant with the Subdivision Plan Standards and meets the requirements as applied for the proposed single family residential dwellings.

Amended Subdivision Plan Review:
The Comprehensive Land Use Code (CLUC) Section 610 defines the procedures, submissions, and the scope of review for revisions to approved subdivision plans. The ordinance requires the applicant submit a copy of the approved plan, copies of the proposed revisions, and supporting information to allow the Board to make a determination that the proposed revisions meet the standards of the CLUC and State Statue. The amended plan shall indicate that is it the revision of a previously approved

and recorded plan and shall show the title of the Subdivision and the book and page on which the original plan is recorded at the ACRD, as required by 30A MRSA §4407(1).

The design for Phase 2 of the project includes the creation of three additional single-family residential lots fronting a gravel private way. A maintenance agreement for the private road has been submitted with the application package. The proposed lots are planned to be serviced by a private sanitary system and a private well. Below are our comments and concerns with the project as proposed:

Subdivision Plan:

1. Single Family Dwelling is a permitted use in the Village 3 zone. The proposed parcels appear to meet the Village 3 zoning district Space and Bulk standards. However, front, side, and rear setbacks are not depicted on the proposed lots. We suggest these setbacks are depicted on the final plan.

2. The amended plan does not indicate that it is the revision of a previously approved and recorded plan including the title of the subdivision and the book and page on which the original plan is recorded.

3. All wooded buffers to be saved for stormwater measures shall include field monumentation outlining areas to be preserved and retained as natural.

4. The plan will require some modifications per request of the owner during construction of Knolls Road in 2022, between lot 6 and 7.

5. The plan shall reference the need for a Maine DEP Stormwater Management Permit and that any alteration of roads or lot development will require amendment by both the Town and Maine DEP. This will apply if the Planning Board requires that Lynns way be an expanded in width.

6. The stormwater calculations for phosphorus export are based on 12% impervious on each lot, thereby we request to see the maximum allowed impervious surface allocated for each lot on the plan.

Road Design/Plan Requirements:
Below are our opinions on the proposed private way design requirement relating to the Knoll Road reconstruction to meet street requirements as outlined in Chapter 8 of the Poland CLUC, for this project:

A. <u>Engineered Designed of the existing Knoll Road</u>:

1. Under Section 808 Street Construction. 803.3 Bases and Pavements, E. Gravel Surface Streets 2. The area to be served has low development potential and will serve less than eight lots or dwellings units. The current proposed private road

serves access to 10 lots with this application with a potential for two additional lots in the future with Phase 4. Any trips for accessing lots over Knolls Road, requires the Board to address paving Knoll Road to meet the private road standards when having more than 8 lots. We are not sure if the Planning Board has the authority to waive this requirement or not where specific standards are in place.

Application Materials:

1. The application includes a Natural Resources Survey and Test Pit Results prepared by Basswood Environmental LLC dated March 28, 2023 that appears to show suitable soils to support the development.

2. The Amended and Restated Declaration of Covenants of Knoll Road Association Section IV(B) appears to allow overhead utilities within the limit of the road. We suggest this language is reviewed to omit overhead utilities.

3. The applicant states the Town of Poland Fire Chief has reviewed the proposed fire suppression measures, a dry hydrant within 3,500 feet of the proposed subdivision, and it is sufficient for Phase 1 and Phase 2 of the project.

4. The applicant states the site should adequately supply domestic water for the proposed use and no adverse impacts on groundwater quantity or quality is anticipated.

III. <u>Recommendations:</u>

Upon review of the information provided in the submitted plans and documents dated June 13, 2023, we recommend the submission requirements be reviewed by the Planning Board and discussed as suggested. The project is being reviewed as a Major Subdivision due to the number proposed of lots.

We have some concerns with this road way surface determination for the application, but can be addressed with plan revisions. The Board may wish to discuss possible Conditions of Approval, or wait until any corrective revisions are made.

We suggest the applicant discusses the final plan revised items and requirements with the Planning Board at this hearing, as we feel the list of items is relatively small, but significant, if so, required by the Board. The Board could approve with conditions for preliminary approval, and have the applicant return a final plan at a later meeting, if all the items of conditions have been reviewed and recommended approval by Town staff. As always these are recommendations to the Planning Board and not final determinations but merely offer guidance, and approvals, if appropriate, are left with the Board at their discretion.

Respectfully Submitted,

SEBAGO TECHNICS, INC.

James R. Seymour, P.E.
Engineering Consultant

Town of Poland

Planning Board

DEPARTMENTAL REVIEW OF PROPOSED SITE APPLICATION

Date: June / 9 / 2023

To: KENNETH HEALEY
1146 Maine Street
Poland, Maine 04274
Superintendent of Schools

In accordance with Chapter 606, Site Review, of the Comprehensive LandUse Code for the Town of Poland, an applicant for development approval is required to ask that Municipal Departments to comment on their capacity of capital facilities to serve a proposed

Applicant: Knoll Road Trust & HKL Trust

Address: 16 Rocky Road
Otisfield, Maine 04270

Location: Map # 13 Lot # 33 & 33A Sublot #

Road Location: Knoll Road

Project overview: Subdivision of TM 13-33 & TM 13-33A to 3 Lots

Scheduled Planning Board Meeting Date June / 27 / 2023

Applicants:

1. Should attach all relevant sections of their plans to prevent delays.
2. Mail this form letter along with a copy of the application so that each department head receives it at least fourteen days prior to the scheduled meeting. (See reverse for list of Department Heads)
3. Confirm with the department heads that they have delivered their response to the Planning Board Office in time for the meeting.

For the Department Head

I have reviewed this application and provide the following:

X The project has no impact on the Department.
____ The Department has adequate existing capital facilities to serve the project.
____ The Department does not have adequate existing capital facilities to serve the project for the reasons listed. (Please submit reasons on department letterhead)
____ I need more information on the application.

Signed: Kenneth Healey Date: 6 / 16 / 23
Head of Department Director of Operations, RSU 16

RETURN THIS FORM TO:

Please return by: Date: / /

Planning Board Office
Town of Poland
1231 Maine Street
Poland, Maine 04274-7328

Town of Poland

Planning Board

DEPARTMENTAL REVIEW OF PROPOSED SITE APPLICATION

Date: June / 9 / 2023

To: TOM PRINTUP
1231 Maine Street
Poland, Maine 04274
Fire / Rescue Chief

In accordance with Chapter 606, Site Review, of the Comprehensive LandUse Code for the Town of Poland, an applicant for development approval is required to ask that Municipal Departments to comment on their capacity of capital facilities to serve a proposed

Applicant: Knoll Road Trust & HKL Trust

Address: 16 Rocky Road
Otisfield, Maine 04270

Location: Map # 13 Lot # 33 & 33A Sublot #

Road Location: Knoll Road

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For the Department Head

I have reviewed this application and provide the following:

____The project has no impact on the Department.
✓ The Department has adequate existing capital facilities to serve the project.
____The Department does not have adequate existing capital facilities to serve the project for the reasons listed. (Please submit reasons on department letterhead)
____I need more information on the application.

Signed: T L R Printup Date: 06 / 20 / 2023
Head of Department

RETURN THIS FORM TO:

Please return by: Date: / /

Planning Board Office
Town of Poland
1231 Maine Street
Poland, Maine 04274-7328

Town of Poland

Planning Board

DEPARTMENTAL REVIEW OF PROPOSED SITE APPLICATION

Date: June / 9 / 2023

To: BRYON A. STROUT
1231 Maine Street
Poland, Maine 04274
Road Commissioner

In accordance with Chapter 606, Site Review, of the Comprehensive LandUse Code for the Town of Poland, an applicant for development approval is required to ask that Municipal Departments to comment on their capacity of capital facilities to serve a proposed

Applicant: Knoll Road Trust & HKL Trust

Address: 16 Rocky Road
Otisfield, Maine 04270

Location: Map # 13 Lot # 33 & 33A Sublot #

Road Location: Knoll Road

Project overview: Subdivision of TM 13-33 & TM 13-33A to 3 Lots

Scheduled Planning Board Meeting Date June / 27 / 2023

Applicants:

1. Should attach all relevant sections of their plans to prevent delays.
2. Mail this form letter along with a copy of the application so that each department head receives it at least fourteen days prior to the scheduled meeting. (See reverse for list of Department Heads)
3. Confirm with the department heads that they have delivered their response to the Planning Board Office in time for the meeting.

For the Department Head

I have reviewed this application and provide the following:

X The project has no impact on the Department.
____ The Department has adequate existing capital facilities to serve the project.
____ The Department does not have adequate existing capital facilities to serve the project for the reasons listed. (Please submit reasons on department letterhead)
____ I need more information on the application.

Signed: [signature] Date: 6 / 20 / 2023
Head of Department

RETURN THIS FORM TO:

Please return by: Date: ___ / ___ / ___

Planning Board Office
Town of Poland
1231 Maine Street
Poland, Maine 04274-7328

CEO Office Tel: 207-998-4604
Main Office Tel: 207-998-4601
E-mail: planningadmin@polandtownoffice.org

Planning Board Office

1231 Maine Street,
Poland, Maine 04274-7328

Findings of Fact & Conclusion of Law

Application Type: Formal Site Plan
Owners Name: Richard Gill (P.O. Box 147 West Poland, Maine 04291)
Located at: Bunting Lane
Parcel ID: 0017-0011
Zoning District: Rural Residential 1, Limited Residential.

509.8 SUBMISSIONS

The Planning Board voted on May 23, 2023, that the application for a backlot driveway to create the needed frontage for a new 5.5 acre lot and the remaining 7 acre lot included all the mandatory submissions requirements for the site plan application. Based on this information and the information in the record the Planning Board finds that these criteria will be met.

509.9 SITE PLAN REVIEW STANDARDS

A. Preservation of Landscape:
The Applicant has proposed a backlot driveway to create frontage for a new 5.5 acre lot and the remaining 7 acre lot. The backlot will be served by Bunting Lane, an existing right of way. There are wetlands and a vernal pool shown on the plans that will not be disturbed. Based on this information above and in the record the Planning Board finds that this criterion will be met.

B. Relation of Proposed Buildings to Environment:
The Applicant has proposed the backlot driveway only. There are no proposed buildings. Based on this information above and in the record the Planning Board finds that this criterion will be met.

C. Compatibility with Residential Areas:
The proposed backlot driveway will be used to access the backlot for a future residential home. There is ample parking located on the lot for the proposed use and the proposal will not create any unsightly views, noise, odor, or lighting pollution. Based on this information above and in the record the Planning Board finds that this criterion will be met.

D. Vehicular Access:
This parcel does not appear to contain more than five hundred (500') feet of street frontage on a single street and consists of more than ten (10) acres; therefore, a conceptual access master plan is not required. Based on this information and in the record the Planning Board finds that this criterion will be met.

E. Access to Route:
The new backlot driveway will be accessed from Bunting Lane off Megquier Hill Rd. Based on this information and in the record the Planning Board finds that this criterion will be met.

F. Surface Water:
The Applicant has submitted a plan showing buffers, retention areas and level lip spreaders. Based on this information and in the record the Planning Board finds that this criterion will be met.

G. Conservation, Erosion, and Sediment Control:
The Applicant has submitted an erosion and sedimentation control plan. Based on this information and in the record the Planning Board finds that this criterion will be met.

H. Phosphorus Export:
The parcel is in the Thompson Lake watershed. The Applicant has proposed a phosphorus management plan using the phosphorus calculation form limiting the clearing to 15,000 square feet. Based on this information and in the record the Planning Board finds that this criterion will be met.

I. Site Conditions:
The Applicant will keep the site maintained and free from debris. Based on this information and in the record the Planning Board finds that this criterion will be met.

J. Signs:
There are no signs proposed on this application; therefore, the Planning Board finds that this section is not applicable.

K. Special Features:
The Applicant is not proposing to install any new mechanical equipment. Based on this information and in the record the Planning Board finds that this criterion will be met.

L. Exterior Lighting:
The Applicant is not proposing to install any new exterior lighting. Based on this information and in the record the Planning Board finds that this criterion will be met.

M. Emergency Vehicle Access:
The proposed backlot driveway and hammerhead create sufficient access to the backlot. Based on this information and in the record the Planning Board finds that this criterion will be met.

N. Municipal Services:
No Town department has disclosed any concerns with the application as it stands. Based on this information and in the record the Planning Board finds that this criterion will be met.

O. Water Supply:
Water supply is not a requirement of section 509.11 – Backlot Driveways; therefore, the Planning Board finds that this section is not applicable.

P. Ground Water:
The parcel is not located in an aquifer overlay district and there is no proposed above or below ground fuel storage; therefore, the Planning Board finds that this section is not applicable.

Q. Air Emissions:
The proposed backlot driveway will not create any dust, ash, smoke, or other particulate matter, and will meet or exceed the standards set by the MDEP. Based on this information and in the record, the Planning Board finds that this criterion will be met.

R. Odor Control:
The proposed backlot driveway will not produce any offensive or harmful odors. Based on this information and in the record the Planning Board finds that this criterion will be met.

S. Noise:
The Applicant has stated that the proposed backlot driveway will meet the Town and MDEP'S minimum noise standards. Based on this information and in the record the Planning Board finds that this criterion will be met.

T. Sewage Disposal
The Applicant will provide an HHE-200 for the new home prior to construction. Based on this information and in the record the Planning Board finds that this criterion will be met.

U. Waste Disposal
The Applicant is proposing no visible onsite waste disposal. Based on this information and in the record the Planning Board finds that this criterion will be met.

V. Buffer Areas
Existing buffers will remain in place. Based on this information and in the record the Planning Board finds that this criterion will be met.

W. Adequate Financial and Technical Capacity
The question of financial and technical capacity was not addressed in this application; therefore, the Planning Board finds that this section is not applicable.

X. Conformance with the Comprehensive Plan
The backlot driveway is permitted use in the Rural Residential 1 zoning district and will be in conformance with the Comprehensive Plan. Based on this information and in the record the Planning Board finds that this criterion will be met.

Conclusion

- The Planning Board reviewed the Site Plan application on May 23, 2023, at which time the Planning Board deemed the application as completed and decided to not hold a public hearing or site walk for the application.
- The Applicant has provided the Planning Board with a deed (Book 10573 Page 204) showing reasonable right, title, or interest in the property.
- The Planning Board has concluded that they have the jurisdiction to review the application under Ch. 5 §509.2.A.3, (New uses of existing structures or land or existing uses that require Site Plan Review)

Therefore, the Town of Poland Planning Board, by a vote 4-0, hereby approves with the following conditions the application for Richard Gill to create a backlot driveway as described in the application dated May 23, 2023, the site plan dated February 21, 2023, and the above findings of facts.

Conditions of Approval:

- Plan approval is also conditioned upon compliance by the Applicant with the plans and specifications which have been received by the Planning Board in connection with the development proposal as well as with any oral or written commitments regarding the project which were specifically made by the Applicant to the Planning Board in the course of its deliberations.
- This approval will expire twelve (12) months from the date of Planning Board approval if the project or the use has not been started within this allotted time.
- Building/use permits shall be obtained prior to the start of construction/use.
- The Applicant must apply for and obtain all applicable permits for the proposed development under the Natural Resources Protection Act, Title 38 M.R.S.A. Section 480-C, the Site Location of Development Act, the Erosion and Sedimentation Control Law, Title 38 M.R.S.A. section 420-C, the Stormwater Management Law, the Federal Clean Waters Act as delegated to the State of Maine, and all other applicable State and Federal laws regulating the use or development of land.
- The Applicant must obtain written permission from the abutting property owners prior to improvements on the section of Bunting Lane on their property.

Pursuant to Section 304.5.B of the CLUC anyone aggrieved of this decision may file a written appeal within Thirty (30) Days of date of this decision in accordance with Rule 80-B of the Maine Rules of Civil Procedure.

CEO Office Tel: 207-998-4604
Main Office Tel: 207-998-4601
E-mail: planningadmin@polandtownoffice.org

Date Approved: May 23, 2023
Poland Planning Board

_____	_____
George Greenwood, Chairman	James Porter, Vice Chairman
Absent with Notice	_____
Cheryl Skilling, Secretary	James Walker, Member
_____	_____
Jonathan Gilson, Member	