Notice of Intent Application

July 3, 2018 (Revised August 2, 2018)

Subject Parcel
313 Palmer Road
Assessor's Parcel ID: 10-0-105
Ware, Massachusetts

Applicant
Ware Palmer Road Solar LLC
c/o John Perry
1550 Liberty Ridge Drive, Suite 310
Wayne, PA 19087

Owner
Sunny Side Storage, LLC
Contact: Bill and Gail Moryl
313 Palmer Road
Ware, MA 01082

LEC Environmental Consultants, Inc.
100 Grove Street
Suite 302
Worcester, MA 01605
508-753-3077
508-753-3177 fax

www.lecenvironmental.com

August 2, 2018

Federal Express

Ware Conservation Commission
Ware Town Hall
126 Main Street
Ware, MA 01082

Re: Revised Notice of Intent Application [LEC File #: MAI\18-193.04]
Solar Development
313 Palmer Road
Assessor's Parcel ID: 10-0-105
Ware, Massachusetts

Dear Members of the Commission:

On behalf of the Applicant, Ware Palmer Road LLC, LEC Environmental Consultants, Inc., (LEC) is submitting this Revised Notice of Intent (Revised NOI) Application for the proposed construction of a photovoltaic solar facility on the above-referenced parcel in Ware, Massachusetts. This Revised NOI Application addresses the DEP comments issued with the DEP File Number (317-0449), and discussed during the June 18, 2018 Public Hearing. Bordering Vegetated Wetlands, Bank and Bank-Mean Annual High Water (MAHW) associated with two intermittent streams and a perennial stream, Land Under Water, and Riverfront Area are Wetland Resource Areas located on the site and are protected under the *Massachusetts Wetlands Protection Act* (*Act,* M.G.L., c. 131, s. 40) and its implementing *Regulations* (*Act Regulations,* 310 CMR 10.00). While the solar array is located within the 100-foot Buffer Zone (and beyond), portions of the proposed access road improvements are located within Bordering Vegetated Wetlands, Bank, Land Under Water, and Riverfront Area for a replacement roadway crossing in accordance with the *Massachusetts Stream Crossing Standards*.

As part of the proposed activities, the Applicant will implement erosion controls, establish a clearly defined Limit-of-Work, provide stormwater management measures in accordance with state requirements, and provide Riverfront Area Restoration and Enhancement, and Wetland Restoration, as required, in accordance with the *Act* and its implementing *Regulations*.

Meridian Associates, Inc., has prepared the attached *Ware Palmer Road Solar, LLC Permit Site Plan* (Sheets 1 through 12), dated July 2, 2018, and *Stormwater Analysis and Calculations Report,* also dated July 2, 2018.

The Applicant previously provided a check made payable to the Town of Ware in the amount of $800.00 for the town portion of the state filing fee. A check made payable to the Commonwealth of Massachusetts for $775.00 has been forwarded to the DEP Lockbox. Copies of the checks are included within this Application. The required Legal Advertisement was included in the June 28, 2018 edition of the *Ware River News*.

Thank you for your consideration of this Revised NOI Application. We look forward to meeting with you again at the August 8, 2018 Public Hearing. Should you have any questions, please do not hesitate to contact me in our Worcester office at 508-753-3077 or at rkirby@lecenvironmental.com.

Sincerely,

LEC Environmental Consultants, Inc.

Richard A. Kirby
Senior Wetland Scientist

cc: Ware Palmer Road LLC
Bill and Gail Moryl
Meridian Associates, Inc.

Notice of Intent Application

i. WPA Form 3 – Notice of Intent
ii. WPA Appendix B – Wetland Fee Transmittal Form
iii. Copy of Filing Fees
iv. Affidavit of Service
v. Abutter Letter
vi. Notice to Abutters
vii. Certified List of Abutters

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent REVISED

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

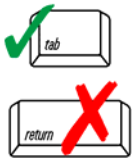
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Ware
City/Town

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

313 Palmer Road — a. Street Address
Ware — b. City/Town
01082 — c. Zip Code

Latitude and Longitude:
42.2470289 N — d. Latitude
-72.2749257 W — e. Longitude

Assessor's Map 10 — f. Assessors Map/Plat Number
Parcel 105 — g. Parcel /Lot Number

2. Applicant:

John — a. First Name
Perry — b. Last Name
Ware Palmer Road Solar LLC — c. Organization
1550 Liberty Ridge Drive, Suite 310 — d. Street Address
Wayne — e. City/Town
PA — f. State
19087 — g. Zip Code
978-857-5173 — h. Phone Number
n/a — i. Fax Number
jperry@dynamicenergy.com — j. Email Address

3. Property owner (required if different from applicant): ☐ Check if more than one owner

Bill and Gail — a. First Name
Moryl — b. Last Name
Sunny Side Storage, LLC — c. Organization
313 Palmer Road — d. Street Address
Ware — e. City/Town
MA — f. State
01082 — g. Zip Code
413-478-7100 — h. Phone Number
n/a — i. Fax Number
billmoryl@me.com — j. Email address

4. Representative (if any):

Richard — a. First Name
Kirby — b. Last Name
LEC Environmental Consultants, Inc. — c. Company
100 Grove Street, Suite 302 — d. Street Address
Worcester — e. City/Town
MA — f. State
01605 — g. Zip Code
508-753-3077 — h. Phone Number
50-753-3177 — i. Fax Number
rkirby@lecenvironmental.com — j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

$3,150.00 — a. Total Fee Paid
$1,562.50 — b. State Fee Paid
$1,587.50 — c. City/Town Fee Paid

A. General Information (continued)

6. General Project Description:

The Applicant proposes to install a 3.0 MW AC photovoltaic solar facility and associated infrastructure within the 100-foot Buffer Zone to BVW and Bank associated with intermittent streams. Site access includes improving and extending an existing gravel access drive over an intermittent stream per DEP Stream Crossing Standards. Portions of the proposed access drive will occur within Previously-Developed Riverfront Area.

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

1. ☐ Single Family Home
2. ☐ Residential Subdivision
3. ☐ Commercial/Industrial
4. ☐ Dock/Pier
5. ☒ Utilities
6. ☐ Coastal engineering Structure
7. ☐ Agriculture (e.g., cranberries, forestry)
8. ☐ Transportation
9. ☐ Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1. ☒ Yes ☐ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

310 CMR 10.53 (3) (t): roadway to renewable energy site. Eligible, but project meets all performance standards for work in Resource Areas.

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Hampshire	n/a
a. County	b. Certificate # (if registered land)
8803	60
c. Book	d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

1. ☐ Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
2. ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	45+/- (temporary) (1. linear feet)	45+/- in-kind restoration (2. linear feet)
b. ☒ Bordering Vegetated Wetland	50+/- (temporary) (1. square feet)	50+/- in-kind restoration (2. square feet)
c. ☒ Land Under Waterbodies and Waterways	375+/- (temporary) (1. square feet)	375+/- in-kind restoration (2. square feet)
	none (3. cubic yards dredged)	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. ☐ Bordering Land Subject to Flooding	(1. square feet)	(2. square feet)
	(3. cubic feet of flood storage lost)	(4. cubic feet replaced)
e. ☐ Isolated Land Subject to Flooding	(1. square feet)	
	(2. cubic feet of flood storage lost)	(3. cubic feet replaced)

f. ☒ Riverfront Area

unnamed
1. Name of Waterway (if available) - **specify coastal or inland**

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 4.7+/- acres (square feet)

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
1,895+/-	0	1,895+/-

5. Has an alternatives analysis been done and is it attached to this NOI? ☐ Yes ☒ No

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☒ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

   a. ☐ Yes ☒ No

   If yes, include proof of mailing or hand delivery of NOI to:

   Natural Heritage and Endangered Species Program
   Division of Fisheries and Wildlife
   1 Rabbit Hill Road
   Westborough, MA 01581

   2017
   b. Date of map

   If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

   c. Submit Supplemental Information for Endangered Species Review*

      1. ☐ Percentage/acreage of property to be altered:

         (a) within wetland Resource Area _____ percentage/acreage

         (b) outside Resource Area _____ percentage/acreage

      2. ☐ Assessor's Map or right-of-way plan of site

2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **

   (a) ☐ Project description (including description of impacts outside of wetland resource area & buffer zone)

   (b) ☐ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.

C. Other Applicable Standards and Requirements (cont'd)

(c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

*Projects altering **10 or more acres** of land, also submit:*

(d) ☐ Vegetation cover type map of site

(e) ☐ Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing.
a. NHESP Tracking # _____ b. Date submitted to NHESP _____

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

C. Other Applicable Standards and Requirements (cont'd)

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC

Online Users: Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a. ☐ Yes ☒ No

6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

a. ☐ Yes ☒ No

7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

2. ☒ A portion of the site constitutes redevelopment

3. ☐ Proprietary BMPs are included in the Stormwater Management System.

b. ☐ No. Check why the project is exempt:

1. ☐ Single-family house

2. ☐ Emergency road repair

3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

Ware Palmer Road Solar, LLC Permit Site Plan (12 sheets)
a. Plan Title

Meridian Associates, Inc. | David Kelly, PE
b. Prepared By | c. Signed and Stamped by

Dated July 2, 2018 | 1" = 50'
d. Final Revision Date | e. Scale

Stormwater Analysis & Calculations Report prepared by Meridian Associates, Inc. | July 2, 2018
g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

1. ☐ Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

8275 dated 6/27/2018 and 8367 dated 7/13/18
2. Municipal Check Number

3. Check date

8274 dated 6/27/18 and 8366 dated 7/13/18
4. State Check Number

5. Check date

Dynamic Solar, LLC
6. Payor name on check: First Name

7. Payor name on check: Last Name

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant	2. Date 6/27/18
3. Signature of Property Owner (if different)	4. Date 6/27/18
5. Signature of Representative (if any)	6. Date 7-2-18

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

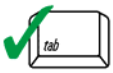
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

313 Palmer Road	Ware
a. Street Address	b. City/Town
8274	$775.00
c. Check number	d. Fee amount

2. Applicant Mailing Address:

John		Perry	
a. First Name		b. Last Name	
Ware Palmer Road LLC			
c. Organization			
1550 Liberty Ridge Drive, Suite 310			
d. Mailing Address			
Wayne	PA	19087	
e. City/Town	f. State	g. Zip Code	
978-857-5173	n/a	jperry@dynamicenergy.com	
h. Phone Number	i. Fax Number	j. Email Address	

3. Property Owner (if different):

Bill and Gail		Moryl	
a. First Name		b. Last Name	
Sunny Side Storage, LLC			
c. Organization			
313 Palmer Road			
d. Mailing Address			
Ware	MA	01082	
e. City/Town	f. State	g. Zip Code	
413-478-7100	n/a	billmoryl@me.com	
h. Phone Number	i. Fax Number	j. Email Address	

B. Fees

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 3c: roadway	1.5 (Riverfront Area)	$1,050.00	$1,575.00
Category 3b: remainder of project	1.5 (Riverfront Area)	$1,050.00	$1,575.00

Step 5/Total Project Fee: $3,150.00

Step 6/Fee Payments:

Total Project Fee:	$3,150.00 (a. Total Fee from Step 5)
State share of filing Fee:	$1,562.50 (b. 1/2 Total Fee **less $**12.50)
City/Town share of filling Fee:	$1,587.50 (c. 1/2 Total Fee **plus** $12.50)

C. Submittal Requirements

a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Copy of Filing Fees

MERIDIAN BANK 8275

60-1882/319
02

DYNAMIC SOLAR, LLC
1550 LIBERTY RIDGE DR. SUITE 310
WAYNE, PA 19087

6/27/2018

PAY TO THE ORDER OF Town of Ware $ **800.00

Eight Hundred and 00/100********** DOLLARS

Town of Ware

MEMO DEP Filing Fee

AUTHORIZED SIGNATURE

⑈008275⑈ ⑆031918828⑆ 4011565⑈

MERIDIAN BANK 8274

60-1882/319
02

DYNAMIC SOLAR, LLC
1550 LIBERTY RIDGE DR. SUITE 310
WAYNE, PA 19087

6/27/2018

PAY TO THE ORDER OF Commonwealth of Massachusetts [redacted] $ **775.00

Seven Hundred Seventy-Five and 00/100********** DOLLARS

Commonwealth of Massachusetts

MEMO DEP Filing Fee

AUTHORIZED SIGNATURE

⑈008274⑈ ⑆031918828⑆ 4011565⑈

Copy of Filing Fees

MERIDIAN BANK 8367

60-1882/319
02

DYNAMIC SOLAR, LLC
1550 LIBERTY RIDGE DR. SUITE 310
WAYNE, PA 19087

7/13/2018

PAY TO THE ORDER OF Town of Ware $ **787.50

Seven Hundred Eighty-Seven and 50/100********** DOLLARS

Town of Ware

MEMO DEP Filing Fee

AUTHORIZED SIGNATURE

Photo Safe Deposit®
Details on Back.

⑈008367⑈ ⑆031918828⑆ 4011565⑈

MERIDIAN BANK 8366

60-1882/319
02

DYNAMIC SOLAR, LLC
1550 LIBERTY RIDGE DR. SUITE 310
WAYNE, PA 19087

7/13/2018

PAY TO THE ORDER OF Commonwealth of Massachusetts $ **787.50

Seven Hundred Eighty-Seven and 50/100********** DOLLARS

Commonwealth of Massachusetts

MEMO DEP Filing Fee

AUTHORIZED SIGNATURE

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AFFIDAVIT OF SERVICE

Under the *Massachusetts Wetlands Protection Act*

I, Sharon A. Sullivan, on behalf of Ware Palmer Road LLC, hereby certify under the pains and penalties of perjury that on July 3, 2018 I gave notification to abutters in compliance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40 and 310 CMR 10.05 (4) (a), in connection with the following matter:

> A Notice of Intent filed under the *Massachusetts Wetlands Protection Act* by LEC Environmental Consultants, Inc., on behalf of the Applicant, Ware Palmer Road LLC, with the Town of Ware Conservation Commission on July 3, 2018 for property located at 313 Palmer Road (Assessor's Parcel ID: 10-0-105) in Ware, Massachusetts.

The form of notification, and a list of the abutters to whom it was given and their addresses, are attached to this Affidavit of Service.

Sharon A. Sullivan _____ 7/3/18

Sharon A. Sullivan
Permitting Technician

Date

July 3, 2018

Certified Mail

«Name»
«Name2»
«Address»
«City» «State» «Zip»

Re: Notice of Intent Application [LEC File #: MAI\18-193.04]
313 Palmer Road
Assessor's Parcel ID: 10-0-105
Ware, Massachusetts

Dear Abutter:

On behalf of the Applicant, Ware Palmer Road LLC, LEC Environmental Consultants, Inc., (LEC) has filed a Notice of Intent (NOI) Application with the Ware Conservation Commission for the proposed construction of a photovoltaic solar facility at 313 Palmer Road in Ware, Massachusetts. Bordering Vegetated Wetlands, Bank, and Bank-Mean Annual High Water associated with two intermittent streams and a perennial stream, Land Under Water, and Riverfront Area are Wetland Resource Areas located on the site and are protected under the *Massachusetts Wetlands Protection Act* (*Act,* M.G.L., c. 131, s. 40) and its implementing *Regulations* (*Act Regulations,* 310 CMR 10.00). While the solar array is located within the 100-foot Buffer Zone (and beyond), portions of the proposed access road improvements are located within Bordering Vegetated Wetlands, Bank, Land Under Water, and Riverfront Area for a replacement roadway crossing in accordance with the *Massachusetts Stream Crossing Standards.*

As part of the proposed activities, the Applicant will implement erosion controls, establish a clearly defined Limit-of-Work, provide stormwater management measures in accordance with state requirements, and provide Riverfront Area Restoration and Enhancement, and Wetland Restoration, as required, in accordance with the *Act* and its implementing *Regulations.*

The *NOI Application* and site plan are available for review by the public at the Ware Conservation Commission. The Public Hearing is scheduled for July 18, 2018 at 6:30 p.m. in the Selectmen's Meeting Room located at Ware Town Hall, 126 Main Street, in accordance with the provisions of the *Massachusetts Wetlands Protection Act* (M.G.L. Ch. 131, s. 40, as amended) and its implementing *Regulations* (310 CMR 10.00). Further information regarding this application and the date and time of the public hearing will be published at least five (5) days in advance in *The Ware River News*. Notice of the Public Hearing will also be posted at the Ware Town Hall at least 48 hours in advance.

Please do not hesitate to review the materials and/or attend the public hearing should you have questions or concerns about the proposed project.

Sincerely,

LEC Environmental Consultants, Inc.

Richard A. Kirby
Senior Wetland Scientist

Enclosure

Notification to Abutters Under the

Massachusetts Wetlands Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, you are hereby notified of the following:

A. The name of the Applicant is Ware Palmer Road LLC, 1550 Liberty Ridge Drive, Suite 310, Wayne, PA 19087.

B. The Applicant has filed a Notice of Intent with the Conservation Commission for the municipality of Ware, Massachusetts seeking permission to remove, fill, dredge or alter an Area Subject to Protection Under the Massachusetts Wetlands Protection Act (General Laws Chapter 131, Section 40).

C. The address of the lot where the activities are proposed is 313 Palmer Road (Assessor's Parcel ID: 10-0-105), Ware, Massachusetts.

D. Copies of the Notice of Intent may be examined by contacting the Ware Conservation Commission at (413) 967-9648 between the hours of 8:00 a.m. and 4:00 p.m., Monday thru Friday.

   For more information, call: LEC Environmental Consultants, Inc. (the applicant's representative) at (781) 245-2500.

E. Copies of the Notice of Intent may be obtained from LEC Environmental Consultants, Inc. (the applicant's representative) by calling (781) 245-2500 between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday. A fee may be charged for each copy requested.

F. Information regarding the public hearing may be obtained from the Ware Conservation Commission (the regulatory agency) by calling (413) 967-9648 between the hours of 8:00 a.m. and 4:00 p.m., Monday thru Friday.

NOTE: Notice of the Public Hearing, including its date, time, and place, will be published at least five (5) days in advance in The Ware River News.

NOTE: Notice of the public hearing will also be posted at the Ware Town Hall not less than 48 hours in advance.

NOTE: You also may contact the nearest Department of Environmental Protection Regional Office for more information about this application or the Wetlands Protection Act. To contact DEP, call:

Western Region: 413-784-1100

TOWN OF WARE
BOARD OF ASSESSORS
126 MAIN STREET, TOWN HALL, SUITE G
WARE, MASSACHUSETTS 01082-1336
TEL: (413) 967-9648X179 FAX: (413) 967-4227

June 21, 2018

Meridian Associates
500 Cummings Center, Suite 5950
Beverly, MA 01915

RE: Sunny Side Storage
313 Palmer Rd.
Map 10, Lot 105

Dear Board Members:

Listed on the attached sheet are the record owners of Real Property within 300' of the above-captioned property requested by Elizabeth E. Wade of Meridian Associates for the purpose of a Site Plan Review/Special Permit.

I certify the attached Abutters List to be true and complete to the best of my knowledge.

Respectfully,

Theodore P. Balicki

Theodore P. Balicki
Chairman

PDH/laj

Enclosure

Town of Ware
Abutters List

Subject Parcel ID:

Subject Property Location:

ParcelID	Location	Owner	Co-Owner	Mailing Address	City	State	Zip
10-0-100	312 PALMER RD	CHAN SHUI LING	CHAN KON SHIN	3 SOUTHWOOD CR	HAMPDEN	MA	01036
10-0-102	314 PALMER RD	LEE DOMINICK	LEE DENISE	314 PALMER RD	WARE	MA	01082
10-0-103	316 PALMER RD	BATOR DOUGLAS J	BATOR DOREEN M	316 PALMER RD	WARE	MA	01082
10-0-104	318 PALMER RD	LUGO JAVIER	SANTANA MARIELA	318 PALMER RD	WARE	MA	01082
10-0-106	305 PALMER RD	FERRENTINO MARIO	FERRENTINO CLAUDIO	P O BOX 111	WARE	MA	01082
10-0-107	295 PALMER RD	COCHRAN RYAN L		295 PALMER RD	WARE	MA	01082
10-0-47	304 PALMER RD	PAJAK JOAN M TRUSTEE	THE JOAN M PAJAK LIVING	304 PALMER RD	WARE	MA	01082
10-0-48	306 PALMER RD	PAJAK JOHN S SR		2 WOODLAND HEIGHTS	WARE	MA	01082
10-0-49	2 WOODLAND HT	PAJAK JOHN S SR		2 WOODLAND HEIGHTS	WARE	MA	01082
10-0-63	5 WOODLAND HT	DUPELL WILLIAM C JR	DUPELL LAURIE A	5 WOODLAND HT	WARE	MA	01082
10-0-64	3 WOODLAND HT	EDGAR JOANNE M		3 WOODLAND HT	WARE	MA	01082
10-0-65	308 PALMER RD	KIVIOR DONALD	KIVIOR ANTHONY	308 PALMER ROAD	WARE	MA	01082
10-0-66	310 PALMER RD	SMITH KRISTY L		310 PALMER RD	WARE	MA	01082
10-0-67	2 LONGVIEW AV	HALEY GERALD T	HALEY BRANDON S	PO BOX 365	WARE	MA	01082
10-0-68	4 LONGVIEW AV	NICORN LLC		5 BLACKBERRY LANE	GRAFTON	MA	01519
10-0-99	5 LONGVIEW AV	WEDHOFF STEVEN		5 LONGVIEW AV	WARE	MA	01082
10-105-1	315 PALMER RD	MORYL WILLIAM A	MORYL JENNIFER L	315 PALMER RD	WARE	MA	01082
10-107-1	PALMER RD	FERRENTINO MARIO	FERRENTINO CLAUDIO	PO BOX 111	WARE	MA	01082
15-0-14	DUGAN RD	HIGNEY CHRISTINA J	MOULSON-LITCHFIELD MA	33 DUGAN RD	WARE	MA	01082
9-0-103	33 DUGAN RD	HIGNEY WAYNE R	HIGNEY CHRISTINA J.	33 DUGAN RD	WARE	MA	01082
9-0-104	29 DUGAN RD	NOBLE PAUL E		29 DUGAN RD	WARE	MA	01082
9-0-130	19 KINGSBERRY LN	KULARSKI DANNI J	KULARSKI CAITLIN R	20 KINGSBERRY LANE	WARE	MA	01082
9-0-131	17 KINGSBERRY LN	MC DONALD IVY		120 ELMORE AVE	SPRINGFIELD	MA	01119
9-0-132	15 KINGSBERRY LN	PULCHTOPEK MOLLY A		15 KINGSBERRY LN	WARE	MA	01082
9-0-133	13 KINGSBERRY LN	DESABRAIS JAMES III		13 KINGSBERRY LN	WARE	MA	01082
9-0-134	11 KINGSBERRY LN	CYGAN STANLEY P LIFE ESTATE	CYGAN PATRICIA A LIFE E	11 KINGSBERRY LN	WARE	MA	01082
9-0-135	9 KINGSBERRY LN	BROWN CHARLES R SR	BROWN SHARON A	9 KINGSBERRY LANE	WARE	MA	01082
9-0-137	321 PALMER RD	KUCHARCZYK WALTER J JR	BURKHART KIM A	325 PALMER RD	WARE	MA	01082
9-0-138	319 PALMER RD	MORYL WILLIAM A	MORYL JENNIFER L	315 PALMER RD	WARE	MA	01082
9-105-1	KINGSBERRY LN	GOSSELIN ELIZABETH		27 DUGAN RD	WARE	MA	01082
9-105-2	27 DUGAN RD	GOSSELIN ALBERT P	GOSSELIN PATRICIA A	27 DUGAN RD	WARE	MA	01082

Parcel Count: **31**

End of Report

LEC

Notice of Intent Application

313 Palmer Road
Assessor's Parcel ID: 10-0-105
Ware, Massachusetts

July 3, 2018
(Revised August 2, 2018)

1. Introduction

On behalf of the Applicant, Ware Palmer Road LLC, (Contact: John Perry), LEC Environmental Consultants, Inc., (LEC) is filing the enclosed Revised Notice of Intent (Revised NOI) Application with the Ware Conservation Commission to install a photo-voltaic solar array and associated infrastructure at 313 Palmer Road in Ware, Massachusetts. This Revised NOI Application addresses the DEP comments issued with the DEP File Number (317-0449), and discussed during the June 18, 2018 Public Hearing.

While the proposed solar array is located within the 100-foot Buffer Zone (and beyond), portions of the proposed access road improvements are located within Bordering Vegetated Wetlands, Bank, Land Under Water, and Riverfront Area for a replacement roadway crossing in accordance with the *Massachusetts Stream Crossing Standards*.

As part of the proposed activities, the Applicant will implement erosion controls, establish a clearly defined Limit-of-Work, provide stormwater management measures according to state requirements, and provide Wetland Restoration, Riverfront Area Restoration, and Riverfront Area Enhancement, as required under the *Massachusetts Wetlands Protection Act* (the *Act*, M.G.L. c. 131, s. 40) and its implementing *Regulations* (the *Regulations*, 310 CMR 10.00).

The existing conditions and proposed activities are depicted on the *Ware Palmer Road Solar, LLC Permit Site Plan* (*Plan Set*, Sheets 1 through 12), prepared by Meridian Associates, Inc., dated July 2, 2018; and *Stormwater Analysis and Calculations Report* (*Stormwater Report*), also dated July 2, 2018 and prepared by Meridian Associates, Inc.

The following NOI Application provides a description of the existing Wetland Resource Areas, proposed project, and mitigating measures proposed to protect the interests and values of the Wetland Resource Areas enumerated within the above-referenced statutes.

2. General Site Description

The approximately 29.58-acre property is located within the southern portion of Ware, Massachusetts (Appendix A, Figure 1). Single-family dwellings situated along Palmer Road and Kingsberry Lane generally occur to the east, west, and south of the southern portion of the site, which contains a commercial storage facility comprised of two structures accessed via a paved and gravel access drive and parking. Undeveloped

forested uplands and wetlands generally comprise the northern two thirds of the property, and extend off-site. Site topography generally descends southerly for roughly 105 feet in elevation toward Palmer Road. Two intermittent streams occur along the eastern and western property boundaries, converging with a perennial stream that flows through the southern portion of the site. An existing gravel road extends over the western intermittent stream via a timber culvert just north of the existing site development. According to the land owner, and others at the July 18, 2018 Public Hearing, this crossing has been in place for 30-40+ years in the form of a stone 'bridge' and was subsequently reinforced with timbers, which are now failing.

Forested upland vegetation within the property includes a canopy of predominantly eastern white pine (*Pinus strobus*), with patches of northern red oak (*Quercus rubra*), and individuals of white oak (*Quercus alba*), red maple (*Acer rubrum*), black cherry (*Prunus serotina*), and shagbark hickory (*Carya ovata*). The understory contains patches of witch hazel (*Hamamelis virginiana*) and multiflora rose (*Rosa multiflora*), with patches and individuals of saplings from the canopy, and black raspberry (*Rubus alleghaniensis*) observed within canopy openings. The groundcover contains large patches of hay scented fern (*Dennstaedtia punctilobula*) and New York fern (*Thelypteris noveboracensis*), with scattered patches of cinnamon fern (*Osmunda cinnamomea*), wood fern (*Dryopteris* sp.), Canada mayflower (*Maianthemum canadensis*), and tree clubmoss (*Lycopodium obscurum*).

LEC inspected soil conditions within the upland areas along the BVW boundary using a hand-held, Dutch-style soil auger and generally observed a roughly 6 to 8-inch thick, fine sandy loam topsoil (A horizon), with a soil matrix color of 10YR 2/2. The A horizon is generally underlain by a weathered, fine sandy loam subsoil (B_w horizon) to a depth of 20+ inches, with a soil matrix color ranging from 10YR 4/4 to 4/6. Generally, no redoximorphic features were observed within the topsoil or subsoil horizons, or if they were observed, occur too deep within the soil profile, and within high-chroma subsoils. The upland soil profiles are not considered 'hydric' in accordance with the *Field Indicators Guide.*

2.1 Natural Heritage and Endangered Species Program Designation

According to the 14th edition of the Massachusetts *Natural Heritage Atlas* (effective August 1, 2017) published by the Natural Heritage & Endangered Species Program (NHESP), no portion of the site is located within an Estimated Habitat of Rare Wildlife or Priority Habitat of Rare Species, and no Certified Vernal Pools occur on or within the vicinity of the site (Appendix A, Figure 3).

2.2 Floodplain Designation

According to the August 17, 1981 *Federal Emergency Management Agency Flood Insurance Rate Map* for Ware, Massachusetts (Map Number: 2501720021B), Appendix A, Figure 2), the entire site is located within Zone C: *Areas of minimal flooding*.

3. Wetland Resource Area Boundary Determination Methodology

The boundaries of Bordering Vegetated Wetlands (BVW) and the Bank-Mean Annual High Water (MAHW) Line associated with the perennial stream were delineated by Meridian Associates, Inc., and subsequently reviewed by LEC on June 22, 2018. The extent of BVW was determined through observations of existing plant communities using the "fifty percent criteria" to determine dominance of wetland/upland vegetation, the interpretation of soil characteristics, and other indicators of wetland hydrology in accordance with the Massachusetts Department of Environmental Protection (MADEP) handbook, *Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act* (March 1995), the *Field Indicators for Identifying Hydric Soils in New England* (May, 2017), and the criteria set forth in the *Act* and *Act Regulations*. The extent of Bank-MAHW was determined through visual observation of multiple corroborating Bankfull Indicators in accordance with the *Act Regulations.*

The BVW boundaries were demarcated in the field with sequentially-numbered, pink surveyor's flagging tape. BVW flags, numbered A-46 through A-76, B-12 through B-34, and C-1 through C-12, were survey located by Meridian Associates, Inc.

4. Wetland Resource Area Descriptions

Wetland Resource Areas associated with the site include BVW, Bank-MAHW, Land Under Water (LUW), and Riverfront Area. These Wetland Resource Areas are further described below.

4.1 Bordering Vegetated Wetlands

BVW is defined in 310 CMR 10.55(2) as *freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. In these areas soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The boundary of BVW is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist.*

Forested wetlands associated with two intermittent streams and a perennial stream generally occur along the eastern and western property boundaries. The BVWs are generally characterized as forested wetlands throughout the property, although scattered pockets of wet meadow occur within the southern portions of the site adjacent to the existing site development.

The forested wetlands are dominated by red maple (*Acer rubrum*), with scattered individual trees from the adjacent forested upland (described above). The understory contains patches of highbush blueberry (*Vaccinium corymbosum*) and winterberry holly (*Ilex verticillata*), with scattered patches and individuals of saplings. The groundcover is dominated by cinnamon fern, with patches of peat moss (*Sphagnum* sp.), skunk cabbage (*Symplocarpus foetidus*), jewelweed (*Impatiens capensis*), and individual patches of sedges (*Carex* sp.), rushes (*Juncus* sp.), and Jack-in-the-pulpit (*Arisaema triphyllum*).

LEC inspected soil conditions using a hand-held, Dutch-style soil auger within wetland areas proximate to the BVW boundary and generally observed a 6 to 10-inch thick, mucky fine sandy loam topsoil (A horizon). In places, a sapric organic layer (O_a layer) was observed above, or in lieu of the topsoil horizon. The topsoil is generally underlain by boulders; however, a depleted, fine sandy loam subsoil (B_g horizon) with a soil matrix colors ranging from 10YR 4/2 to 3/2 was intermittently observed. The soil profiles observed within the BVW are considered 'hydric' in accordance with the *Field Indicators Guide.*

4.2 Bank and Land Under Water

Bank is the first observable break in slope or the mean annual flood level, whichever is lower. The lower boundary of a Bank is the mean annual low flow level [310 CMR 10.54 (2) (c)].

Land Under Water Body (LUW) is the land beneath any creek, river, stream, pond, or lake. [310 C.M.R. 10.56 (2)(a)][1].

Two intermittent streams extend through the BVW along the eastern and western property boundaries. Where observed, the streams are contained with channels of variable width, with Banks measuring roughly 6 inches in height. Land Under Water also is variable, containing scattered stoned and coarse gravel near the existing timber culvert crossing, and containing leaf detritus and organic material within other portions of the streams.

[1] According to case law (Docket No. 97-074, Katherine Conroy vs. MA DEP), intermittent streams contain Land Under Water Bodies (LUW) as defined in the *Act Regulations*.

4.2.1 Intermittent Stream Status

The streams described above are not depicted on the USGS Topographic Map (Appendix A, Figure 1), and are therefore presumed to be intermittent. In order to confirm the intermittent status of these streams in accordance with 310 CMR 10.58 (2) (a) 1., LEC utilized the USGS water resources web application, StreamStats. Based on the included StreamStats Watershed Maps depicting the contributing watershed areas and the StreamStats Site Reports (included as Appendix B), the contributing watershed area to the western stream (Point 1 on the StreamStats Map) measures 0.0629 square miles. The contributing watershed area to the eastern stream (Point 2 on the StreamStats Map) measures 0.16 square miles. No 99% flow durations were provided by SteamStats (likely due to the small watershed sizes). Given that these watershed areas are significantly less than the 1.0 square mile 0.50 square mile thresholds referenced in 10.58 (2) (a) 1. c., the streams not depicted on the USGS Topographic Map are confirmed to be intermittent. Point 3 measures the contributing watershed area to the perennial stream at a point downstream of the site. According to StreamStats, the contributing watershed area to this point measures 0.50 square miles, with a 99% flow duration of 0.0209 cubic feet/second.

4.3 Bank-Mean Annual High Water

The Mean Annual High Water Line of a river is the line that is apparent from visible markings or changes in the character of soils or vegetation due to the prolonged presence of water and that distinguishes between predominantly aquatic and predominantly terrestrial land. Field indicators of bankfull conditions shall be used to determine the mean annual high-water line. Bankfull field indicators include but are not limited to: changes in slope, changes in vegetation, stain lines, top of point bars, changes in bank materials, or bank undercuts [310 CMR 10.58 (2) (a) 2].

The Bank-MAHW Line associated with the perennial stream situated within the southern portion of the site was determined visually through observation of Bankfull Indicators, including scouring, stain lines, and an obvious transition between predominantly aquatic and terrestrial land.

4.4 Riverfront Area

Riverfront Area is the area of land between a river's mean annual high waterline measured horizontally outward from the river and a parallel line located 200 feet away…Where rivers flow through lakes or ponds, the riverfront area stops at the inlet and begins again at the outlet. [310 CMR 10.58(2), (2)(1)(e)].

The 200-foot Riverfront Area extends from the Bank-MAHW Line associated with the site's perennial stream and includes the adjacent forested wetlands and uplands, portions of the adjacent storage facility site development, and the existing intermittent stream crossing, gravel road, and adjacent areas.

5. Proposed Activities and Construction Sequence

5.1 Photo-Voltaic Solar Array and Associated Access and Infrastructure

The project includes installation of a photo-voltaic solar array and associated infrastructure largely situated within the northern portion of the site, as depicted on the *Plan Set*. The array will occupy roughly 15 acres (to the chain-link fence enclosure) and generate a total of 3.0+/- megawatts (AC) of solar power. Access to the proposed array will be provided via an extension of the existing paved/gravel road associated with the storage facility, and includes replacing the existing timber stream crossing with a 3-sided box culvert in accordance with the *MA DEP Stream Crossing Standards*.

The solar panels will be supported via a post racking system at existing grade (see Sheet 12 of the *Plan Set*). In order to prepare the site for the solar array and associated infrastructure, the existing forested areas will be cleared of vegetation and debris, grubbed, and raked smooth. The panels and associated electrical infrastructure will be installed, including a series of subsurface electrical conduits, utility poles, and overhead wires installed along the improved gravel road to connect the array to the existing electrical infrastructure located along Palmer Road. The entire array will be enclosed with a 7-foot high, chain-link fence, with gates provided as needed for access.

Following installation, the footprint of the array will be seeded with the *New England Conservation/Wildlife Seed Mixture* available from New England Wetland Plants, Inc., (www.newp.com), or native equivalent if unavailable. Vegetation maintenance, including mowing and re-seeding, will be conducted as needed to limit woody plant growth and maintain adequate cover and stabilization.

The array will be accessed via the existing paved/gravel road extending from the existing storage facility. The gravel portions of the road will be improved with additional gravel and widened as needed to a uniform width of 15 to 20 feet to provide adequate equipment and safety access to the array (see cross section on Sheet 12 of the *Plan Set*). The access road will then be extended northerly along the southeastern edge of the array and a turn-around area is proposed for emergency and maintenance vehicles. The gravel access road width within this extended portion will measure 20 feet.

As part of the access improvement, the existing timber culvert extending beneath the gravel road near BVW flags A-52 through A-54 and B-29 through B-31 will need to be replaced with a 20-foot wide by 3.5-foot high, 3-sided box culvert (see *Plan Set* Sheet 8 of 12). The box culvert will be embedded 2 feet into the ground, resulting in roughly 1.5 feet of cover over the stream bottom (LUW). The proposed box culvert exceeds the *MA DEP Stream Crossing Standards* by providing a 1.2x Bankfull Width (which measures 15.5+/- feet), and an Openness Ratio of 2.15.

Roughly 10 feet of construction access for installing the box culvert is provided on either side of the crossing, which will result in temporary alteration to BVW (50+/- square feet), Bank (45+/- linear feet), and LUW (375+/- square feet). All temporary alteration for construction access will be restored in-kind following culvert installation. Specifically, the Banks and BVW will be returned to existing grade (if any changes were made) and seeded with the *FACW Meadow Mix* available by Ernst Conservation Seeds (or native equivalent, if unavailable). LUW also will be restored by replacing any disturbed stones, gravel, etc.

The proposed array (to the chain-link fence) will occupy roughly 15.8 acres of land, of which roughly 5.1 acres are located within the 100-foot Buffer Zone, as close as 25 feet to the BVW boundaries. Additional tree clearing is proposed within the 25-foot Buffer Zone to minimize shading within the array; however, this tree clearing will occur via a crane, and/or other tree clearing equipment set outside the 25-foot Buffer Zone. Trees will be cut roughly 8-10 feet from the ground surface, and the forest understory (saplings, shrubs, groundcover, etc.) will remain intact, providing an 'early successional forest' buffer separating the proposed array from the adjacent wetland.

5.2 Shade Analysis

In order to support the cost of utility infrastructure upgrades required to accommodate the proposed array, roughly 3MW (AC) of power generation is required. The Applicant conducted a preliminary shade analysis at two design sizes to determine the feasibility of leaving the trees within the 25-foot Buffer Zone. The *Record Conditions Plan of Land* prepared y Meridian Associates, Inc., dated June 1, 2018 (Appendix D) maintains trees within the 25-foot Buffer Zone. The shade resulting from these trees reduces the power production level in all seasons to an economically unfeasible energy production rate.

In order to mitigate for this loss in power generation, the Applicant increased the module wattage to 365W, reconfigured the site, and conducted a second shading analysis that included cutting of trees within the 25-foot Buffer Zone (see *Record Conditions Plan of Land* prepared by Meridian Associates, Inc., dated June 7, 2018, Appendix D). By

increasing the module wattage and cutting trees within the 25-foot Buffer Zone, adequate power generation is provided to make the project feasible, despite having panels to the west that will be shaded in the winter, fall, and spring months, and panels to the east that will be in shaded during the fall and spring months.

5.3 Construction Sequence

The following Construction Sequence provides additional detail on the phasing and sequencing of construction for the proposed project.

1. Contact Dig Safe (888.344.7233) and obtain clearance at least 72 hours before initiating any excavation.
2. Establish erosion and sedimentation control measures in accordance with the approved Site Plans referenced in the Order of Conditions issued by the Ware Conservation Commission. Perform inspections, repair if necessary, and document after each precipitation event of 0.25-inches or greater per Stormwater Pollution Prevention Plan (SWPPP).
3. Prior to construction, the contractor shall construct a temporary gravel construction entrance/exit pad at the site entrance as depicted on Sheet 11 of the *Plan Set*. The pad shall consist of 1-3" coarse aggregate with minimum dimensions of 50' (length) x 20' (width) x 6" (depth) set on geotextile fabric to stabilize the foundation (especially important where wetness is anticipated).
4. Perform clearing activities in order to improve/install gravel access drive and turnaround, including installation of new stream crossing.
5. Site preparation shall include clearing, grubbing, and removal of existing vegetation and debris. All trees, stumps, brush, shrubs, roots, grass, weeds, rubbish, stones larger than 2-in. in the largest diameter and other objectionable material shall be removed and either appropriately disposed of, or used elsewhere on the property. Areas outside of the limits of work shall be protected from damage and no equipment or materials shall be stored in these areas. No stumps, trees, limbs, or brush shall be buried in any fills or embankments.
6. Restore BVW, Bank, and LUW per plan and narrative requirements. Refer to NOI Application as prepared by LEC Environmental Consultants, Inc. for details regarding restoration.
7. Construct Sedimentation Basins (shown on Plans) and trenches.

8. Grubbing of areas within the proposed fence and grading areas only shall be conducted after the installation of the sedimentation basin.
9. For areas where no grading is proposed, repair uneven areas within limits of the solar development, as necessary to create a tolerable ground surface. General tolerance for allowable ground slope is a two foot vertical change over a 20 foot horizontal run [note that this refers to the allowable longitudinal slope (i.e., along the contour) and not the inclination of the exposure (i.e., perpendicular to the contour)].
10. Upon signs of concentrated flow by evidence of gullying or rilling in disturbed areas, hay bales shall be placed in these areas, spaced every 50' in the upgradient slope.
11. Receive and stage materials. Re-locate components (e.g., conduit, wiring, and posts) to solar development areas as they are required.
12. Install ground post racking system. Mount the PV panels on frame at the specified orientation and exposure (to be provided by project MEP prior to construction).
13. Run underground electrical conduit to PV frames and install panel wiring (location to be provided by project MEP prior to construction).
14. Install PV combiner boxes with flexible connections to connect PV panels to conduit (location to be provided by project MEP prior to construction).
15. Construct concrete equipment pads. Install and connect ground mounted electrical equipment. A disconnect location will be on the outside on the narrowest side of the platform.
16. Run conduit from the concrete equipment pads towards the point of interconnection as depicted on the site plan.
17. Install riser poles and utility poles with electrical components and overhead wiring from the point of interconnection to the array.
18. Construct all 7' high chain link fence, gates, and swing gates with a knox box at the Main Entrance.
19. All disturbed areas shall be seeded with *New England Wildlife/Conservation Seed Mix* available from New England Wetland Plants, Inc. (www.newp.com) or native equivalent if unavailable as specified in the NOI Application. In the event that the seeding falls outside of the recommended seeding dates, disturbed areas

shall be re-established using alternative methods as approved by the project site engineer.

20. Remove any accumulated sediment from the sedimentation basins and trenches. The sedimentation basins and trenches are to be lined with riprap and remain in place after construction.
21. Upon completion of construction activities within the limit of work, the construction shall effectively and permanently stabilize the site.
22. Conduct As-built survey, prepare As-built plans, and apply for Certificate of Compliance from Ware Conservation Commission.

6. Mitigation Measures

The Applicant proposes to install erosion controls that clearly define the Limit-of-Work, provide stormwater management, and wetland replication.

6.1 Erosion and Sedimentation Control

A sedimentation and erosion control program will be implemented to protect the adjacent Wetland Resource Areas from sedimentation during the proposed construction activities. As shown on the attached *Plan Set*, including Sheets 10 and 11, erosion controls, consisting of hay bales and entrenched siltation fencing, will be installed to demarcate the limit of work and provide assurance that construction equipment will not further intrude upon the Buffer Zone than allowed. In addition to the erosion controls established at the Limit-of-Work line, a second row of hay bales is proposed within the central portion of the site, and two stone trenches are proposed within the eastern portion of the site. A swale with check dams is proposed within the western portion of the site. All barriers will remain in place and be maintained until disturbed areas are stabilized. In addition, all disturbed areas will be seeded with the *New England Wildlife/Conservation Seed Mix* available from New England Wetland Plants, Inc. (www.newp.com) or native equivalent if unavailable, as noted above. Additionally, a construction tracking pad is proposed at the construction entrance to minimize vehicular sediment transport off the Site (detail on Sheet 11 of the *Plan Set*).

6.2 Stormwater Management Measures

Meridian Associates, Inc., has designed a comprehensive stormwater management system to collect and detain stormwater run-off associated with the solar array and gravel roadway as needed to comply with DEP stormwater management requirements.

Stormwater run-off from the proposed gravel access road and array will be directed to one of two stormwater basins proposed within the northeastern and southern portions of the site. Stone trenches will be installed along the eastern edge of the proposed array, while a grass-lined swale (with check dams) is proposed along the western edge of the array to direct surface run-off toward the southern stormwater basin. These trenches and swale will mitigate flow velocity and promote infiltration. Stormwater overflow from the stormwater basins will discharge to adjacent upland areas via a rip-rap stone apron and/or level spreader. Details of the above stormwater management design are provided on Sheets 11 and 12 of the *Plan Set* and within the *Stormwater Report* (attached). The *Stormwater Report* also contains the DEP Stormwater Checklist and a detailed Operation & Maintenance Plan.

6.3 Riverfront Area Restoration and Enhancement

A portion of the existing gravel road, west of the timber crossing, extends westerly to an off-site parcel. This section of gravel road (roughly 550 square feet) is not usable, and will be restored by removing the gravel aggregate, replacing with a minimum of 6 inches of high quality topsoil, and seeding with the *New England Conservation/Wildlife Seed Mix* available from New England Wetland Plants, Inc., as detailed on Sheet 8 of the *Plan Set.*

In addition to the above restorative effort, the Applicant proposes to enhance roughly 2,050 square feet of Riverfront Area currently comprised of wet meadow, located southeast of the proposed stream crossing. This area will be planted with a variety of ten native sapling trees and 30 native shrubs, including red maple, tupelo (*Nyssa sylvatica*), yellow birch (*Betula alleghaniensis*), highbush blueberry, winterberry holly, elderberry (*Sambucus canadensis*), and silky dogwood (*Cornus amomum*), as detailed on Sheet 8 of the *Plan Set.*

7. Regulatory Compliance

The *Act Regulations* provide specific performance standards for work within BVW, Bank, LUW, and Riverfront Area. Further the Mass DEP has issued a *MassDEP Wetlands Program Policy 17-1: Photovoltaic System Solar Array Review* (*Policy*), which

provides further guidance for solar developments near wetlands. Pertinent citations of the regulatory performance standards and the project's compliance with said standards and the *Policy* are provided below.

7.1 **Buffer Zone**

The *Act Regulations* at 310 CMR 10.53 General Provisions (1), provide guidance for work proposed within the Buffer Zone.

(1) …For work in the Buffer Zone subject to review under 310 CMR 10.02 (2) (b) 3., the Issuing Authority shall impose conditions to protect the interests of the Act identified for the adjacent Resource Area. The potential for adverse impacts to Resource Areas from work in the Buffer Zone may increase with the extent of work and the proximity to the Resource Area. The Issuing Authority may consider the characteristics of the Buffer Zone, such as the presence of steep slopes, that may increase the potential for adverse impacts on the Resource Areas. Conditions may include limitations on the scope and location of the work in the Buffer Zone as necessary to avoid alteration of the Resource Areas. The issuing authority may require erosion and sedimentation controls during construction, a clear limit of work, and the preservation of natural vegetation adjacent to the Resource Area and/or other measures commensurate with the scope and location of work within the Buffer Zone to protect the interests of M.G.L. c. 131, s. 40. Where a Buffer Zone has already been developed, the Issuing Authority may consider the extent of existing development in its review of subsequent proposed work and, where prior development is extensive, may consider measures such as the restoration of natural vegetation adjacent to the Resource Area to protect the interest of M.G.L. c. 131, s. 40. The purpose of preconstruction review of work in the Buffer Zone is to ensure that adjacent Resource Areas are not adversely affected during or after completion of the work.

As presented in the NOI Application, and as discussed during the July 18, 2018 Public Hearing, a comprehensive erosion control program is proposed to protect adjacent Resource Areas during and after construction, and include hay bales and entrenched siltation fencing along the limit-of work installed and maintained during construction, and stone trenches and a grass-lined swale with check dams intended to intercept stormwater run-off and direct it to one of two stormwater basins. The Applicant anticipates Special Conditions requiring a Preconstruction Meeting with the contractor and the Applicant, once the erosion controls have been properly installed, copying the Commission on the Stormwater Pollution Prevention Plan (SWPPP), and copying the Commission on the weekly Erosion Control Monitoring

Reports generated per the requirements of the National Pollution Discharge Elimination System (NPDES). Further, the limit-of-work has been established 25 feet from the BVW boundary (with the exception of the stream crossing replacement). While removal of trees for solar array shading purposes is proposed within the 25-foot Zone, tree removal will be conducted via equipment located outside the 25-foot Buffer Zone, and the natural vegetation within the understory (successional forest) will remain intact. The Applicant is open to other reasonable Special Conditions the Commission may deem necessary to protect the interests of the *Act.*

7.2 **Bordering Vegetated Wetlands**

(1) The surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area"):

The Applicant proposes to temporarily alter approximately 50+/- square feet of BVW and restore any altered BVW by seeding with the *FACW Meadow Mix* available from Ernst Conservation Seeds.

(2) *Ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area*:

No change in grade is anticipated within the BVW for construction access.

(3) The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area:

Only temporary BVW alteration and in-kind wetland restoration is proposed.

(4) The replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area:

The area of temporary BVW alteration and restoration is located immediately adjacent to the intermittent stream.

(5) The replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area:

The area of temporary BVW alteration and restoration is located immediately adjacent to the intermittent stream.

(6) At least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative re-establishment any exposed soil in the replacement area shall be

temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods:

LEC anticipates re-establishment of a native wetland plant community of the temporary BVW alteration area through re-seeding with the FACW Meadow Mix available from Ernst Conservation Seeds. LEC anticipates that the Conservation Commission will require a 2-year monitoring program to ensure compliance with the above statute.

(7) *The replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00:*

The proposed wetland restoration complies with all other General Performance Standards for resource areas located on the site.

7.3 **Bank**

(a) Any proposed work on a Bank shall not impair the following:

(1) The physical stability of Bank;

Any alteration to the physical stability of the Bank required for construction access will be restored in-kind by seeding with the FACW Meadow Mix.

(2) the water carrying capacity of the existing channel within the Bank;

No change to the water carrying capacity of the Bank is proposed.

(3) groundwater and surface water quality;

Proper construction methodologies will be employed during construction to protect groundwater and surface water quality.

(4) the capacity of the Bank to provide breeding habitat, escape cover and food for fisheries;

The capacity of the Bank to provide such habitat, albeit limited, will not be significantly impacted via the culvert replacement and/or temporary construction access.

(5) the capacity of Bank to provide important wildlife habitat functions;

The capacity of the Bank to provide such habitat, will not be significantly impacted via the culvert replacement and temporary construction access.

(6) Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.54(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards by consisting of a span or embedded culvert in which, at a minimum, the bottom of a span structure or the upper surface of an embedded culvert is above the elevation of the top of the bank, and the structure spans the channel width by a minimum of 1.2 times the bankfull width. This presumption is rebuttable and may be overcome by the submittal of credible evidence from a competent source. Notwithstanding the requirement of 310 CMR 10.54(4)(a)5., the impact on bank caused by the installation of a stream crossing is exempt from the requirement to perform a habitat evaluation in accordance with the procedures contained in 310 CMR 10.60.

The proposed box culvert exceeds the requirements of these stream crossing standards.

(c) no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified under procedures established under 310 CMR 10.59.

There are no specified wildlife habitat sites of rare vertebrate or invertebrate species located on the project site, therefore, the proposed project will have no adverse effect on any such sites.

7.4 Land Under Water

(a) Where the presumption set forth in 310 CMR 10.56(3) is not overcome, any proposed work within Land under Water Bodies and Waterways shall not impair the following:

1. *The water carrying capacity within the defined channel, which is provided by said land in conjunction with the banks;*

   No change to the water carrying capacity of the Bank proposed.

2. *Ground and surface water quality;*

   Proper construction methodologies will be employed during construction to protect groundwater and surface water quality.

3. *The capacity of said land to provide breeding habitat, escape cover and food for fisheries; and*

   The capacity of the LUW to provide such habitat, albeit limited, will not be significantly impacted via the culvert replacement and/or construction access.

4. *The capacity of said land to provide important wildlife habitat functions.*

   The capacity of the LUW to provide such habitat, will not be significantly impacted via the culvert replacement and/or construction access.

5. *Work on a stream crossing shall be presumed to meet the performance standard set forth in 310 CMR 10.56(4)(a) provided the work is performed in compliance with the Massachusetts Stream Crossing Standards by consisting of a span or embedded culvert in which, at a minimum, the bottom of a span structure or the upper surface of an embedded culvert is above the elevation of the top of the bank, and the structure spans the channel width by a minimum of 1.2 times the bankfull width. This presumption is rebuttable and may be overcome by the submittal of credible evidence from a competent source. Notwithstanding the requirements of 310 CMR 10.56(4)(a)4., the impact on Land under Water Bodies and Waterways caused by the installation of a stream crossing is exempt from the requirement to perform a habitat evaluation in accordance with the procedures established under 310 CMR 10.60…*

   The proposed box culvert exceeds the requirements of these stream crossing standards.

7.5 Riverfront Area

The site contains roughly 4.7 acres of Riverfront Area, of which, roughly 1,895 square feet, or 0.9%, are proposed to be altered. This Riverfront Area alteration includes the footprint of land alteration associated with the gravel access road, culvert replacement, and associated construction access. Of the 1,895+/- square feet of Riverfront Area to be altered as part of the proposed project, roughly 505 square feet are the existing gravel road (considered "Previously Developed/Degraded" Riverfront Area), which will be improved; while the remaining 1,370+/- square feet are adjacent land areas (considered "Undeveloped" Riverfront Area), largely needed for construction access and a section of new gravel roadway. Since both "Undeveloped" Riverfront Area and 'Previously Developed/Degraded' Riverfront Area are proposed, regulatory citations and compliance with the Regulations at both 310 CMR 10.58 (4) and 10.58 (5) are provided below.

It has been our experience that compliance with both sections of the Riverfront Area Regulations at 310 CMR 10.58 (4) and (5) is appropriate and preferred by Issuing Authorities when both "Undeveloped" and "Previously Developed" Riverfront Area are being altered. As such, compliance with both sections is included below.

The performance standards outlined in 310 CMR 10.58 (4) include:

(a) *Protection of Other Resource Areas:* The other resource area alteration proposed in association with the Riverfront Area alteration is for temporary construction access for BVW, Bank, and LUW. Compliance with the performance standards for these resource areas is provided above.

(b) *Protection of Rare Species*: The site is not contained within Rare Species Habitat according to NHESP as provided in the NOI Application;

(c) *Practicable and Substantially Equivalent Economic Alternatives*: The project qualifies as a Limited Project in accordance with 310 CMR 10.53 (3) (t), and involves replacing a timber culvert to one that meets the *MA DEP Stream Crossing Standards*, and a section of new gravel access road required for site access. Riverfront Area restoration and enhancement are proposed. The proposed project has been designed to the greatest extent practicable to contribute to the interests identified in the *Act* and as further discussed above.

(d) *No Significant Adverse Impact*: A discussion of Significant Adverse Impacts is provided below.

310 CMR 10.58 (4) (d) states:

The work, including proposed mitigating measures, must have no significant adverse impact on the riverfront area to protect the interests identified in M.G.L. c. 131, s. 40…

310 CMR 10.58 (4) (d) 1. states:

Within 200 foot Riverfront Areas, the issuing authority may allow the alteration of up to 5000 square feet or 10% of the riverfront area within the lot, whichever is greater, on a lot recorded on or before October 6, 1997 or lots recorded after October 6, 1997 subject to the restrictions of 310 CMR 10.58 (4) (c) 2.b.vi., or up to 10% of the riverfront area within a lot recorded after October 6, 1997, provided that:

The project results in roughly 1,895 square feet of Riverfront Area alteration, or 0.9% of the Riverfront Area on the site. Of this 1,895 sqaure feet, roughly 550 square feet are considered 'Previously Developed' and 'Degraded' in accordance with 310 CMR 10.58 (5).

(a) At a minimum, a 100-foot wide area of undisturbed vegetation is provided…If there is not a 100-foot wide area of undisturbed vegetation within the riverfront area,

existing vegetative cover shall be preserved or extended to the maximum extent feasible to approximate a 100-foot wide corridor of natural vegetation…

The proposed Riverfront Area alteration occurs along the outer edge of the Riverfront Area boundary, roughly 175 feet from the perennial stream.

(b) *Stormwater is managed according to the standards established by the Department in its Stormwater Policy.*

Stormwater management is proposed in accordance with DEP standards, as described in further detail on the *Plan Set* and the *Stormwater Report.*

(c) *Proposed work does not impair the capacity of the riverfront area to provide important wildlife habitat functions…*

While 550 square feet of the existing gravel road within the footprint of Riverfront Area alteration qualifies as "Previously Developed/Degraded," and provides little to no important wildlife habitat functions, the remaining 1,370+/- square feet of Riverfront Area alteration contains narrow areas immediately adjacent to an existing road and areas for construction access that will be restored in-kind following culvert replacement. Further, Riverfront Area restoration and enhancement is proposed to improve the site's ability to provide important wildlife habitat functions.

(d) *Proposed work shall not impair groundwater or surface water quality by incorporating erosion and sedimentation controls and other measures to attenuate nonpoint source pollution.*

Erosion controls will be installed and maintained during construction to protect groundwater and surface water quality.

The performance standards outlined in 310 CMR 10.58 (5) state:

Redevelopment Within Previously Developed Riverfront Areas: Restoration and Mitigation. Notwithstanding the provisions of 310 CMR 10.58 (4) (c) and (d), the issuing authority may allow work to redevelop a previously developed riverfront area, provided the proposed work improves existing conditions. Redevelopment means replacement, rehabilitation, or expansion of existing structures…A previously developed riverfront area contains areas degraded prior to August 7, 1996 by impervious surfaces from existing structures or pavement, absence of topsoil…Work to redevelop previously developed riverfront area shall conform to the following criteria:

(a) *At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131, s. 40. When a lot is previously developed but no portion of the riverfront area is degraded, the requirements of 310 CMR 10.58 (4) shall be met.*

As provided above, 505+/- square feet of the Riverfront Area to be altered qualifies as 'Previously Developed' and 'Degraded.' The project results in the restoration of 550+/- square feet Riverfront Area restoration, and 2,050+/- square feet of Riverfront Area Enhancement (in addition to the in-kind BVW, Bank, and LUW restoration proposed that also is located within the Riverfront Area.

(b) *Stormwater management is provided according to standards established by the Department.*

Stormwater will be managed according to the standards established by DEP.

(c) *Within 200-foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less….*

The proposed culvert replacement/access road extension is located as close or further from the stream compared to existing conditions, within the outer 100 to 200-foot Riverfront Area.

(d) *Proposed work, including expansion of structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58 (5) (f) or (g).*

The proposed culvert replacement/access road extension is located as close or further from the stream compared to existing conditions, within the outer 100 to 200-foot Riverfront Area.

(e) *The area of proposed work shall not exceed the amount of the degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58 (5) (f) or (g).*

10% of the total (204,732+/- square feet) Riverfront Area on the site is 20,473+/- square feet. The degraded area to be altered measures 505+/- square feet, while total proposed Riverfront Area alteration measures 1,875+/- square feet, which is well under the 10% threshold.

(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58 (5) (c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration…

The area of alteration (1,895 square feet) measures significantly less than the 10% figure of 20,473+/- square feet. Therefore, no Riverfront Area restoration is required in accordance with 310 CMR 10.58 (5) (f) or (g). Despite this, the Applicant proposes to restore 550+/- square feet of existing gravel road, and enhance roughly 2,050 square feet of Riverfront Area such that the project results in an improvement to the Riverfront Area compared to existing conditions (as required).

7.6 MassDEP Wetlands Program Policy 17-1: Photovoltaic System Solar Array Review

The *MassDEP Wetlands Program Policy 17-1: Photovoltaic System Solar Array Review* (*Program Policy*) provides Commissions with guidance for the review and approval of solar facilities proposed within the jurisdiction of the *Act.* In summary, the *Program Policy* highly discourages the placement of solar facilities within jurisdictional wetlands, and states that *"placement of PVSs* [Photovoltaic Systems] *within wetland buffer zones may be permissible with proper oversight of the issues discussed in this policy and proper authorization through the permitting process of the Wetland Protection Act."*

The *Program Policy* continues to discuss how solar developments shall avoid, minimize, and mitigate Resource Area alteration. No Resource Area alteration is proposed other than that required to upgrade the existing stream crossing to the DEP Stream Crossing Standards.

With regard to Stormwater Management, the *Program Policy* states that *"the Stormwater Management Standards contained at 310 CMR 10.05(6)(k) apply to PVS projects. The stormwater standards include: attenuation of peak rates of runoff caused by land development (310 CMR 10.05(6)(k)2), provision of recharge (310 CMR 10.05(6)(k)3), control of Total Suspended Solids (TSS) from impervious surfaces (excluding solar panels) (310 CMR 10.05(6)(k)4), and the provision of adequate erosion and sedimentation controls (310 CMR 10.05(6)(k)8)."* Compliance with these standards is demonstrated in the attached *Stormwater Report* and shown on the *Plan Set* prepared by Meridian Associates, Inc. The *Program Policy* also states *"solar projects within the Buffer Zone or*

other jurisdictional area should endeavor to utilize Low Impact Development techniques and will receive credit for Environmentally Sensitive Site Design when LID is incorporated pursuant to the "Minimum Criteria for Credit" from Volume 3, Chapter 1 of the Massachusetts Stormwater Handbook." While the *Act Regulations* do not require LID design, several of DEP's LID recommendations included in the *Program Policy* have been incorporated into the design proposed herein, including: no slopes greater than 3:1; an erosion control plan developed to prevents direct discharges to wetlands and grading intended to avoid or minimize channelized stormwater flow from the Buffer Zone directly into Resource Areas; use of a stone trench and grass swales with check dams; and preservation of topsoil to promote native groundcover seed germination and establishment.

8. Summary

On behalf of the Applicant, Ware Palmer Road LLC, LEC is submitting this Revised NOI Application for the proposed construction of a 3.0 MW AC photovoltaic solar facility at 313 Palmer Road in Ware, Massachusetts. On-site Wetland Resource Areas include BVW, Bank-MAHW, LUW, and Riverfront Area associated with two intermittent streams and a perennial stream, as protected under the *Act* and the *Act Regulations.*

While the vast majority of the proposed project is located beyond the 100-foot Buffer Zone, roughly 50 square feet of BVW, 45 linear feet of Bank, and 375 square feet of LUW will be temporarily altered for the replacement of a timber culvert intermittent stream crossing, with a box culvert that meets the *MA DEP Stream Crossing Standards*. All areas of temporary disturbance will be restored in-kind.

This culvert replacement also is located within the outer portion of Riverfront Area associated with a perennial stream. Riverfront Area restoration and enhancement also are proposed. While the proposed array will maintain a minimum 25-foot setback distance to the BVW boundary, tree cutting (8-10 feet above grade) is proposed within the 25-foot Buffer Zone to limit shading on the array. This tree cutting will be conducted with a crane or other equipment from outside the 25-foot Buffer Zone, resulting in an 'early successional forest' separating the BVW from the proposed solar array.

Project details are depicted on the attached *Plan Set*, while details of the stormwater management design are depicted on the *Site Plans* and included in the *Stormwater Report.* The Applicant respectfully requests that the Commission issue an Order of Conditions approving the project as proposed herein.

Federal Emergency Management Agency Flood Insurance Rate Map for Ware, Massachusetts (Community Panel #250172 0021B), effective August 17, 1981.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, s. 40), www.state.ma.us/dep

Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00), www.state.ma.us/dep

Massachusetts Natural Heritage Atlas, 14th Edition, 2017. Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries and Wildlife, Route 135, Westborough, MA 01581, http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

Massachusetts Department of Environmental Protection, Division of Wetlands and Waterways 1995. *Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act, A Handbook*. 89 pp.

Massachusetts Wetlands Protection Act (M.G.L. c. 131, §. 40) and its implementing *Regulations* (310 CMR 10.00), www.state.ma.us/dep.

New England Hydric Soils Technical Committee. 2017, 4th ed., *Field Indicators for Identifying Hydric Soils in New England*, New England Interstate Water Pollution Control Commission, Wilmington, MA. P. 76

Reed, P.B. 1988. *National List of Plant Species that Occur in Wetlands: 1988 Massachusetts*. U.S. Department of the Interior, Fish and Wildlife Service. NERC-88/18.21

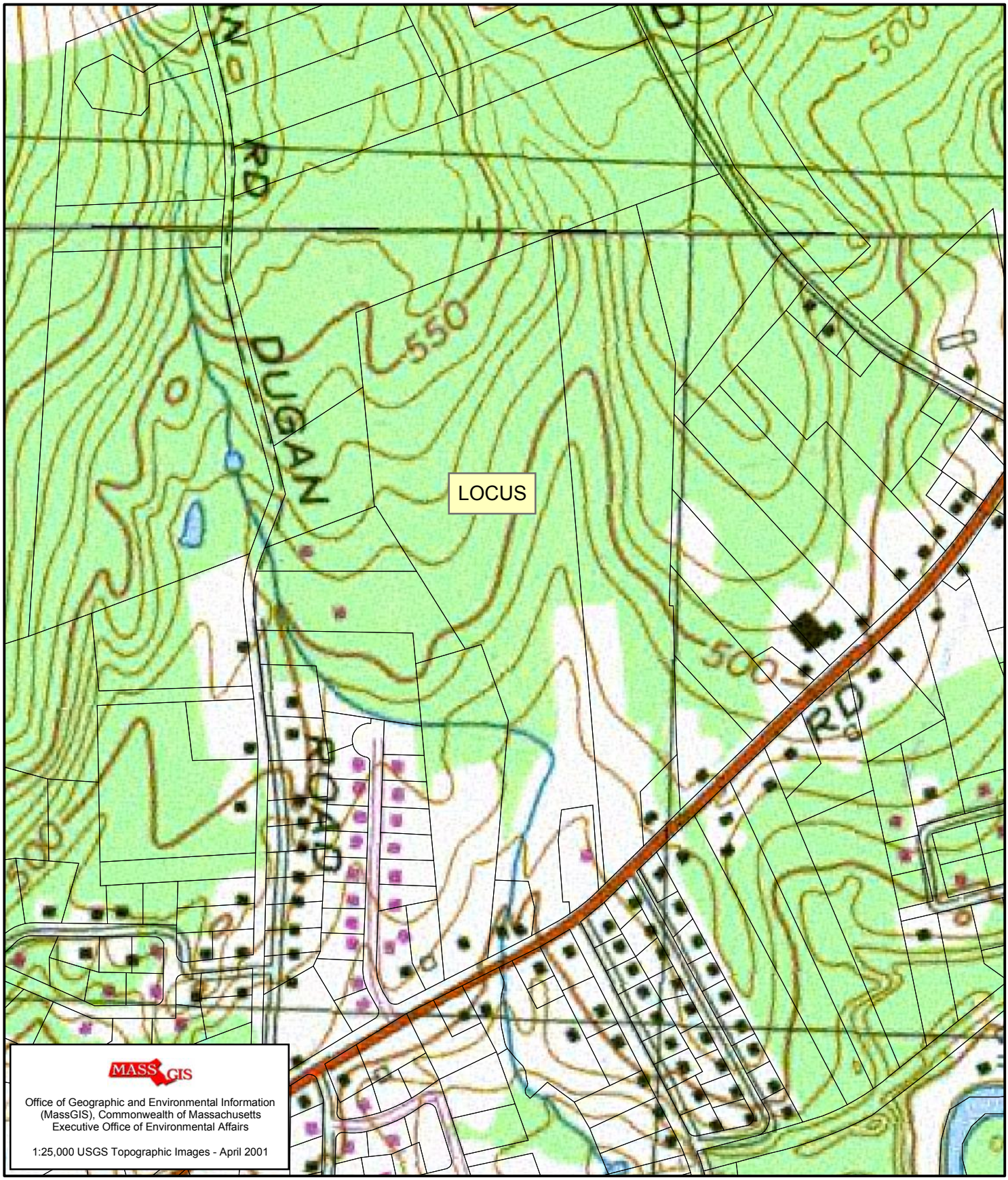
Appendix A

Locus Maps

Figure 1: USGS Topographic Map

Figure 2: FEMA Flood Insurance Rate Map

Figure 3: Aerial Orthophoto



MASS GIS

Office of Geographic and Environmental Information
(MassGIS), Commonwealth of Massachusetts
Executive Office of Environmental Affairs

1:25,000 USGS Topographic Images - April 2001

LEC
Environmental Consultants, Inc.
Wakefield, MA
781.245.2500

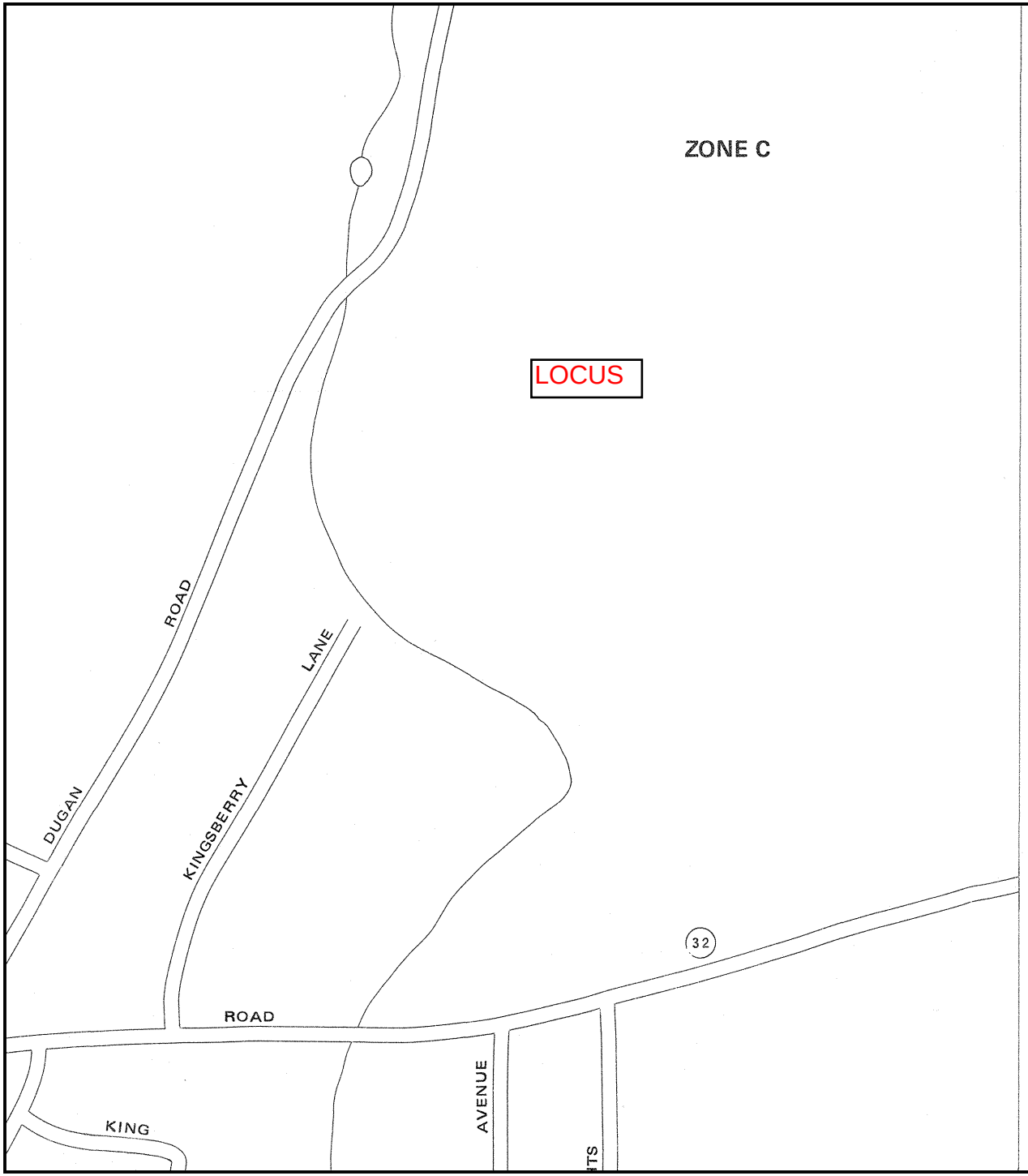
www.lecenvironmental.com

Figure 1: USGS Topographic Map
313 Palmer Road
Ware, MA

June 28, 2018

N

0 500 Feet



APPROXIMATE SCALE

400 0 400 FEET

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

TOWN OF
WARE,
MASSACHUSETTS
HAMPSHIRE COUNTY

PANEL 21 OF 30
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
250172 0021 B

EFFECTIVE DATE:
AUGUST 17, 1981

federal emergency management agency
federal insurance administration

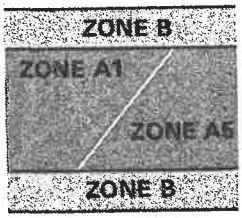
Figure 2: FEMA Flood Insurance Rate Map

KEY TO MAP

500-Year Flood Boundary

100-Year Flood Boundary

Zone Designations*



100-Year Flood Boundary

500-Year Flood Boundary

Base Flood Elevation Line With Elevation In Feet** — 513

Base Flood Elevation in Feet Where Uniform Within Zone** — (EL 987)

Elevation Reference Mark — RM7×

River Mile — • M1.5

**Referenced to the National Geodetic Vertical Datum of 1929

*EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
A0	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
AH	Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
A1-A30	Areas of 100-year flood; base flood elevations and flood hazard factors determined.
A99	Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
C	Areas of minimal flooding. (No shading)
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
V1-V30	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.

NOTES TO USER

Certain areas not in the special flood hazard areas (zones A and V) may be protected by flood control structures.

This map is for flood insurance purposes only; it does not necessarily show all areas subject to flooding in the community or all planimetric features outside special flood hazard areas.

For adjoining map panels, see separately printed Index To Map Panels.

INITIAL IDENTIFICATION:

JUNE 28, 1974

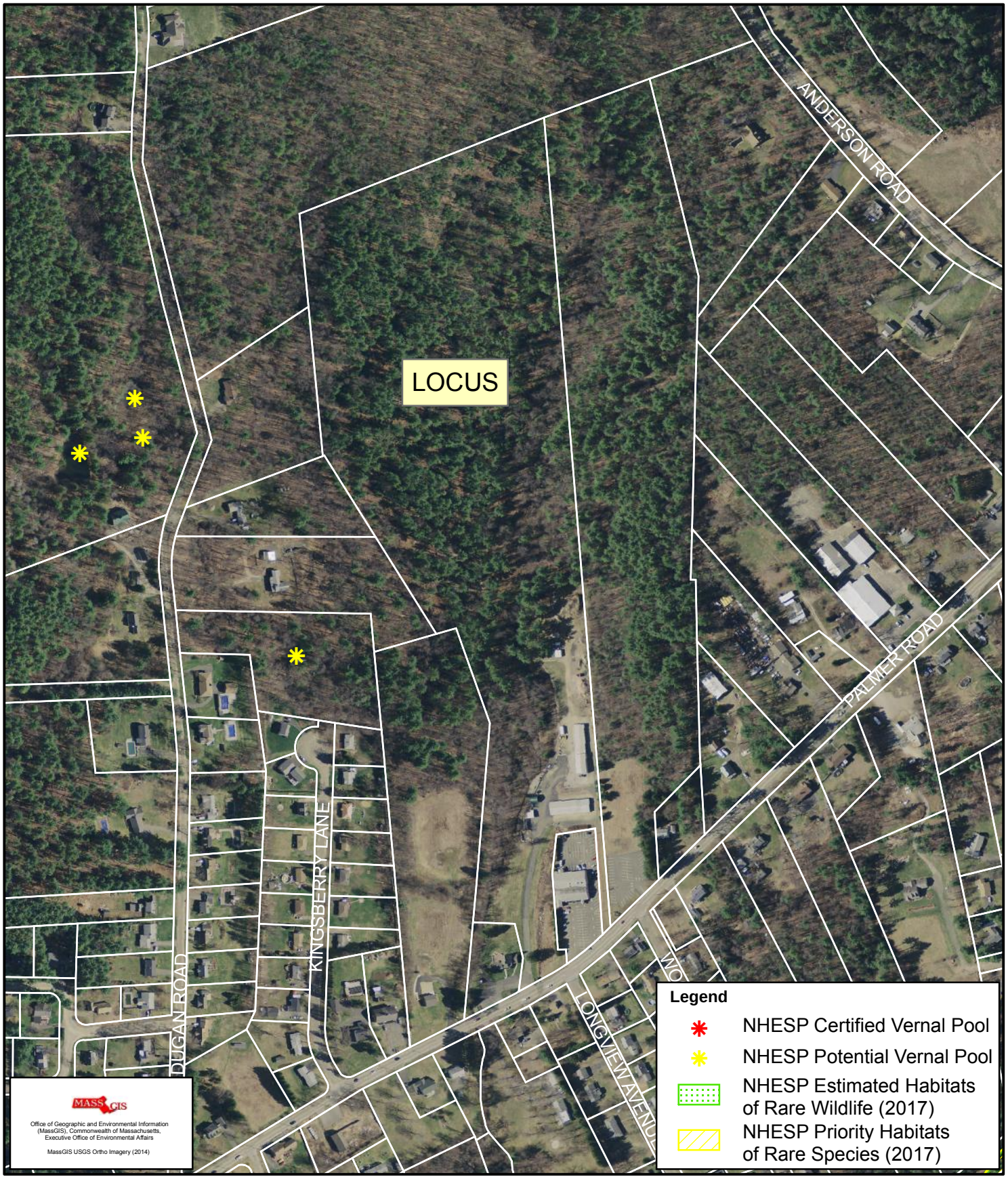
FLOOD HAZARD BOUNDARY MAP REVISIONS:

DECEMBER 17, 1976

FLOOD INSURANCE RATE MAP EFFECTIVE:

AUGUST 17, 1981

FLOOD INSURANCE RATE MAP REVISIONS:



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Environmental Consultants, Inc.
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781.245.2500
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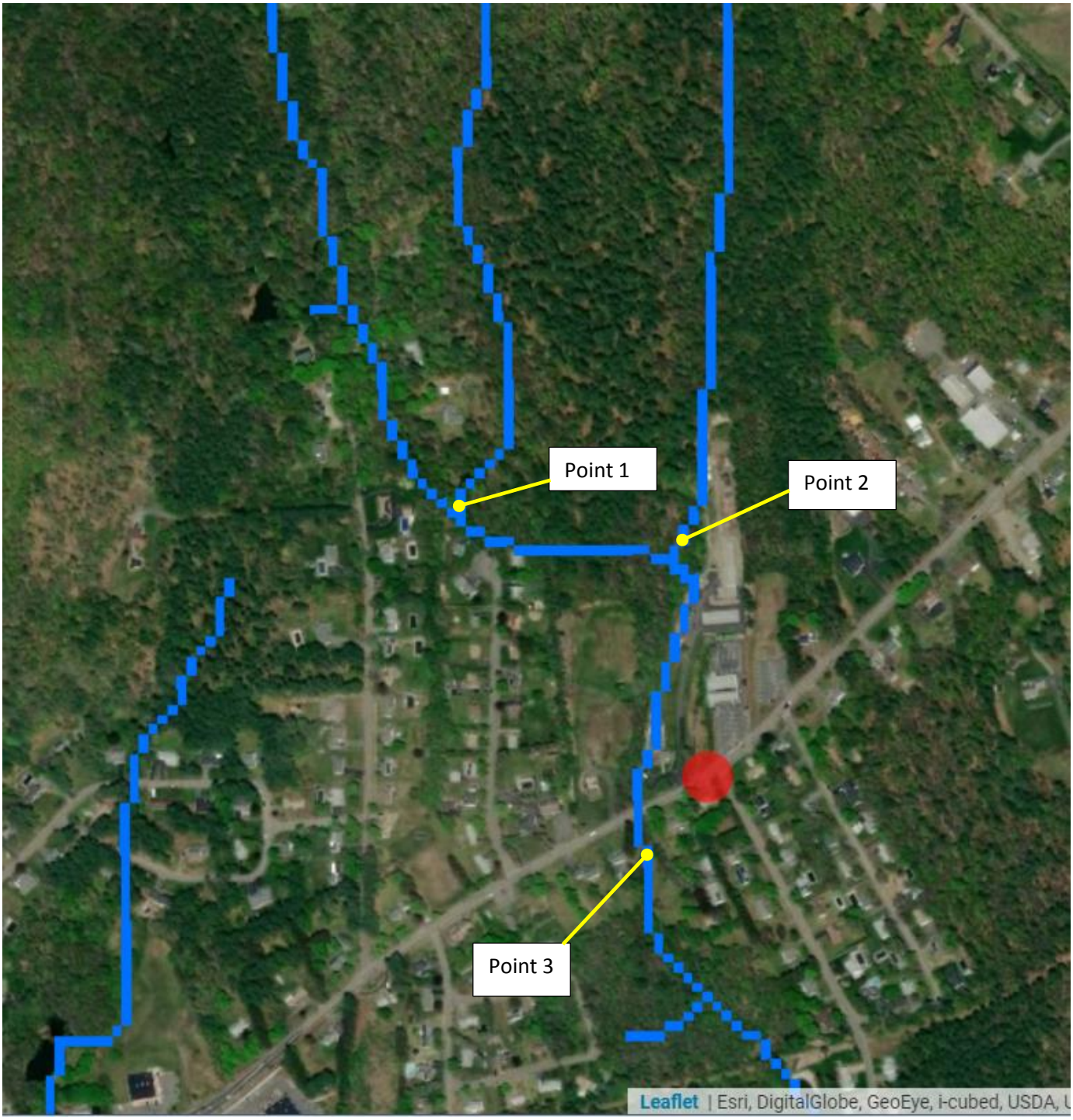
Figure 3: MassGIS Orthophoto & NHESP Map
313 Palmer Road
Ware, MA

June 28, 2018

N
0 400 Feet

Appendix B

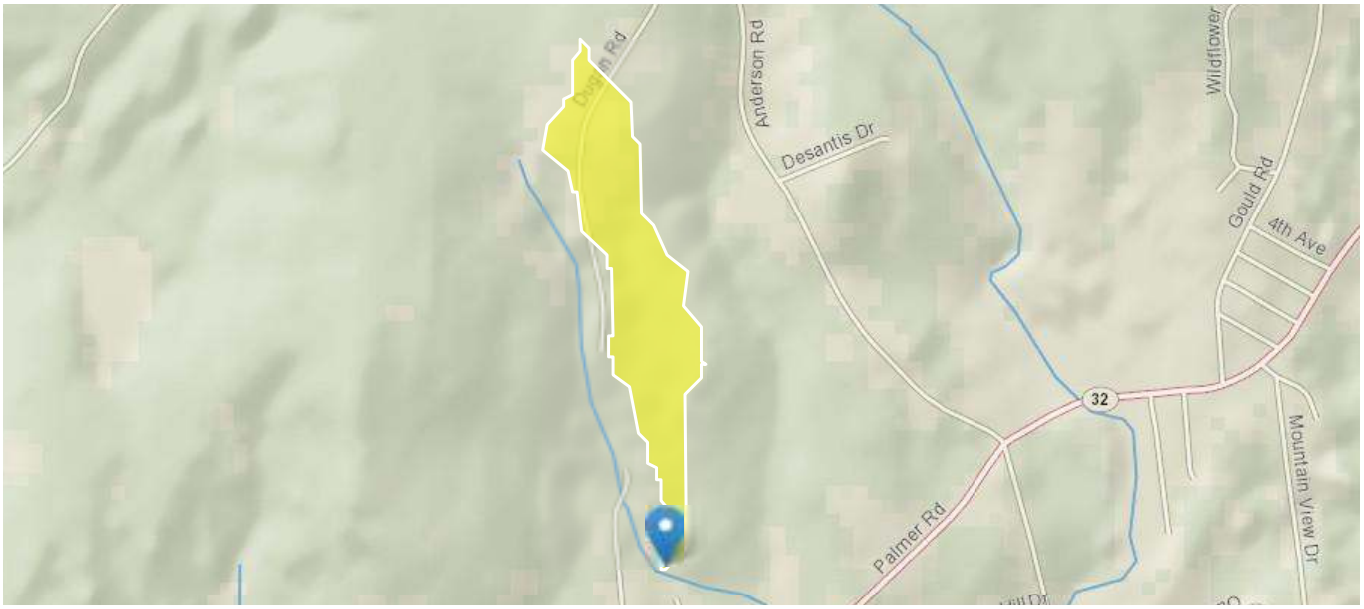
Stream Stats Reports



- Point 1- Offsite stream along western property boundary, not mapped on USGS. Mapped as intermittent according to StreamStats
- Point 2- Onsite stream along eastern property boundary, not mapped on USGS. Mapped as intermittent according to StreamStats.
- Point 3- 130+/- feet south of Palmer Road. Point at which perennial stream on USGS Map becomes perennial according to StreamStats (.5 square mile basin, .02 flow at 99%)

Point 1

Region ID: MA
Workspace ID: MA20180620203330242000
Clicked Point (Latitude, Longitude): 42.24537, -72.27701
Time: 2018-06-20 16:33:52 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.0629	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	-100000	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	5.268	percent

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.0629	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	5.268	percent	0.32	24.6

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

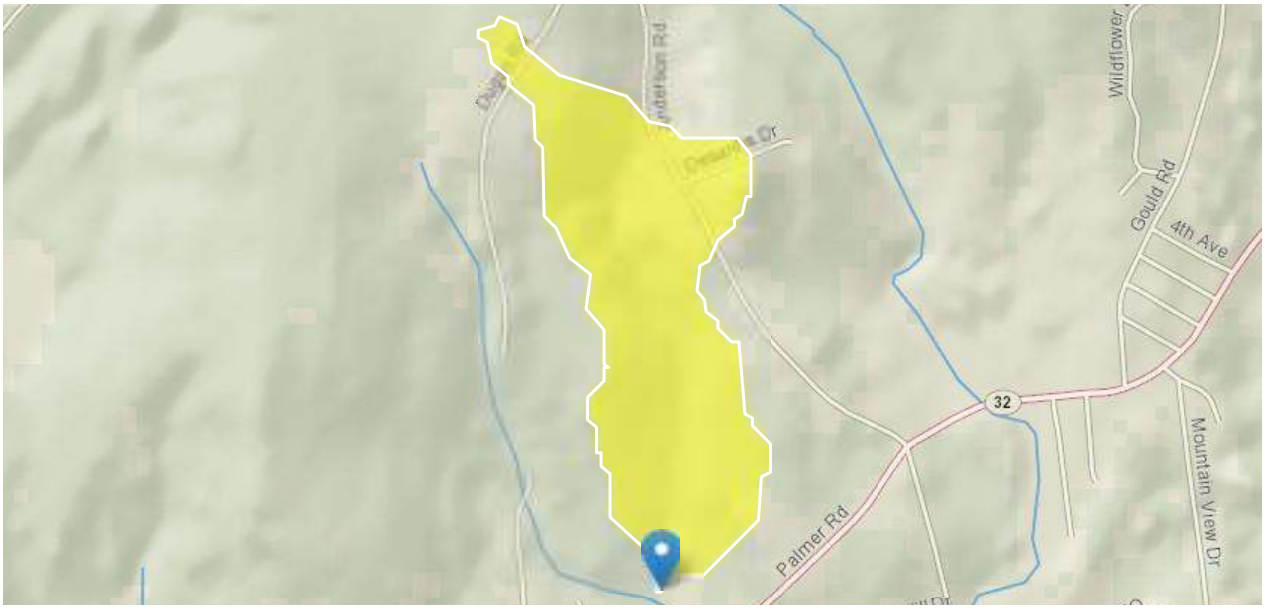
Statistic	Value	Unit

Flow-Duration Statistics Citations

Application Version: 4.2.1

Point 2

Region ID: MA
Workspace ID: MA20180620204308002000
Clicked Point (Latitude, Longitude): 42.24494, -72.27433
Time: 2018-06-20 16:43:31 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.16	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	-100000	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	3.879	percent

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.16	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	-100000	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	3.879	percent	0.32	24.6

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

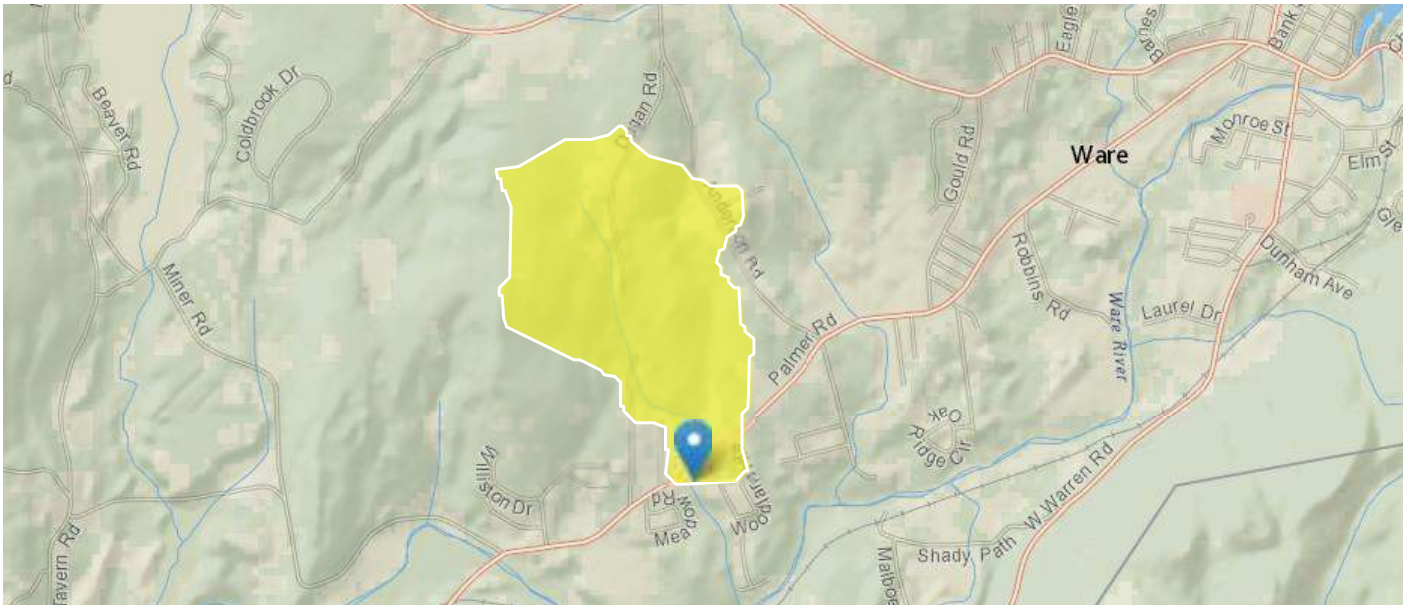
Statistic	Value	Unit

Flow-Duration Statistics Citations

Application Version: 4.2.1

Point 3

Region ID: MA
Workspace ID: MA20180620201548097000
Clicked Point (Latitude, Longitude): 42.24208, -72.27465
Time: 2018-06-20 16:16:11 -0400



Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.5	square miles
DRFTPERSTR	Area of stratified drift per unit of stream length	0.074	square mile per mile
MAREGION	Region of Massachusetts 0 for Eastern 1 for Western	1	dimensionless
BSLDEM250	Mean basin slope computed from 1:250K DEM	4.975	percent

Flow-Duration Statistics Parameters [Statewide Low Flow WRIR00 4135]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.5	square miles	1.61	149
DRFTPERSTR	Stratified Drift per Stream Length	0.074	square mile per mile	0	1.29
MAREGION	Massachusetts Region	1	dimensionless	0	1
BSLDEM250	Mean Basin Slope from 250K DEM	4.975	percent	0.32	24.6

Flow-Duration Statistics Disclaimers [Statewide Low Flow WRIR00 4135]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errorsOne or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors

Flow-Duration Statistics Flow Report [Statewide Low Flow WRIR00 4135]

Statistic	Value	Unit

Statistic	Value	Unit
50 Percent Duration	0.471	ft^3/s
60 Percent Duration	0.297	ft^3/s
70 Percent Duration	0.205	ft^3/s
75 Percent Duration	0.163	ft^3/s
80 Percent Duration	0.137	ft^3/s
85 Percent Duration	0.102	ft^3/s
90 Percent Duration	0.0758	ft^3/s
95 Percent Duration	0.0442	ft^3/s
98 Percent Duration	0.0299	ft^3/s
99 Percent Duration	0.0209	ft^3/s

Flow-Duration Statistics Citations

Ries, K.G., III,2000, Methods for estimating low-flow statistics for Massachusetts streams: U.S. Geological Survey Water Resources Investigations Report 00-4135, 81 p. (http://pubs.usgs.gov/wri/wri004135/)

Application Version: 4.2.1

Appendix C

Site Photographs

Easterly view of existing gravel road. Timber culvert located beneath pallets in photo.

Northwesterly view of existing gravel road within the Riverfront Area to be restored.

Southeasterly view of wet meadow area slated for Riverfront Area Enhancement.

Appendix D

Shading Analysis Plans

Record Conditions Plan of Land prepared by Meridian Associates, Inc., dated June 1, 2018
Record Conditions Plan of Land prepared by Meridian Associates, Inc., dated June 7, 2018

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM (NAD 83)

NOW OR FORMERLY
MARIO & CLAUDIO FERRENTINO
0 PALMER ROAD

2476.55'

25' SOLAR SETBACK

50' VEGETATIVE BUFFER SETBACK

25' NO DISTURB

100' WETLAND BUFFER

B12 B13 B14 B15 B16 B17 B19 B20 B21 B22 B23 B24 B25 B26 B31 B32 B33 B34

SHEET 3

SHEET 4

Yellow_Summer
Aqua_Winter
Orange_Spring

EARTH FILE

EARTH FILE

ZONE RR
ZONE RB

ZONE RR
ZONE RB

LOCUS MAP:
(NOT TO SCALE)

RECORD AREA
=1,288,421.24±S.F.
(29.58±ACRES)

288.89'

NOW OR FORMERLY
CHRISTINA J. HIGNEY & MARY
MOULSON-LITCHFIELD
0 DUGAN ROAD

225.58'

25' NO DISTURB

A4 A5 A6 A7 A8 A10 A11

714.83'

NOW OR FORMERLY
WAYNE R. &
CHRISTINA J. HIGNEY
33 DUGAN ROAD

100' WETLAND BUFFER

AREA SET ASIDE PER CH.61B

APPROXIMATE LIMIT OF 200' RIVERFRONT AREA

100' WETLAND BUFFER

100' WETLAND BUFFER

527.93'

NOW OR FORMERLY
ALBERT P. &
PATRICIA A. GOSSELIN
27 DUGAN ROAD

NOW OR FORMERLY
PAUL E. MORYL
29 DUGAN ROAD

50' VEGETATIVE BUFFER

25' SOLAR SETBACK

25' NO DISTURB

GRAPHIC SCALE
SCALE: 1"=50'

FEET 50 0 25 50 100 200

METERS 0 5 10 20 40 60

PROGRESS PRINT
06/01/2018

FOR PERMITTING ONLY
NOT FOR CONSTRUCTION

SEE NOTES AND LEGEND
ON SHEET 2 OF X

313 PALMER ROAD

RECORD OWNERS:

PAUL A. & GAIL F. MORYL
17 WESTBROOK AVENUE
WARE, MASSACHUSETTS 01082

– DEED BOOK 8803, PAGE 57

REFERENCES:

– 1910 LAYOUT OF PALMER ROAD
– PLAN BOOK 174, PLAN 3

DOCUMENTS RECORDED AT THE
HAMPSHIRE DISTRICT REGISTRY OF DEEDS.

BK. #06 PG. #17
BK. #672 PG. #29
DWG. No. 6044_REC

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

RECORD CONDITIONS PLAN OF LAND
LOCATED IN
WARE, MASSACHUSETTS
(HAMPSHIRE COUNTY)

PREPARED FOR
DYNAMIC ENERGY SOLUTIONS, LLC

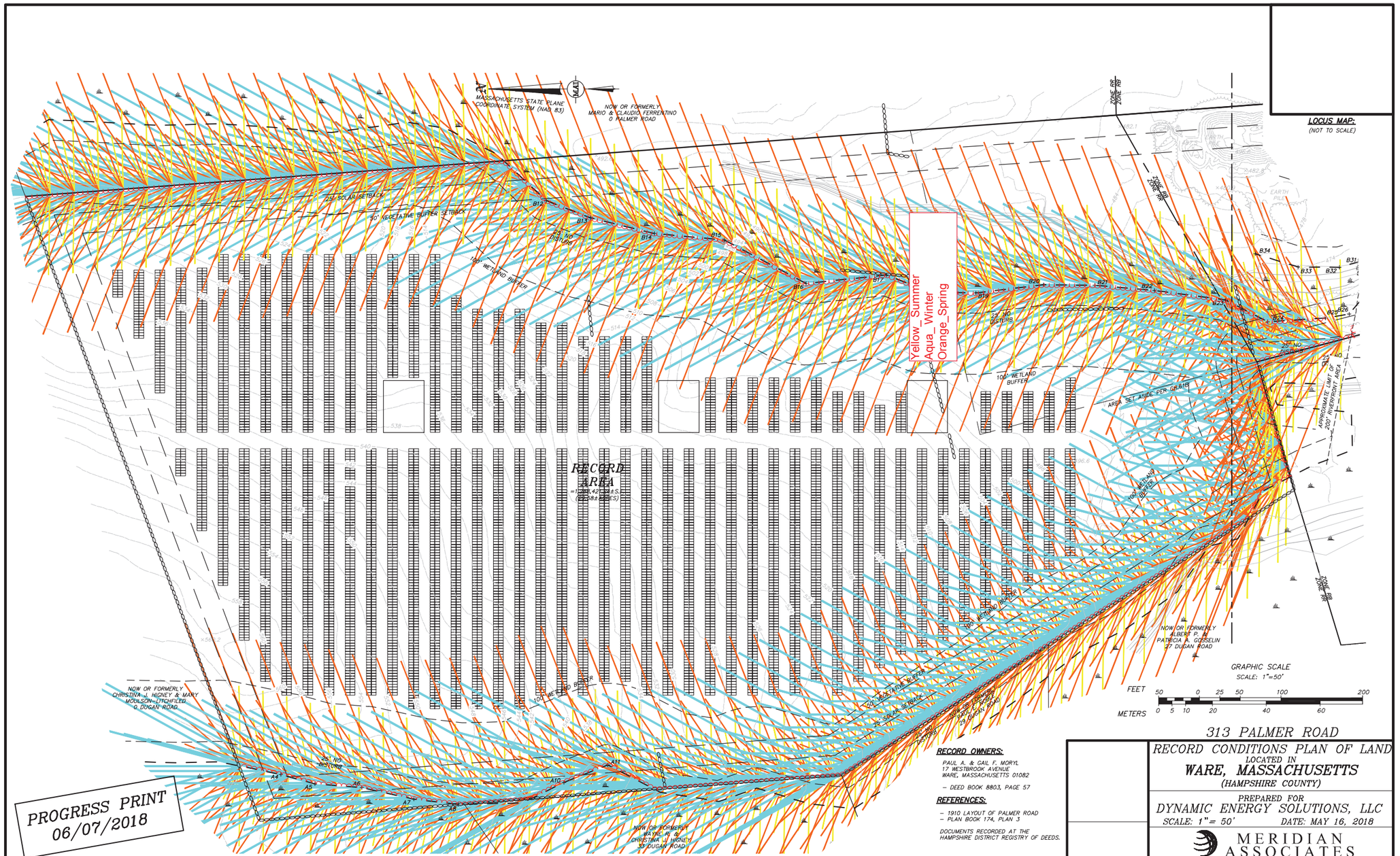
SCALE: 1"= 50' DATE: MAY 16, 2018

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950
BEVERLY, MASSACHUSETTS 01915
TELEPHONE: (978) 299-0447

69 MILK STREET, SUITE 302
WESTBOROUGH, MASSACHUSETTS 01581
TELEPHONE: (508) 871-7030
WWW.MERIDIANASSOC.COM

SHEET No. 4 OF X

PROJECT No. 6044



313 PALMER ROAD

RECORD OWNERS:

PAUL A. & GAIL F. MORYL
17 WESTBROOK AVENUE
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– DEED BOOK 8803, PAGE 57

REFERENCES:

– 1910 LAYOUT OF PALMER ROAD
– PLAN BOOK 174, PLAN 3

DOCUMENTS RECORDED AT THE HAMPSHIRE DISTRICT REGISTRY OF DEEDS.

REVISIONS

NO.	DATE	DESCRIPTION	BY	CHK'D

BK. #C6 PG. #17
BK. #672 PG. #29
DWG. No. 6044_SITE

RECORD CONDITIONS PLAN OF LAND
LOCATED IN
WARE, MASSACHUSETTS
(HAMPSHIRE COUNTY)

PREPARED FOR
DYNAMIC ENERGY SOLUTIONS, LLC
SCALE: 1"= 50' DATE: MAY 16, 2018

MERIDIAN ASSOCIATES
500 CUMMINGS CENTER, SUITE 5950
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SHEET No. 4 OF X | PROJECT No. 6044

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SEE NOTES AND LEGEND
ON SHEET 2 OF X