Massachusetts Environmental Policy Act - Environmental Notification Form

Elmlea Subdivision
Boxford, Massachusetts

Prepared for:

Elmlea Partnership Trust
P. O. Box 354
Windham NH 03087

March 30, 2019

Engineering and Environmental Team:

The Morin-Cameron Group, Inc.
66 Elm Street, Danvers, MA 01923

DeRosa Environmental Consulting, Inc.
167 Main Street, PO Box 716, Rowley MA 01969

Matthew Beaton, Secretary

Executive Office of Energy and Environmental Affairs

100 Cambridge Street

Boston, MA 02108 March 30, 2019

Attention: MEPA Unit

Dear Secretary Beaton:

On behalf of the applicant, ("the Haynes Family" aka "Elmlea Boxford LLC"), DeRosa Environmental Consulting, Inc. is pleased to submit the enclosed Environmental Notification Form (ENF) and supporting materials for the proposed subdivision, located off of Main Street in Boxford, Massachusetts. The proposed 14 lot subdivision is located on 45.2 acres of land, approximately 41.3 acres is owned by the Haynes Family and 3.9 acres owned by Robert and Sara Mullaney. The overall design and layout of the subdivision also takes into consideration and is submitted cooperatively with three (3) existing residences (ie: #57, #63 and #71). The existing structures located at #71 Main Street, shown on the concept plan as Lot 1, were recently razed. The ENF is required because the threshold for land disturbance is exceeded by the buildout out of the 14 lots, roadway and stormwater management systems (total new land disturbance is estimated to be approximately 24.8 acres, or 54.9 % percent of the total land area of the subdivision which is approximately 45.2 acres.). Additionally, the threshold for rare species or habitat is exceeded by the alteration of 30.17 acres of a priority habitat.

As shown on the supporting plans, the conceptual design meets all Boxford Wetland Protection Bylaw setback requirements and avoids altering any wetland resource areas regulated pursuant to the Wetlands Protection Act and implementing regulations (310 CMR 10.00). Activities in the buffer zone are limited to grading associated with developing individual house lots, and constructing stormwater best management practices to meet all applicable stormwater standards and policies. The parcel is mapped by the Natural Heritage and Endangered Species Program (NHESP) as potential habitat for the Blanding's Turtle (Emydoidea blandingii), and as such the design incorporates travel corridors west and east of the proposed subdivision. Lot 1B (4.7 acres) and Parcel 2A (2.3 acres), which could be combined by the owner to form an additional ANR house lot, will instead be restricted from subdivision. Parcel 2A, which includes wetlands and upland sand plain adjacent to a seasonal watercourse, would be preserved as potential nesting habitat. Our understanding is that a Blanding's Turtle sighting was documented at the junction of this watercourse and Main Street.

The Haynes Family has had an extraordinary, multigenerational positive impact on conservation and open space preservation in Boxford. Through bargain sales and gifting, they have worked cooperatively with several local and state entities to preserve approximately 300 acres of open space and critical habitat within the Town of Boxford. These preservation efforts include the initial 15 acres in Bald Hill

Reservation that started Essex County Greenbelt, as well as the 180-acre parcel that comprises the Cleveland Farm State Forest. In addition, in recent years, working in collaboration with the Town of Boxford, the Haynes Family has helped to preserve or conserve as open space the eighty-five (85) acres surrounding the proposed subdivision area on the north, east and south. Five of these acres ("Haynes Hayfield") are conservation- restricted upland sand plain adjacent to and east of the above-mentioned seasonal watercourse. These extensive conservation and preservation efforts are illustrated on a graphic (Figure 5, Haynes Family Open Space and Conservation History) included in the ENF filing.

In closing, we believe that the subdivision outlined in the attached ENF 1) avoids any impacts to sensitive wetland resource areas (including vernal pools), 2) meets stormwater standards, 3) protects wildlife habitat by providing an uninterrupted travel corridor, 4) preserves particularly sensitive habitat areas, and 5) connects the site to the town of Boxford's passive trail network system – and as such we respectfully request that no further MEPA review be required beyond this ENF.

Sincerely,

DeRosa Environmental Consulting, Inc

Abigail Manzi
Environmental Scientist

Michael J. DeRosa, Principal
Professional Wetland Scientist (PWS)

MJD/AEM/aem

Cc:

1. MassDEP, Commissioner's Office, One Winter Street, Boston, MA 02108
2. MADEP/NERO, Wetlands Division, 205B Lowell Street, Wilmington, MA 01887
3. MassDOT, Public/Private Development Unit, 10 Park Plaza, Boston, MA 02116
4. MassDOT District #4, Attn: MEPA Coordinator, 519 Appleton Street, Arlington, MA 02476
5. MHC, The MA Archives Building, 220 Morrissey Blvd, Boston, MA 02125
6. Merrimack Valley planning, 160 Main Street, Haverhill, MA 01830
7. Boxford Board of Selectmen, 28 Middleton Rd, Boxford, MA 01921
8. Boxford Planning Board, 7A Spofford Road Boxford, MA 01921
9. Boxford Conservation Commission, 7A Spofford Rd, Boxford, MA 01921
10. Boxford Health Department, 7A Spofford Rd, Boxford, MA 01921
11. Boxford Town Library, 7A Spofford Rd, Boxford, MA 01921
12. Massachusetts Department of Agricultural Resources, 251 Causeway St #500, Boston, MA 02114
13. MassWildlife's Natural Heritage & Endangered Species Program (NHESP), MassWildlife Field Headquarters, 1 Rabbit Hill Road, Westborough, MA 01581

Commonwealth of Massachusetts

Executive Office of Energy and Environmental Affairs
Massachusetts Environmental Policy Act (MEPA) Office

Environmental Notification Form

For Office Use Only

EEA#: _____

MEPA Analyst: _____

The information requested on this form must be completed in order to submit a document electronically for review under the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Elmlea Subdivision		
Street Address: Assessor's (Map, Block, Lot) 28-2-17, 28-1-1(#71), 28-1-1.1(#63), 32-3-24(#57), 32-3 25 – Main Street		
Municipality: Boxford, MA	Watershed: Ipswich River	
Universal Transverse Mercator Coordinates: 19T 335559.8 4725484.3	Latitude: 42.66426 N Longitude: 71.00654 W	
Estimated commencement date: 4/2020	Estimated completion date: 4/2025	
Project Type: Residential Subdivision	Status of project design: Conceptual/20% complete	
Proponent: Elmlea Partnership Trust		
Street Address: 57 Main Street		
Municipality: Boxford	State: MA	Zip Code: 01921
Name of Contact Person: Mike DeRosa		
Firm/Agency: DeRosa Environmental Consulting, Inc.	Street Address: 167 Main Street, PO Box 716	
Municipality: Rowley	State: MA	Zip Code: 01969
Phone: 978-265-9298	Fax:	E-mail: michaelderosaj@gmail.com

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
☐Yes ☒No

If this is an Expanded Environmental Notification Form (ENF) (see 301 CMR 11.05(7)) or a Notice of Project Change (NPC), are you requesting:

a Single EIR? (see 301 CMR 11.06(8))	☐Yes ☒No
a Special Review Procedure? (see 301CMR 11.09)	☐Yes ☒No
a Waiver of mandatory EIR? (see 301 CMR 11.11)	☐Yes ☒No
a Phase I Waiver? (see 301 CMR 11.11)	☐Yes ☒No

(Note: Greenhouse Gas Emissions analysis must be included in the Expanded ENF.)

Which MEPA review threshold(s) does the project meet or exceed (see 301 CMR 11.03)?
301 CMR 11.03 (1) (b) 1. & 301 CMR 11.03 (2) (b) 2.

Which State Agency Permits will the project require?
MassDEP – Order of Conditions & NHESP – Conservation Management Permit

Identify any financial assistance or land transfer from an Agency of the Commonwealth, including the Agency name and the amount of funding or land area in acres: N/A

Summary of Project Size & Environmental Impacts	Existing	Change	Total
LAND			
Total site acreage	54.3 ac		
New acres of land altered		25.2 ac	
Acres of impervious area	0.6 ac	3.1 ac	3.7 ac
Square feet of new bordering vegetated wetlands alteration		0 ac	
Square feet of new other wetland alteration		0 ac	
Acres of new non-water dependent use of tidelands or waterways		0 ac	
STRUCTURES			
Gross square footage	0.3ac	0.9 ac	1.2 ac
Number of housing units	3 (13 BR)	13 (52 BR)	16 (65 BR)
Maximum height (feet)	< 35 ft	0 ft	< 35 ft
TRANSPORTATION			
Vehicle trips per day	41	118	159
Parking spaces	N/A	N/A	N/A
WASTEWATER			
Water Use (Gallons per day)	1,430	5,720	7,150
Water withdrawal (GPD)	1,430	5,720	7,150
Wastewater generation/treatment (GPD)	1,430	5,720	7,150
Length of water mains (miles)	0	0	0
Length of sewer mains (miles)	0	0	0

Has this project been filed with MEPA before?
☐ Yes (EEA #_____) ☒No

Has any project on this site been filed with MEPA before?
☐ Yes (EEA #_____) ☒No

GENERAL PROJECT INFORMATION – all proponents must fill out this section

PROJECT DESCRIPTION:

Describe the existing conditions and land uses on the project site: Vacant private forest land (See Attachment A Section 1.1)

Describe the proposed project and its programmatic and physical elements: Residential housing development (See Attachment A Section 1.2)

NOTE: The project description should summarize both the project's direct and indirect impacts (including construction period impacts) in terms of their magnitude, geographic extent, duration and frequency, and reversibility, as applicable. It should also discuss the infrastructure requirements of the project and the capacity of the municipal and/or regional infrastructure to sustain these requirements into the future. (See Attachment A Section 1.3-1.4)

Describe the on-site project alternatives (and alternative off-site locations, if applicable), considered by the proponent, including at least one feasible alternative that is allowed under current zoning, and the reasons(s) that they were not selected as the preferred alternative:
(See Attachment A Section 2.0)

NOTE: *The purpose of the alternatives analysis is to consider what effect changing the parameters and/or siting of a project, or components thereof, will have on the environment, keeping in mind that the objective of the MEPA review process is to avoid or minimize damage to the environment to the greatest extent feasible. Examples of alternative projects include alternative site locations, alternative site uses, and alternative site configurations.*

Summarize the mitigation measures proposed to offset the impacts of the preferred alternative:
(See Attachment A Section 2.6.1)

If the project is proposed to be constructed in phases, please describe each phase:
(See Attachment A Section 2.6.2)

AREAS OF CRITICAL ENVIRONMENTAL CONCERN:
Is the project within or adjacent to an Area of Critical Environmental Concern?
☐Yes (Specify_____)
☒No (See Attachment A Section 3.1)
if yes, does the ACEC have an approved Resource Management Plan? ___ Yes ___ No;
If yes, describe how the project complies with this plan.

Will there be stormwater runoff or discharge to the designated ACEC? ___ Yes ___ No;
If yes, describe and assess the potential impacts of such stormwater runoff/discharge to the designated ACEC.

RARE SPECIES:
Does the project site include Estimated and/or Priority Habitat of State-Listed Rare Species? (see http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/priority_habitat/priority_habitat_home.htm)
☒Yes (Specify: Blanding's Turtle habitat) ☐No (See Attachment A Section 3.2)

HISTORICAL /ARCHAEOLOGICAL RESOURCES:
Does the project site include any structure, site or district listed in the State Register of Historic Place or the inventory of Historic and Archaeological Assets of the Commonwealth?
☒Yes (Specify: Abraham Redington House) ☐No (See Attachment A Section 3.3)

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources? ☐Yes (Specify_____) ☒No

WATER RESOURCES:

Is there an Outstanding Resource Water (ORW) on or within a half-mile radius of the project site? ___Yes X No;
if yes, identify the ORW and its location. _____

(NOTE: Outstanding Resource Waters include Class A public water supplies, their tributaries, and bordering wetlands; active and inactive reservoirs approved by MassDEP; certain waters within Areas of Critical Environmental Concern, and certified vernal pools. Outstanding resource waters are listed in the Surface Water Quality Standards, 314 CMR 4.00.)

Are there any impaired water bodies on or within a half-mile radius of the project site? ___Yes X No; if yes, identify the water body and pollutant(s) causing the impairment:_____.

Is the project within a medium or high stress basin, as established by the Massachusetts Water Resources Commission? ___Yes X No

STORMWATER MANAGEMENT:

Generally describe the project's stormwater impacts and measures that the project will take to comply with the standards found in MassDEP's Stormwater Management Regulations: (See Attachment A Section 4.0)

MASSACHUSETTS CONTINGENCY PLAN:

Has the project site been, or is it currently being, regulated under M.G.L.c.21E or the Massachusetts Contingency Plan? Yes ___ No ___ ; if yes, please describe the current status of the site (including Release Tracking Number (RTN), cleanup phase, and Response Action Outcome classification): No

Is there an Activity and Use Limitation (AUL) on any portion of the project site? Yes ___ No X;
if yes, describe which portion of the site and how the project will be consistent with the AUL:
_____.

Are you aware of any Reportable Conditions at the property that have not yet been assigned an RTN? Yes ___ No X ; if yes, please describe:_____

SOLID AND HAZARDOUS WASTE:

If the project will generate solid waste during demolition or construction, describe alternatives considered for re-use, recycling, and disposal of, e.g., asphalt, brick, concrete, gypsum, metal, wood:_____
(See Attachment A Section 5.0)
(NOTE: Asphalt pavement, brick, concrete and metal are banned from disposal at Massachusetts landfills and waste combustion facilities and wood is banned from disposal at Massachusetts landfills. See 310 CMR 19.017 for the complete list of banned materials.)

Will your project disturb asbestos containing materials? Yes ___ No X ;
if yes, please consult state asbestos requirements at http://mass.gov/MassDEP/air/asbhom01.htm

Describe anti-idling and other measures to limit emissions from construction equipment: _____
(See Attachment A Section 5.0)

DESIGNATED WILD AND SCENIC RIVER:

Is this project site located wholly or partially within a defined river corridor of a federally designated Wild and Scenic River or a state designated Scenic River? Yes ___ No X ;
if yes, specify name of river and designation:

If yes, does the project have the potential to impact any of the "outstandingly remarkable" resources of a federally Wild and Scenic River or the stated purpose of a state designated Scenic River?
Yes ___ No _X_ ; if yes, specify name of river and designation: _____;
if yes, will the project will result in any impacts to any of the designated "outstandingly remarkable" resources of the Wild and Scenic River or the stated purposes of a Scenic River.
Yes ___ No _X_ ;
if yes, describe the potential impacts to one or more of the "outstandingly remarkable" resources or stated purposes and mitigation measures proposed.

ATTACHMENTS: (See Attachment A Section 6.0)

1. List of all attachments to this document.
2. U.S.G.S. map (good quality color copy, 8-½ x 11 inches or larger, at a scale of 1:24,000) indicating the project location and boundaries.
3.. Plan, at an appropriate scale, of existing conditions on the project site and its immediate environs, showing all known structures, roadways and parking lots, railroad rights-of-way, wetlands and water bodies, wooded areas, farmland, steep slopes, public open spaces, and major utilities.
4 Plan, at an appropriate scale, depicting environmental constraints on or adjacent to the project site such as Priority and/or Estimated Habitat of state-listed rare species, Areas of Critical Environmental Concern, Chapter 91 jurisdictional areas, Article 97 lands, wetland resource area delineations, water supply protection areas, and historic resources and/or districts.
5. Plan, at an appropriate scale, of proposed conditions upon completion of project (if construction of the project is proposed to be phased, there should be a site plan showing conditions upon the completion of each phase).
6. List of all agencies and persons to whom the proponent circulated the ENF, in accordance with 301 CMR 11.16(2).
7. List of municipal and federal permits and reviews required by the project, as applicable.

LAND SECTION – all proponents must fill out this section

I. Thresholds / Permits

A. Does the project meet or exceed any review thresholds related to **land** (see 301 CMR 11.03(1)
_X_ Yes ___ No; if yes, specify each threshold: 301 CMR 11.03 (1) (b) 1.
(See Attachment A Section 7.1)

II. Impacts and Permits

A. Describe, in acres, the current and proposed character of the project site, as follows:

	Existing	Change	Total
Footprint of buildings	0.3	0.9	1.2
Internal roadways	0	1.3	1.3
Parking and other paved areas	0.3	0.9	1.2
Other altered areas	10.2	22.1	32.3
Undeveloped areas	43.5	-25.2	18.3
Total: Project Site Acreage	54.3	0	54.3

B. Has any part of the project site been in active agricultural use in the last five years?
_X_ Yes ___ No; if yes, how many acres of land in agricultural use (with prime state or locally important agricultural soils) will be converted to nonagricultural use? The land was removed from 61/61A about a year ago and the 41.88 acre lot has since been assessed as a single house lot. Per the MassGIS data layer for Prime Farmland Soils, approximately 22.6 Acres will be altered for the proposed residential subdivision. (See Attachment A Section 7.2.1)

C. Is any part of the project site currently or proposed to be in active forestry use?
___ Yes _X_ No; if yes, please describe current and proposed forestry activities and indicate whether any part of the site is the subject of a forest management plan approved by the Department of Conservation and Recreation:

D. Does any part of the project involve conversion of land held for natural resources purposes in accordance with Article 97 of the Amendments to the Constitution of the Commonwealth to any purpose not in accordance with Article 97? ___ Yes _X_ No; if yes, describe:

E. Is any part of the project site currently subject to a conservation restriction, preservation restriction, agricultural preservation restriction or watershed preservation restriction? ___ Yes _X_ No; if yes, does the project involve the release or modification of such restriction? ___ Yes ___ No; if yes, describe:

F. Does the project require approval of a new urban redevelopment project or a fundamental change in an existing urban redevelopment project under M.G.L.c.121A? ___ Yes _X_ No; if yes, describe:

G. Does the project require approval of a new urban renewal plan or a major modification of an existing urban renewal plan under M.G.L.c.121B? Yes ___ No _X_; if yes, describe:

III. Consistency

A. Identify the current municipal comprehensive land use plan
Title: Town of Boxford Housing Production Plan 2018-2022 Date_N.A_____

B. Describe the project's consistency with that plan with regard to:
1) economic development Proposed lots will provide tax revenue for the town
2) adequacy of infrastructure Existing public ways and utilities are adequate to support this development
3) open space impacts Open space shall be provided on each lot based on the fact

that the Boxford Zoning Bylaw requires a maximum building coverage of 25% of the lot area.

4) compatibility with adjacent land uses All abutting land uses are residential or Town owned recreation and open space.

C. Identify the current Regional Policy Plan of the applicable Regional Planning Agency (RPA)

RPA: Merrimack Valley Priority Growth Strategy

Title: Merrimack Valley Priority Growth Strategy

Date: September 2009, updated February 2015

D. Describe the project's consistency with that plan with regard to:

1) economic development Proposed lots will provide tax revenue for the town

2) adequacy of infrastructure Existing public ways and utilities are adequate to support development

3) open space impacts Open space shall be provided on each lot based on the fact that the Boxford Zoning Bylaw requires a maximum building coverage of 25% of the lot area.

RARE SPECIES SECTION

I. **Thresholds / Permits** (See Attachment A Section 8.1)

A. Will the project meet or exceed any review thresholds related to **rare species or habitat** (see 301 CMR 11.03(2))? _X_ Yes ___ No; if yes, specify, in quantitative terms: 301 CMR 11.03 (2) (b) 2. Alteration of 30.17 acres of a priority habitat (PH 1994)

(NOTE: If you are uncertain, it is recommended that you consult with the Natural Heritage and Endangered Species Program (NHESP) prior to submitting the ENF.)

B. Does the project require any state permits related to **rare species or habitat**? _X_ Yes ___ No

C. Does the project site fall within mapped rare species habitat (Priority or Estimated Habitat?) in the current Massachusetts Natural Heritage Atlas (attach relevant page)? _X_ Yes ___ No.

D. If you answered "No" to all questions A, B and C, proceed to the **Wetlands, Waterways, and Tidelands Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Rare Species section below.

II. **Impacts and Permits** (See Attachment A Section 8.2)

A. Does the project site fall within Priority or Estimated Habitat in the current Massachusetts Natural Heritage Atlas (attach relevant page)? _X_ Yes ___ No. If yes,

1. Have you consulted with the Division of Fisheries and Wildlife Natural Heritage and Endangered Species Program (NHESP)? _X_Yes ___No; if yes, have you received a determination as to whether the project will result in the "take" of a rare species? ___ Yes _X_ No; if yes, attach the letter of determination to this submission.

2. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes ___ No; if yes, provide a summary of proposed measures to minimize and mitigate rare species impacts. No formal determination has been made, see Attachment A Section 8.2.

3. Which rare species are known to occur within the Priority or Estimated Habitat?
Blanding's Turtle

4. Has the site been surveyed for rare species in accordance with the Massachusetts Endangered Species Act? ___ Yes _X_ No

4. If your project is within Estimated Habitat, have you filed a Notice of Intent or received an Order of Conditions for this project? ___ Yes _X_ No; if yes, did you send a copy of the Notice of Intent to the Natural Heritage and Endangered Species Program, in accordance with the Wetlands Protection Act regulations? ___ Yes ___ No

B. Will the project "take" an endangered, threatened, and/or species of special concern in accordance with M.G.L. c.131A (see also 321 CMR 10.04)? ___ Yes _x__ No; if yes, provide a summary of proposed measures to minimize and mitigate impacts to significant habitat: No formal determination has been made, see attachment A Section 8.1

WETLANDS, WATERWAYS, AND TIDELANDS SECTION

I. Thresholds / Permits (See Attachment A Section 9.1)

A. Will the project meet or exceed any review thresholds related to **wetlands, waterways, and tidelands** (see 301 CMR 11.03(3))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits (or a local Order of Conditions) related to **wetlands, waterways, or tidelands**? _X_ Yes ___ No; if yes, specify which permit: Local Order of Conditions

C. If you answered "No" to both questions A and B, proceed to the **Water Supply Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wetlands, Waterways, and Tidelands Section below.

II. Wetlands Impacts and Permits (See Attachment A Section 9.2)

A. Does the project require a new or amended Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A)? _X_ Yes ___ No; if yes, has a Notice of Intent been filed? ___ Yes _X_ No; if yes, list the date and MassDEP file number: _____; if yes, has a local Order of Conditions been issued? ___ Yes ___ No; Was the Order of Conditions appealed? ___ Yes ___ No. Will the project require a Variance from the Wetlands regulations? ___ Yes _X_ No.

B. Describe any proposed permanent or temporary impacts to wetland resource areas located on the project site: There will be no temporary or permanent impacts to wetlands resource areas. Alterations are limited to the buffer zone and the limitation of work complies with the Town of Boxford Wetland By-Law requirements.

C. Estimate the extent and type of impact that the project will have on wetland resources, and indicate whether the impacts are temporary or permanent:

Coastal Wetlands	Area (square feet) or Length (linear feet)	Temporary or Permanent Impact?
Land Under the Ocean	N/A	N/A
Designated Port Areas	N/A	N/A
Coastal Beaches	N/A	N/A
Coastal Dunes	N/A	N/A
Barrier Beaches	N/A	N/A
Coastal Banks	N/A	N/A
Rocky Intertidal Shores	N/A	N/A
Salt Marshes	N/A	N/A
Land Under Salt Ponds	N/A	N/A
Land Containing Shellfish	N/A	N/A
Fish Runs	N/A	N/A
Land Subject to Coastal Storm Flowage	N/A	N/A
Inland Wetlands		
Bank (lf)	0	0
Bordering Vegetated Wetlands	0	0
Isolated Vegetated Wetlands	0	0
Land under Water	0	0
Isolated Land Subject to Flooding	0	0
Bordering Land Subject to Flooding	0	0
Riverfront Area	0	0

D. Is any part of the project:

1. proposed as a **limited project**? ___ Yes _X_ No; if yes, what is the area (in sf)?____

2. the construction or alteration of a **dam**? ___ Yes _X_ No; if yes, describe:
3. fill or structure in a **velocity zone** or **regulatory floodway**? ___ Yes _X_ No
4. dredging or disposal of dredged material? ___ Yes _X_ No; if yes, describe the volume of dredged material and the proposed disposal site:
5. a discharge to an **Outstanding Resource Water (ORW)** or an **Area of Critical Environmental Concern (ACEC)**? ___ Yes _X_ No
6. subject to a wetlands restriction order? ___ Yes _X_ No; if yes, identify the area (in sf):
7. located in buffer zones? _X_ Yes ___No; if yes, how much (in sf): 83,800 +/-

E. Will the project:
1. be subject to a local wetlands ordinance or bylaw? _X_ Yes ___ No
2. alter any federally-protected wetlands not regulated under state law? ___ Yes _X_ No; if yes, what is the area (sf)?

III. Waterways and Tidelands Impacts and Permits

A. Does the project site contain waterways or tidelands (including filled former tidelands) that are subject to the Waterways Act, M.G.L.c.91? ___ Yes _X_ No; if yes, is there a current Chapter 91 License or Permit affecting the project site? ___ Yes ___ No; if yes, list the date and license or permit number and provide a copy of the historic map used to determine extent of filled tidelands:

B. Does the project require a new or modified license or permit under M.G.L.c.91? ___ Yes _X_ No; if yes, how many acres of the project site subject to M.G.L.c.91 will be for non-water-dependent use? Current ___ Change ___ Total ___
If yes, how many square feet of solid fill or pile-supported structures (in sf)?

C. For non-water-dependent use projects, indicate the following:
Area of filled tidelands on the site: N/A
Area of filled tidelands covered by buildings: N/A
For portions of site on filled tidelands, list ground floor uses and area of each use: N/A
Does the project include new non-water-dependent uses located over flowed tidelands? Yes ___ No _X_
Height of building on filled tidelands: N/A

Also show the following on a site plan: Mean High Water, Mean Low Water, Water-dependent Use Zone, location of uses within buildings on tidelands, and interior and exterior areas and facilities dedicated for public use, and historic high and historic low water marks.

D. Is the project located on landlocked tidelands? ___ Yes _X_ No; if yes, describe the project's impact on the public's right to access, use and enjoy jurisdictional tidelands and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

E. Is the project located in an area where low groundwater levels have been identified by a municipality or by a state or federal agency as a threat to building foundations? ___Yes _X_ No; if yes, describe the project's impact on groundwater levels and describe measures the project will implement to avoid, minimize or mitigate any adverse impact:

F. Is the project non-water-dependent **and** located on landlocked tidelands **or** waterways or tidelands subject to the Waterways Act **and** subject to a mandatory EIR? ___ Yes _X_ No;
(NOTE: If yes, then the project will be subject to Public Benefit Review and Determination.)

G. Does the project include dredging? ___ Yes _X_ No; if yes, answer the following questions:

What type of dredging? Improvement ___ Maintenance ___ Both ____

What is the proposed dredge volume, in cubic yards (cys) _____

What is the proposed dredge footprint ____length (ft) ___width (ft)____depth (ft);

Will dredging impact the following resource areas?

Intertidal Yes__ No__; if yes, ___ sq ft

Outstanding Resource Waters Yes__ No__; if yes, ___ sq ft

Other resource area (i.e. shellfish beds, eel grass beds) Yes__ No__; if yes __ sq ft

If yes to any of the above, have you evaluated appropriate and practicable steps to: 1) avoidance; 2) if avoidance is not possible, minimization; 3) if either avoidance or minimize is not possible, mitigation?

If no to any of the above, what information or documentation was used to support this determination?

Provide a comprehensive analysis of practicable alternatives for improvement dredging in accordance with 314 CMR 9.07(1)(b). Physical and chemical data of the sediment shall be included in the comprehensive analysis.

Sediment Characterization

Existing gradation analysis results? __Yes ___No: if yes, provide results.

Existing chemical results for parameters listed in 314 CMR 9.07(2)(b)6? ___Yes ____No; if yes, provide results.

Do you have sufficient information to evaluate feasibility of the following management options for dredged sediment? If yes, check the appropriate option.

Beach Nourishment ___

Unconfined Ocean Disposal ___

Confined Disposal:

Confined Aquatic Disposal (CAD) ___

Confined Disposal Facility (CDF) ___

Landfill Reuse in accordance with COMM-97-001 ___

Shoreline Placement ___

Upland Material Reuse____

In-State landfill disposal____

Out-of-state landfill disposal ____

(NOTE: This information is required for a 401 Water Quality Certification.)

IV. Consistency:

A. Does the project have effects on the coastal resources or uses, and/or is the project located within the Coastal Zone? ___ Yes _X_ No; if yes, describe these effects and the projects consistency with the policies of the Office of Coastal Zone Management:

B. Is the project located within an area subject to a Municipal Harbor Plan? ___ Yes _X_ No; if yes, identify the Municipal Harbor Plan and describe the project's consistency with that plan:

WATER SUPPLY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **water supply** (see 301 CMR 11.03(4))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **water supply**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Wastewater Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Water Supply Section below.

II. Impacts and Permits

A. Describe, in gallons per day (gpd), the volume and source of water use for existing and proposed activities at the project site:

	Existing	Change	Total
Municipal or regional water supply	_____	_____	_____
Withdrawal from groundwater	_____	_____	_____
Withdrawal from surface water	_____	_____	_____
Interbasin transfer	_____	_____	_____

(NOTE: Interbasin Transfer approval will be required if the basin and community where the proposed water supply source is located is different from the basin and community where the wastewater from the source will be discharged.)

B. If the source is a municipal or regional supply, has the municipality or region indicated that there is adequate capacity in the system to accommodate the project? ___ Yes ___ No

C. If the project involves a new or expanded withdrawal from a groundwater or surface water source, has a pumping test been conducted? ___ Yes ___ No; if yes, attach a map of the drilling sites and a summary of the alternatives considered and the results. _____

D. What is the currently permitted withdrawal at the proposed water supply source (in gallons per day)? _____Will the project require an increase in that withdrawal? ___Yes ___No; if yes, then how much of an increase (gpd)? _____

E. Does the project site currently contain a water supply well, a drinking water treatment facility, water main, or other water supply facility, or will the project involve construction of a new facility? ___ Yes ___No. If yes, describe existing and proposed water supply facilities at the project site:

	Permitted Flow	Existing Avg Daily Flow	Project Flow	Total
Capacity of water supply well(s) (gpd)	_____	_____	_____	_____
Capacity of water treatment plant (gpd)	_____	_____	_____	_____

F. If the project involves a new interbasin transfer of water, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or proposed?

G. Does the project involve:

1. new water service by the Massachusetts Water Resources Authority or other agency of the Commonwealth to a municipality or water district? ___ Yes ___ No
2. a Watershed Protection Act variance? ___ Yes ___ No; if yes, how many acres of alteration?
3. a non-bridged stream crossing 1,000 or less feet upstream of a public surface drinking

water supply for purpose of forest harvesting activities? ___ Yes ___ No

III. Consistency

Describe the project's consistency with water conservation plans or other plans to enhance water resources, quality, facilities and services:

WASTEWATER SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **wastewater** (see 301 CMR 11.03(5))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **wastewater**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Transportation -- Traffic Generation Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Wastewater Section below.

II. Impacts and Permits

A. Describe the volume (in gallons per day) and type of disposal of wastewater generation for existing and proposed activities at the project site (calculate according to 310 CMR 15.00 for septic systems or 314 CMR 7.00 for sewer systems):

	Existing	Change	Total
Discharge of sanitary wastewater			
Discharge of industrial wastewater			
TOTAL			

	Existing	Change	Total
Discharge to groundwater			
Discharge to outstanding resource water			
Discharge to surface water			
Discharge to municipal or regional wastewater facility			
TOTAL			

B. Is the existing collection system at or near its capacity? ___ Yes ___ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

C. Is the existing wastewater disposal facility at or near its permitted capacity? ___ Yes___ No; if yes, then describe the measures to be undertaken to accommodate the project's wastewater flows:

D. Does the project site currently contain a wastewater treatment facility, sewer main, or other wastewater disposal facility, or will the project involve construction of a new facility? ___ Yes ___ No; if yes, describe as follows:

	Permitted	Existing Avg Daily Flow	Project Flow	Total
Wastewater treatment plant capacity (in gallons per day)				

E. If the project requires an interbasin transfer of wastewater, which basins are involved, what is the direction of the transfer, and is the interbasin transfer existing or new?

(NOTE: Interbasin Transfer approval may be needed if the basin and community where wastewater will be discharged is different from the basin and community where the source of water supply is located.)

F. Does the project involve new sewer service by the Massachusetts Water Resources Authority (MWRA) or other Agency of the Commonwealth to a municipality or sewer district? ___ Yes ___ No

G. Is there an existing facility, or is a new facility proposed at the project site for the storage, treatment, processing, combustion or disposal of sewage sludge, sludge ash, grit, screenings, wastewater reuse (gray water) or other sewage residual materials? ___ Yes ___ No; if yes, what is the capacity (tons per day):

	Existing	Change	Total
Storage	_____	_____	_____
Treatment	_____	_____	_____
Processing	_____	_____	_____
Combustion	_____	_____	_____
Disposal	_____	_____	_____

H. Describe the water conservation measures to be undertaken by the project, and other wastewater mitigation, such as infiltration and inflow removal.

III. Consistency

A. Describe measures that the proponent will take to comply with applicable state, regional, and local plans and policies related to wastewater management:

B. If the project requires a sewer extension permit, is that extension included in a comprehensive wastewater management plan? ___ Yes ___ No; if yes, indicate the EEA number for the plan and whether the project site is within a sewer service area recommended or approved in that plan:

TRANSPORTATION SECTION (TRAFFIC GENERATION)

I. Thresholds / Permit

A. Will the project meet or exceed any review thresholds related to **traffic generation** (see 301 CMR 11.03(6))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **state-controlled roadways**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Roadways and Other Transportation Facilities Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Traffic Generation Section below.

II. Traffic Impacts and Permits

A. Describe existing and proposed vehicular traffic generated by activities at the project site:

	Existing	Change	Total
Number of parking spaces	_____	_____	_____
Number of vehicle trips per day	_____	_____	_____
ITE Land Use Code(s):	_____	_____	_____

B. What is the estimated average daily traffic on roadways serving the site?

Roadway	Existing	Change	Total
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

C. If applicable, describe proposed mitigation measures on state-controlled roadways that the project proponent will implement:

D. How will the project implement and/or promote the use of transit, pedestrian and bicycle facilities and services to provide access to and from the project site?

C. Is there a Transportation Management Association (TMA) that provides transportation demand management (TDM) services in the area of the project site? ____ Yes __X_ No; if yes, describe if and how will the project will participate in the TMA:

D. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation facilities? ____ Yes __X_ No; if yes, generally describe:

E. If the project will penetrate approach airspace of a nearby airport, has the proponent filed a Massachusetts Aeronautics Commission Airspace Review Form (780 CMR 111.7) and a Notice of Proposed Construction or Alteration with the Federal Aviation Administration (FAA) (CFR Title 14 Part 77.13, forms 7460-1 and 7460-2)?

III. Consistency

Describe measures that the proponent will take to comply with municipal, regional, state, and federal plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services:

TRANSPORTATION SECTION (ROADWAYS AND OTHER TRANSPORTATION FACILITIES)

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **roadways or other transportation facilities** (see 301 CMR 11.03(6))? _X__ Yes ___ No; if yes, specify, in quantitative terms: Roadway length = 0.4 Miles +/-

B. Does the project require any state permits related to **roadways or other transportation facilities**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Energy Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Roadways Section below.

II. Transportation Facility Impacts

A. Describe existing and proposed transportation facilities in the immediate vicinity of the project site:

B. Will the project involve any

1. Alteration of bank or terrain (in linear feet)? Terrain alteration= 2,590 lf+/-
2. Cutting of living public shade trees (number)? _____0_____
3. Elimination of stone wall (in linear feet)? _____60 lf+/-_____

III. Consistency -- Describe the project's consistency with other federal, state, regional, and local plans and policies related to traffic, transit, pedestrian and bicycle transportation facilities and services, including consistency with the applicable regional transportation plan and the Transportation Improvements Plan (TIP), the State Bicycle Plan, and the State Pedestrian Plan:
Roadway subdivision will be designed per local regulations and will be a rural roadway

ENERGY SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **energy** (see 301 CMR 11.03(7))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **energy**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Air Quality Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Energy Section below.

II. Impacts and Permits

A. Describe existing and proposed energy generation and transmission facilities at the project site:

	Existing	Change	Total
Capacity of electric generating facility (megawatts)	_____	_____	_____
Length of fuel line (in miles)	_____	_____	_____
Length of transmission lines (in miles)	_____	_____	_____
Capacity of transmission lines (in kilovolts)	_____	_____	_____

B. If the project involves construction or expansion of an electric generating facility, what are:

1. the facility's current and proposed fuel source(s)?
2. the facility's current and proposed cooling source(s)?

C. If the project involves construction of an electrical transmission line, will it be located on a new, unused, or abandoned right of way? ___Yes ___No; if yes, please describe:

D. Describe the project's other impacts on energy facilities and services:

III. Consistency

Describe the project's consistency with state, municipal, regional, and federal plans and policies for enhancing energy facilities and services:

AIR QUALITY SECTION

I. Thresholds

A. Will the project meet or exceed any review thresholds related to **air quality** (see 301 CMR 11.03(8))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **air quality**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Solid and Hazardous Waste Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Air Quality Section below.

II. Impacts and Permits

A. Does the project involve construction or modification of a major stationary source (see 310 CMR 7.00, Appendix A)? ___ Yes ___ No; if yes, describe existing and proposed emissions (in tons per day) of:

	Existing	Change	Total
Particulate matter	_____	_____	_____
Carbon monoxide	_____	_____	_____
Sulfur dioxide	_____	_____	_____
Volatile organic compounds	_____	_____	_____
Oxides of nitrogen	_____	_____	_____
Lead	_____	_____	_____
Any hazardous air pollutant	_____	_____	_____
Carbon dioxide	_____	_____	_____

B. Describe the project's other impacts on air resources and air quality, including noise impacts:

III. Consistency

A. Describe the project's consistency with the State Implementation Plan:

B. Describe measures that the proponent will take to comply with other federal, state, regional, and local plans and policies related to air resources and air quality:

SOLID AND HAZARDOUS WASTE SECTION

I. Thresholds / Permits

A. Will the project meet or exceed any review thresholds related to **solid or hazardous waste** (see 301 CMR 11.03(9))? ___ Yes _X_ No; if yes, specify, in quantitative terms:

B. Does the project require any state permits related to **solid and hazardous waste**? ___ Yes _X_ No; if yes, specify which permit:

C. If you answered "No" to both questions A and B, proceed to the **Historical and Archaeological Resources Section**. If you answered "Yes" to either question A or question B, fill out the remainder of the Solid and Hazardous Waste Section below.

II. Impacts and Permits

A. Is there any current or proposed facility at the project site for the storage, treatment, processing, combustion or disposal of solid waste? ___ Yes ___ No; if yes, what is the volume (in tons per day) of the capacity:

	Existing	Change	Total
Storage			
Treatment, processing			
Combustion			
Disposal			

B. Is there any current or proposed facility at the project site for the storage, recycling, treatment or disposal of hazardous waste? ___ Yes ___ No; if yes, what is the volume (in tons or gallons per day) of the capacity:

	Existing	Change	Total
Storage			
Recycling			
Treatment			
Disposal			

C. If the project will generate solid waste (for example, during demolition or construction), describe alternatives considered for re-use, recycling, and disposal:

D. If the project involves demolition, do any buildings to be demolished contain asbestos?
___ Yes ___ No

E. Describe the project's other solid and hazardous waste impacts (including indirect impacts):

III. Consistency

Describe measures that the proponent will take to comply with the State Solid Waste Master Plan:

HISTORICAL AND ARCHAEOLOGICAL RESOURCES SECTION

I. Thresholds / Impacts (See Attachment A Section 10.1)

A. Have you consulted with the Massachusetts Historical Commission? ___ Yes _X_ No; if yes, attach correspondence. For project sites involving lands under water, have you consulted with the Massachusetts Board of Underwater Archaeological Resources? ____Yes ____ No; if yes, attach correspondence

B. Is any part of the project site a historic structure, or a structure within a historic district, in either case listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? _X_ Yes ___ No; if yes, does the project involve the demolition of all or any exterior part of such historic structure? ___ Yes _X_ No; if yes, please describe:

C. Is any part of the project site an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth? ___ Yes _X_ No; if yes, does the project involve the destruction of all or any part of such archaeological site? ___ Yes ___ No; if yes, please describe:

D. If you answered "No" to all parts of both questions A, B and C, proceed to the **Attachments and Certifications** Sections. If you answered "Yes" to any part of either question A or question B, fill out the remainder of the Historical and Archaeological Resources Section below.

II. Impacts

Describe and assess the project's impacts, direct and indirect, on listed or inventoried historical and archaeological resources:

No work is proposed on either the structure or lot on which the historic structure is located.

III. Consistency

Describe measures that the proponent will take to comply with federal, state, regional, and local plans and policies related to preserving historical and archaeological resources:

No work is proposed on either the structure or lot on which the historic structure is located.

CERTIFICATIONS:

1. The Public Notice of Environmental Review has been/will be published in the following newspapers in accordance with 301 CMR 11.15(1):

   (Name) Environmental Monitor (Date) April 1, 2019

2. This form has been circulated to Agencies and Persons in accordance with 301 CMR 11.16(2).

Signatures:

3/30/2019	3/30/2019
Date Signature of Responsible Officer or Proponent	Date Signature of person preparing ENF (if different from above)
Charles Haynes	Michael DeRosa
Name (print or type)	Name (print or type)
Elmbrook Foxford LLC	DeRosa Environmental Consulting, Inc.
Firm/Agency	Firm/Agency
457 Main Street	167 Main Street, P.O. Box 716
Street	Street
Foxford, MA 01721	Rowley, MA 01969
Municipality/State/Zip	Municipality/State/Zip
978-500-0038	978-948-7717
Phone	Phone

Table of Contents

Attachment A – Supplemental Information

Massachusetts Environmental Policy Act
Environmental Notification Form
Supplemental Information

1.0 Project Description

1.1 Existing Conditions and Land Use

The Site includes five (5) parcels along Main Street in Boxford, Massachusetts and consists of approximately 54.3 acres. Approximately 43.5 acres are currently undeveloped property and vacant forested land. The Site is bordered by Boxford Common to the east, Main Street and residential properties to the south, and vacant forested land and residential properties to the north and west. Parcels of land to the north, south and east of the Site was previously owned by the applicant, Charles Haynes, and have been bargain sold to or directly gifted to conservation groups and the town in an effort to preserve the land (See Haynes Family Open Space and Conservation History, attached). The Haynes Family has been extremely active in protecting approximately 300 acres of land throughout the Town of Boxford. Through donations or through bargain sales, they have put this land in open space or conservation restrictions in an effort to permanently protect ecologically and environmental sensitive areas. Cleveland Farm State Forest and the conservation-restricted portion of Boxford Common are just several of the large parcels that have been protected by the Haynes Family, as illustrated in Haynes Family Open Space and Conservation History (attached). Note that the large majority of these protected acres are located within NHESP Priority Habitats of Rare Species (PH 1994).

Three (3) existing homes are located on three (3) of the five (5) parcels included in the Site. The remaining are in the Site consists of formerly forested land as well as forested wetland areas. One certified vernal pool is located on the south western corner of the Site. Although no potential vernal pools are mapped by MassDEP/NHESP on the Site, we identified and mapped several areas where vernal pools may exist. The boundary of bordering vegetated wetland at the Site was delineated by our firm on April 30, 2018 during which we identified six (6) potential vernal pools . Wetlands at the Site are located on the south western corner of the property and along the north and east edges of the property (Figure 3). It is important to note that all of these wetland areas will remain undisturbed. The entire site is located within NHESP Priority Habitats of Rare Species (PH 1994).

1.2 Proposed Project

The proposed project includes a 14 lot residential subdivision resulting in the alteration of approximately 25.2 acres. Of this area, approximately 3.1 acres of new impervious area is proposed. Approximately 18.3 acres will be converted to a wildlife corridor and/or remain untouched. There is no proposed work located within the wetland resource areas or the associated 25-foot no-disturb zone as required by the Town of Boxford Conservation Regulations. A small portion of one of the homes (Lot 5), a portion of the driveway (Lot 5), miscellaneous grading, and stormwater improvements are located within the 100-foot buffer to bordering vegetated wetlands. As the entire Site is located within NHESP Priority Habitats of Rare Species all proposed work is subject to MA Endangered Species Act (MESA) Regulatory Review.

The proposed project includes a residential housing development consisting of 14 lots and two (2) cul-de-sac roadways to provide access to the lots. Currently, two (2) homes exist at the Site located at 57 and 63 Main Street. The existing structures located at 71 Main Street (now shown as proposed lot 1) have been razed and a new dwelling is proposed on the lot which is denoted as the 14th lot in the subdivision. An additional 14 single family residences are proposed to be constructed as part of this project. Existing structures at the Site, which includes the structures which were razed at 71 Main Street, have a total area of approximately 0.3 acres. The proposed area of new structures is approximately 0.9 acres.

Access to the Site will be from Main Street by a cul-de-sac roadway to provide frontage and access to the proposed 14 lot residential subdivision. Circulation will proceed around vegetated islands at the terminus of each cul-de-sac (Figure 3). The turning radius of each cul-de-sac has been designed in accordance with the Town of Boxford's subdivision design standards.

The proposed project would result in the perimeter of the Site, except for the land adjacent to Main Street, to remain vegetated and allow the passage of wildlife around the Site. The western portion of the Site includes a proposed 30 foot wide easement adjacent to the property line. Minimal grading will occur within the easement and the easement will be planted according to a Wildlife Corridor Restoration Plan that will be prepared by DeRosa Environmental Consulting. The proposed corridor will provide wildlife access between the vernal pools and bordering vegetated wetlands on the south western portion of the Site and northern portion of the Site. No construction activity associated with the proposed lot developments will be located within the easement. Adjacent to the proposed easement are areas of conservation open space land. Accordingly, the wildlife corridor easement will further expand the amount of protected land, both uplands and wetlands, between the vernal pools on site and preserved land to the south adjacent to Fish Brook. Wildlife corridors are important to many species including the target species, Blanding's turtle, because it allows the safe passage of species through developed areas and connects populations. In this area particularly, the proposed corridor will allow the movement of Blanding's turtles between wetlands and open spaces as shown in Figure 4 and Figure 5, which show potential wildlife corridors as well as open space and wetlands adjacent to the Site.

Additionally, the 100 foot buffer zones to vernal pools and bordering vegetated wetlands will be preserved along the eastern portion of the Site and Gerry's Run, which will provide a corridor for wildlife passage over 100 ft wide (Figure 3).

1.2.1 Programmatic Elements

The project includes the development of two (2) new cul-de-sac roadways to access 14 new single family homes, driveways and appurtenances. Please note the development of proposed Lot 1 is the re-development of 71 Main Street. The project also includes low impact development (LID) stormwater and drainage improvements to facilitate the treatment and management of the increase in runoff generated from the proposed development. A 30 foot easement will be established as a wildlife corridor on the western property line at the Site. This easement will be designed to allow access through cover created by native planted canopy, shrub and herbaceous plantings. These native plantings will provide excellent cover and refuge areas for wildlife and create safe passage from Fish Brook located south of the Site to the northerly vernal pools and extensive forested and vegetated wetlands and flood plain.

1.2.2 Physical Elements

The constructed elements include the two cul-de-sac roadways, 14 new single family homes and appurtenances as well as stormwater and drainage elements.

1.3 Direct Impacts

1.3.1 Construction Period Impacts

Impacts from activities associated with the construction period elements will include soil disturbance from construction of the roadway and drainage improvements. The project will require fill to be introduced to the Site for grading for the proposed development. Subsurface sewage disposal facilities and drinking water wells will be provided for each proposed lot.

1.3.2 Infrastructure Requirements

Each lot will be serviced by municipal electricity as well as on site drinking water well and on site subsurface disposal facility. The roadway will be designed with drainage that meets existing MassDEP Stormwater Management performance standards and design.

1.4 Indirect Impacts

Impacts from long term use as a residential subdivision might include increased use of adjacent land for recreational and passive uses including hiking and cross country skiing. Increased use as lawn and recreational play associated with residential subdivisions would also be an indirect impact. More traffic from households would increase car travel and CO2 emissions to the local area. Light pollution to night time sky visibility would also be an indirect impact if street lighting is required by the town review boards and other safety and subdivision rules and regulations.

2.0 Alternatives Analysis

2.1 On-site Project Alternatives

The layout of the proposed project has been designed to both protect wetland resource areas on site and provide access between wetland and upland areas through the use of wildlife corridors and previous planning to preserve large parcels of open space and protected resource areas.

2.2 Alternative Site Use

Site use is limited by zoning within the Town of Boxford. The Site is zoned as Residential.

2.3 Alternative Site Configurations

Other site configurations are possible. The current configuration describes the allowable build out of the Site based on current zoning constraints and includes constraints established under the strict local wetland protection bylaws and MassDEP Wetlands Protection Act. The Site is also constrained by NHESP and MESA regarding rare and endangered species habitat and will require a detailed review by that agency under the MESA rules and regulations.

2.4 Alternative Site Location

The Haynes Family owned large tracts of land throughout Boxford and have over time has systematically conveyed most of this land to conservation groups and the town to continue the preservation of these areas. The Haynes Family has contributed to the preservation of approximately 300 acres of land in Boxford that previously belonged to their family. This land is located both adjacent to the Site and in various areas in Boxford. Although there have been other properties owned by the Haynes Family that could have been chosen for development, many of these properties are also located within the limits of NHESP Priority Habitat (Figure 2). Because of the large area of NHESP Priority Habitats of Rare Species area in the Town of Boxford and adjacent to the Site the project, if carried out at one of the parcels previously owned by the applicant, could not have avoided this habitat area. These properties are also adjacent to existing, preserved open space in Boxford. Accordingly, it is our professional opinion the proposed project could not have been better located in a different location.

2.5 Do Nothing Alternative

Impacts to the wetland resource areas have been minimized by designing the development to be completely out of the wetland resource areas and the associated 25-foot no-disturb zone and minimally within the 75-foot no-build and 100-foot buffer to bordering vegetated wetland at only one lot. The only

alternative to avoid the NHESP Priority Habitats of Rare Species area would be to not have a project at all. Additionally, the proposed project includes the design of designated wildlife corridors to anticipate the potential movement of the Blanding's Turtle throughout this area, which is the species of concern. Accordingly, the proposed project will have the least amount of disturbance to the resource area practicable while still having a project.

2.6 Preferred Alternative

2.6.1 Mitigation Measures

The Site has been designed to minimize activities within the buffer zones to existing wetland resource areas and does not propose any impacts to bordering vegetated wetland, or other wetland resource areas. Drainage design will facilitate the use of low impact strategies that will encourage the use of water quality swales, bioretention swales and basins as well as infiltration basins to facilitate water quality improvements and mediate impacts from increases in impervious surfaces at the Site as a result of construction of the project. The preserved wildlife corridor proposed at the western property line will allow safe passage of wildlife from Fish Brook to the extensive wetland located north and east of the project site. Approximately 18.3 acres of land, upland and wetland, of important habitat will be protected. All these elements will serve to mitigate impacts and protect important wildlife habitat.

2.6.2 Construction Phases

The project will proceed as typical residential subdivisions are constructed. Once all permits are secured for the project the construction elements will generally conform to the following schedule:

- Site preparation and construction of road way and infrastructure elements and stormwater management elements
- House foundations excavated, formed and poured
- Grading in and around each of the new single family home to rough finished grade
- Installation of water well for each lot
- Installation of subsurface disposal facility for each lot
- Concurrent with the above will be the installation of the planted wildlife corridor
- Soil stabilization, establishment of plantings, turf and landscaped areas
- Maintenance and clean out of temporary stormwater structures
- Instillation of final plantings of stormwater LID design elements
- Maintenance and aftercare of subdivision plantings and wildlife corridor plantings

3.0 Resource Areas

3.1 Areas of Critical Environmental Concern (ACEC)

Area of Critical Environmental Concern (ACEC) is defined in 310 CMR as "an area which has been so designated by the Secretary in accordance with 301 CMR 12.00: Areas of Critical Environmental Concern". The project is not located within, or adjacent to, the boundaries of ACEC according to April 2009 MassGIS data.

3.2 Rare and Endangered Species Habitat

The Site is located completely within the boundaries of Priority and Estimated Habitats of Rare Species as determined by the Massachusetts Natural Heritage and Endangered Species Program (NHESP). This area was been determined to be the habitat of the Blanding's turtle (*Emydoidea blandingii*), which is a threatened species in Massachusetts. Accordingly, this project is subject to review by NHESP.

On May 24, 2010 a Blanding's turtle was observed west of the intersection of Main Street and Middleton Road at Jerry's Run culvert. This culvert is located slightly southeast of Parcel 2A on the Elmlea Subdivision plan (Figure 3). In response, the proposed project proposes to leave untouched the entire 2.3 acres of land located within Parcel 2A. The Haynes family already protected the four-acre Haynes Hayfield adjacent to and east of Parcel 2A through a bargain sale to the town conservation commission in 1997.

The property east and north of the Site was purchased from the Haynes Family by the Town of Boxford in 2007 and is now known as Boxford Common. In 2013 our firm submitted a Notice of Intent application for this property that included the construction of athletic fields and a 0.75 acre Blanding's turtle nesting habitat. The Order of Conditions for this project was issued on December 9, 2013 includes a long term monitoring program for the Blanding's turtle. The construction of the nesting habitat was completed in January 2016 and monitoring began in July of 2016. Monitoring of the nesting habitat was to be carried out during years 1, 2, 5, 7 and 10 and every 5 years thereafter. To date two monitoring reports have been submitted in years 2016 and 2017. These monitoring reports have shown no evidence of the Blanding's turtle on site or in the nesting habitat. To the best of our knowledge there have been no other observations of the Blanding's turtle on or adjacent to the Site.

3.3 Historical/Archaeological Resources

A structure located on the Site is included in the Local Historic District (03/01/1971) and the National Register District (04/11/1973). This structure is the home located at 57 Main Street, constructed in 1683 and known as Redington, Abraham House. The proposed project does not involve the demolition or destruction of this structure.

4.0 Stormwater Management

The proposed project will be designed to comply with MassDEP's Stormwater Management Regulations and will use Low Impact Design (LID) stormwater management strategies to the extent practicable. Stormwater management will consist of an integrated treatment train which will incorporate sediment sequestration and control utilizing sediment forebays and other sediment removing technologies. Infiltration and pretreatment prior to discharge will be addressed through the use of a variety of low impact techniques including water quality swales and bioretention areas.

5.0 Solid and Hazardous Waste

Any demolition or removal of debris from the Site will be through a licensed recycling operation and keeping items out the waste stream will be required by the selected contractor. Emissions from construction equipment will be limited by following a five-minute maximum idling time limit.

6.0 Attachments

6.1 Figures

6.1.1 Figure 1. U.S.G.S Map

6.1.2 Figure 2. Haynes Family Open Space and Conservation History Plan

6.1.3 Figure 3. Conceptual Subdivision Plan

6.1.4 Figure 4. Existing Wildlife Corridors on/adjacent to Haynes Property, Fish Brook and Gerry's Run

6.1.5 Figure 5. Existing Wildlife Corridors on/adjacent to Haynes Property, Fish Brook and Gerry's Run

7.0 Land Section

7.1 Thresholds/Permits

The proposed project exceeds the review threshold related to land under 301 CMR 11.03 (1) (b) 1: *"direct alteration of 25 or more acres of land, unless the Project is consistent with an approved conservation farm plan or forest cutting plan or other similar generally accepted agricultural or forestry*

practices." The proposed project includes alteration of 27 acres of land, exceeding the MEPA threshold of 25 or more acres of land. Accordingly, impacts, permits and consistency for land selection are reviewed in detail below.

7.2 Impacts and Permits

7.2.1 Agricultural Use

One lot on the project site, known as Map 28, Block 2, Lot 17, was managed under Chapter 61/61A Tree Farm since about 1980. The land was removed from Tree Farm status about a year ago and the 41.88 acre lot has since been assessed as a single house lot. The Boxford Online Assessment Database currently lists this parcel as Residential Developable. Per the MassGIS data layer for Prime Farmland Soils, approximately 22.6 Acres will be altered for the proposed residential subdivision.

8.0 Rare Species Section

8.1 Thresholds / Permits

The proposed project will exceed the review threshold related to rare species or habitat detailed in 301 CMR 11.03 (2) (b) "*greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02, that results in a take of a state-listed endangered or threatened species or species of special concern*". The proposed project includes alteration of 30.17 acres of priority habitat (PH 1994). Accordingly, this project requires a MA Endangered Species Act (G.L. c. 131A) Conservation and Management Permit.

On July 11, 2018 our firm reviewed the preliminary project scope informally with Lauren Glorioso, Endangered Species Review Biologist for NHESP (personal communication). In this discussion, Ms. Glorioso was not apprised of previous adjacent habitat preservation by the Haynes family. After reviewing our initial design, Ms. Glorioso's biggest concern was access between wetland areas across the Site based on Blanding's turtles' behavior. We have taken these concerns into account in our proposed design which includes wildlife corridors between the wetlands on and adjacent to the Site. We did not request or receive a determination as to whether the proposed project will result in the "take" of a rare species. We are aware that detailed review of the project will occur through the NHESP and the MESA Programs.

8.2 Impacts and Permits

The project does fall within Priority Habitat for rare and endangered species. The intent of the ENF application will be to collect and process all comments and modifications to the current project plan in order to integrate all other department design comments into the final design which will be submitted to the NHESP for review under MESA. The intent of the design is to provide wildlife corridors and

protection of additional land areas to facilitate conformance with MESA and NHESP as well as local zoning and conservation concerns and performance standards. Applications will also be filed with the local conservation commission for an Order of Conditions, as well as the local Planning Board for site plan review.

9.0 Wetlands, Waterways, and Tidelands Section

9.1 Thresholds / Permits

The project requires a local Order of Conditions from the Boxford Conservation Commission because portions of the work will be located within the buffer zone to Bordering Vegetated Wetlands and Vernal Pools (detailed in the Resource Areas section of this report).

9.2 Wetlands Impacts and Permits

9.2.1 Order of Conditions

The proposed project requires a new Order of Conditions under the Wetlands Protection Act (M.G.L. c.131A). A Notice of Intent for this project will be filed after Natural Heritage's review.

9.2.2 Permanent or Temporary Impacts to Wetland Resource Areas

The project has been designed to restrict activities within the buffer zones to bordering vegetated wetlands at the Site. Accordingly, no temporary or permanent impacts to wetland resource areas will occur.

9.2.3 Extent and Type of Impact on Wetland Resources

All proposed work will be completely outside wetland resource areas on site. Accordingly, there will be no temporary or permanent impacts to the wetland resource areas as a result of this project.

9.2.4 Buffer Zones

Approximately 77,900 square feet of alteration will be located within buffer zones.

9.2.5 Local Bylaw

The proposed project is subject to and been designed to meet the Town of Boxford Wetlands Protection Bylaw, Town Code chapter 192, and regulations chapter 375.

10.0 Historical and Archaeological Resources Section

10.1 Thresholds / Permits

We have not consulted with the Massachusetts Historical Commission on this project. Additionally, as no portion of this project includes land under water we have not consulted with the Massachusetts Board of Underwater Archaeological Resources.

A structure located on the Site is included in the Local Historic District (03/01/1971) and the National Register District (04/11/1973). This structure is the home located at 57 Main Street, constructed in 1683 and known as Redington/Abraham House. The proposed project does not involve the demolition or destruction of this structure.

No part of the project site is an archaeological site listed in the State Register of Historic Places or the Inventory of Historic and Archaeological Assets of the Commonwealth.