

# Notice of Intent Application and Wetland Resource Area Analysis

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April 20, 2020

Subject Property

105 Lafayette Street

Parcel ID: 2-5-14

Arlington, Massachusetts

Applicant and Property Owner

Lori Philbin

105 Lafayette Street

Arlington, MA 02474

**LEC Environmental Consultants, Inc.**

380 Lowell Street

Suite 101

Wakefield, MA 01880

781-245-2500

[www.lecenvironmental.com](http://www.lecenvironmental.com)

April 20, 2020

**Federal Express**

Arlington Conservation Commission  
Arlington Town Hall Annex  
730 Massachusetts Avenue  
Arlington, MA 02476

**Re: Notice of Intent Application and  
Wetland Resource Area Analysis  
105 Lafayette Street  
Parcel ID: 2-5-14  
Arlington, Massachusetts**

[LEC File #: Phil\11-166.02]

Dear Members of the Conservation Commission:

On behalf of the Applicant and Property Owner, Lori Philbin, LEC Environmental Consultants, Inc., (LEC) is filing the enclosed Notice of Intent (NOI) Application and *Wetland Resource Area Analysis* with the Arlington Conservation Commission to raze and rebuild an existing single-family dwelling and associated site appurtenances at 105 Lafayette Street in Arlington, Massachusetts. Portions of the proposed activities are located within the 100-foot Buffer Zone to Bordering Vegetated Wetlands (BVW) and the outer portion of the 200-foot Riverfront Area associated with Alewife Brook/Little River, and within Bordering Land Subject to Flooding (BLSF). The Applicant proposes to implement erosion controls, and provide compensatory flood storage and stormwater management to minimize the potential for impacts to the resource areas and improve existing site conditions.

LEC was retained to identify Wetland Resource Areas protectable under the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40, the *Act*), its implementing Regulations (310 CMR 10.00, the *Act Regulations*), the *Town of Arlington Wetlands Protection Bylaw* (Article 8, the *Bylaw*) and its implementing *Wetlands Protection Regulations* (March 1, 2018, the *Bylaw Regulations*), and to prepare this NOI Application. Gala Simon Associates, Inc., has prepared the enclosed *Grading/Drainage Plan - 105 Lafayette Street, Arlington, Massachusetts*, and *Details Plan*, both dated May 27, 2012 and revised through March 26, 2020 showing the existing and proposed site conditions and construction details (Appendix B). Details of the stormwater design, supporting calculations, and an *Operation & Maintenance Plan* can be found in the *Engineering Drainage Calculations for 105 Lafayette Street, Arlington, Massachusetts*, also prepared by Gala Simon Associates, Inc., and dated March 26, 2020 (*Drainage Calculations*, attached).

**LEC Environmental Consultants, Inc.**

[www.lecenvironmental.com](http://www.lecenvironmental.com)

12 Resnik Road  
Suite 1  
Plymouth, MA 02360  
508-746-9491  
508-746-9492 (Fax)

**PLYMOUTH, MA**

380 Lowell Street  
Suite 101  
Wakefield, MA 01880  
781-245-2500  
781-245-6677 (Fax)

**WAKEFIELD, MA**

100 Grove Street  
Suite 302  
Worcester, MA 01605  
508-753-3077  
508-753-3177 (Fax)

**WORCESTER, MA**

P. O. Box 590  
Rindge, NH 03461  
603-899-6726  
603-899-6726 (Fax)

**RINDGE, NH**



Enclosed please find two checks made payable to the Town of Arlington in the amounts of Three Hundred, Eighty-Seven Dollars and Fifty Cents (\$387.50) and Six Hundred Dollars (\$600.00) for the purpose of filing this Application under State and Local guidelines, respectively. The check payable to the Commonwealth of Massachusetts in the amount of Three Hundred, Sixty-Two Dollars and Fifty Cents (\$362.50) has been mailed to the DEP Lockbox with a copy of the NOI Wetland Fee Transmittal Form.

Thank you for your consideration of this Application. We look forward to meeting with you at the May 7, 2020 Public Hearing. Should you have any questions, please do not hesitate to contact me in our Wakefield office at 781-245-2500 or at [rkirby@lecenvironmental.com](mailto:rkirby@lecenvironmental.com).

Sincerely,

**LEC Environmental Consultants, Inc.**

A handwritten signature in black ink, appearing to read "Richard A. Kirby", with a long horizontal flourish extending to the right.

Richard A. Kirby  
Senior Wetland Scientist

cc: DEP, Northeast Region  
Loir Philbin  
Gala Simon Associates, Inc.

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rak: projects\11-166.02\NOIReport.doc

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ii.	WPA Appendix B – Wetland Fee Transmittal Form
iii.	Local Filing Fee Form
iv.	Legal Charge Authorization Form
v.	Affidavit of Service
vi.	Letter to Abutters
vii.	Abutter Notification Form
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**Appendix B**

*Grading/Drainage Plan - 105 Lafayette Street, Arlington, Massachusetts*, dated May 27, 2012 and revised through March 26, 2020, prepared by Gala Simon Associates, Inc.

**Attachment**

*Engineering Drainage Calculations for 105 Lafayette Street, Arlington, Massachusetts*, dated March 26, 2020, prepared by Gala Simon Associates, Inc.



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40  
Town of Arlington Wetlands Protection Bylaw (Article 8)

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Arlington

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):

105 Lafayette Street

a. Street Address

Arlington

b. City/Town

02474

c. Zip Code

Latitude and Longitude:

42.399096 N

d. Latitude

-71.142184 W

e. Longitude

Parcel ID: 2-5-14

f. Assessors Map/Plat Number

g. Parcel /Lot Number

2. Applicant:

Lori

a. First Name

Philbin

b. Last Name

N/A

c. Organization

105 Lafayette Street

d. Street Address

Arlington

e. City/Town

MA

f. State

02474

g. Zip Code

781-646-4101

h. Phone Number

N/A

i. Fax Number

lori.philbin@verizon.net

j. Email Address

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

Same as Applicant

a. First Name

b. Last Name

c. Organization

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

4. Representative (if any):

Richard

a. First Name

Kirby

b. Last Name

LEC Environmental Consultants, Inc.

c. Company

380 Lowell Street, Suite 101

d. Street Address

Wakefield

e. City/Town

MA

f. State

01880

g. Zip Code

781-245-2500

h. Phone Number

781-245-6677

i. Fax Number

rkirby@lecenvironmental.com

j. Email address

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

\$750.00

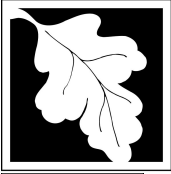
a. Total Fee Paid

\$362.50

b. State Fee Paid

\$387.50

c. City/Town Fee Paid



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**A. General Information (continued)**

6. General Project Description:

The Applicant proposes to raze and rebuild an existing single-family dwelling and associated site appurtenances at 105 Lafayette Street in Arlington, Massachusetts. Portions of the proposed activities are located within the 100-foot Buffer Zone to Bordering Vegetated Wetlands (BVW) and the outer portion of the 200-foot Riverfront Area associated with Alewife Brook, and within Bordering Land Subject to Flooding (BLSF). The Applicant proposes to implement erosion controls and stormwater management to minimize the potential for impacts to the resource areas and improve existing site conditions.

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

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Single Family Home             | 2. <input type="checkbox"/> Residential Subdivision       |
| 3. <input type="checkbox"/> Commercial/Industrial                     | 4. <input type="checkbox"/> Dock/Pier                     |
| 5. <input type="checkbox"/> Utilities                                 | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation                |
| 9. <input type="checkbox"/> 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)

2. Limited Project Type

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:

Southern Middlesex

a. County

01227

c. Book

b. Certificate # (if registered land)

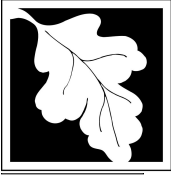
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d. Page Number

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

- ☐ 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.
- ☒ 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.



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**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. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	475± 1. square feet 538± 3. cubic feet of flood storage lost	952± 2. square feet 2,856± 4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input checked="" type="checkbox"/> Riverfront Area	Alewife Brook (inland) 1. Name of Waterway (if available) - <b>specify coastal or inland</b>	

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: \_\_\_\_\_ square feet

4. Proposed alteration of the Riverfront Area:

2,321±	0	816±
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.

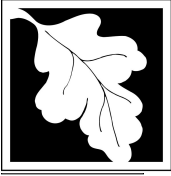
5. Has an alternatives analysis been done and is it attached to this NOI? ☒ Yes ☐ No

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.





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## **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.

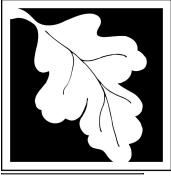
Online Users:  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet _____ 2. cubic yards dredged _____	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet _____	2. cubic yards beach nourishment _____
e. <input type="checkbox"/> Coastal Dunes	1. square feet _____	2. cubic yards dune nourishment _____
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet _____	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet _____	
h. <input type="checkbox"/> Salt Marshes	1. square feet _____	2. sq ft restoration, rehab., creation _____
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet _____	
	2. cubic yards dredged _____	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet _____	
k. <input type="checkbox"/> 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. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet _____	
4. <input type="checkbox"/> 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 \_\_\_\_\_



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**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](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

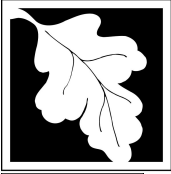
2. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work \*\*

(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.



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

- (c) ☐ MESA filing fee (fee information available at [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_fee\\_schedule.htm](http://www.mass.gov/dfwele/dfw/nhosp/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/nhosp/regulatory\\_review/ mesa/ mesa\\_exemptions.htm](http://www.mass.gov/dfwele/dfw/nhosp/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:

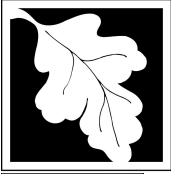
South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

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](mailto: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](mailto: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.



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

**Online Users:**

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

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
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.

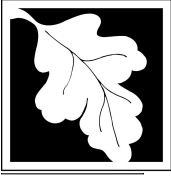
### D. Additional Information

- ☐ 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.



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**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.

Grading/Drainage Plan - 105 Lafayette Street, Arlington, Massachusetts

a. Plan Title

Gala Simon Associates, Inc.

Al Gala

b. Prepared By

c. Signed and Stamped by

March 26, 2020

1 inch = 10 feet

d. Final Revision Date

e. Scale

Engineering Drainage Calculations for 105 Lafayette Street, Arlington, Massachusetts by Gala Simon Associates, Inc.

March 26, 2020

f. Additional Plan or Document Title

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 (required under Bylaw).

**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:

134

3/17/2020

2. Municipal Check Number

3. Check date

135

3/17/2020

4. State Check Number

5. Check date

David A. & Lori A.

Philbin

6. Payor name on check: First Name

7. Payor name on check: Last Name



**Massachusetts Department of Environmental Protection**  
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

**WPA Form 3 – Notice of Intent**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40  
Town of Arlington Wetlands Protection Bylaw (Article 8)

MassDEP File Number

Document Transaction Number

Arlington

City/Town

**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

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

3/17/2020

6. Date

**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

Town of Arlington Wetlands Protection Bylaw (Article 8)

**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:

105 Lafayette Street

a. Street Address

135

c. Check number

Arlington

b. City/Town

\$362.50

d. Fee amount

2. Applicant Mailing Address:

Lori

a. First Name

N/A

c. Organization

105 Lafayette Street

d. Mailing Address

Arlington

e. City/Town

781-646-4101

h. Phone Number

N/A

i. Fax Number

Philbin

b. Last Name

MA

f. State

02474

g. Zip Code

lori.philbin@verizon.net

j. Email Address

3. Property Owner (if different):

Same as Applicant

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

#### B. Fees

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.

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



Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Cat 2a.) Construction of SFD	1.5 (RF Area)	\$500.00	\$750.00
Step 5/Total Project Fee:			\$750.00

Total Project Fee:	<u>\$750.00</u>
	a. Total Fee from Step 5
State share of filing Fee:	<u>\$362.50</u>
	b. 1/2 Total Fee <b>less</b> \$12.50
City/Town share of filling Fee:	<u>\$387.50</u>
	c. 1/2 Total Fee <b>plus</b> \$12.50

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.

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.

Page 2 of 2



## Bylaw Filing Fees and Transmittal Form

### Rules:

1. Fees are payable at the time of filing the application and are non-refundable.
2. Fees shall be calculated per schedule below.
3. Town, County, State, and Federal Projects are exempt from fees.
4. These fees are in addition to the fees paid under M.G.L. Ch. 131, s.40 (ACT).

### Fee Schedule (ACC approved 1/8/15):

\$	No./Area	Category
		<b>(R1) RDA</b> - \$150 local fee, no state fee
		<b>(N1) Minor Project</b> - \$200 (house addition, tennis court, swimming pool, utility work, work in/on/or affecting any body of water, wetland or floodplain).
\$600.00	1	<b>(N2) Single Family Dwelling</b> - \$600
		<b>(N3) Multiple Dwelling Structures</b> - \$600 + \$100 per unit all or part of which lies within 100 feet of wetlands or within land subject to flooding.
		<b>(N4) Commercial, Industrial, and Institutional Projects</b> - \$800 + 50¢/s.f. wetland disturbed; 2¢/s.f. land subject to flooding or buffer zone disturbed.
		<b>(N5) Subdivisions</b> - \$600 + \$4/l.f. feet of roadway sideline within 100 ft. of wetlands or within land subject to flooding.
		<b>(N6) Other Fees</b> - copies, printouts; per public records law
		<b>(N7) Minor Project Change</b> - \$50
		<b>(N8) Work on Docks, Piers, Revetments, Dikes, etc</b> - \$4 per linear foot
		<b>(N9) Resource Boundary Delineation (ANRAD)</b> - \$1 per linear foot
		<b>(N10) Certificate of Compliance (COC or PCOC)</b> - No charge if before expiration of Order, \$200 if after that date.
		<b>(N11) Amendments</b> - \$300 or 50% of original local filing fee, whichever is less.
		<b>(N12) Extensions</b> -
		<b>a. Single family dwelling or minor project</b> - \$100.
		<b>b. Other</b> - \$150.
		<b>(N13) Consultant Fee</b> -per estimate from consultant
\$600.00	<b>TOTAL</b>	

**Note:** Submit this form along with the forms submitted for the ACT - the "Wetlands Filing Fee Calculations Worksheet," and the "Notice of Intent Fee Transmittal Form."

### Legal Notice Charge Authorization

DATE:

TO: legals@wickedlocal.com

I hereby authorize Community Newspapers to bill me directly for the legal notice to be published in the Arlington Advocate newspaper on \_\_\_\_\_ for a public hearing with the Arlington Conservation Commission to review a project at the following location:

\_\_\_\_\_  
Thank you.

Signed: 

Send bill to:

Lori Philbin (Address)  
105 Lafayette St.  
Arlington MA 02474  
781-646-4101 (Phone)

## AFFIDAVIT OF SERVICE

Under the *Massachusetts Wetlands Protection Act*


and

the *Town of Arlington Wetlands Protection Bylaw*

I, Sharon A. Sullivan, on behalf of Lori Philbin, hereby certify under the pains and penalties of perjury that on April 20, 2020 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 Application filed under the *Massachusetts Wetlands Protection Act* and the *Town of Arlington Wetlands Protection Bylaw* by LEC Environmental Consultants, Inc., on behalf of the Applicant, Lori Philbin, with the Town of Arlington Conservation Commission on April 20, 2020 for property located at 105 Lafayette Street (Assessor's Parcel ID: 2-5-14) in Arlington, 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  
Permitting Technician

4/20/2020

Date



April 20, 2020

**CERTIFIED MAIL**

«Name»

«Name2»

«Address»

«City», «State» «Zip»

**Re: Notice of Intent Application**  
**105 Lafayette Street**  
**Assessor's Parcel ID: 2-5-14**  
**Arlington, Massachusetts**

[LEC File #: PhiL\11-166.02]

Dear Abutter:

On behalf of the Applicant, Lori Philbin, LEC Environmental Consultants, Inc. (LEC) has filed a Notice of Intent Application with the Arlington Conservation Commission to raze and rebuild an existing single-family dwelling and associated site appurtenances at the above-referenced site. Portions of the proposed activities are located within the 100-foot Buffer Zone to Bordering Vegetated Wetlands and the outer portion of the 200-foot Riverfront Area associated with Alewife Brook, and within Bordering Land Subject to Flooding. The Applicant proposes to implement erosion controls, and provide compensatory flood storage and stormwater management to minimize the potential for impacts to the resource areas and improve existing site conditions in accordance with the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40) and its implementing Regulations (310 CMR 10.00), and the *Town of Arlington Wetlands Protection Bylaw* (Article 8) and its *Wetlands Protection Regulations*.

The Notice of Intent Application and accompanying plans are available for review by the public at the Arlington Conservation Commission. The Public Hearing will be held at the Arlington Town Hall Annex, 730 Massachusetts Avenue, on May 7, 2020 beginning at 7:30 p.m., 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), and the *Town of Arlington Wetlands Protection Bylaw* (Article 8) and its *Wetlands Protection Regulations*. Further information regarding this application will be published at least five (5) days in advance in *The Arlington Advocate*. Notice of the Public Hearing will also be posted at the Arlington Town Hall at least 48 hours in advance.

Due to Governor Baker's Covid-19 State of Emergency and further direction from the CDC, the Governor has suspended certain provisions of the Massachusetts Open Meeting Law. Please check the Town/Conservation Commission website for information relative to remote viewing and/or participation in the public hearing process.

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

**LEC Environmental Consultants, Inc.**

**[www.lecenvironmental.com](http://www.lecenvironmental.com)**

12 Resnik Road  
Suite 1  
Plymouth, MA 02360  
508-746-9491  
508-746-9492 (Fax)

**PLYMOUTH, MA**

380 Lowell Street  
Suite 101  
Wakefield, MA 01880  
781-245-2500  
781-245-6677 (Fax)

**WAKEFIELD, MA**

100 Grove Street  
Suite 302  
Worcester, MA 01605  
508-753-3077  
508-753-3177 (Fax)

**WORCESTER, MA**

P. O. Box 590  
Rindge, NH 03461  
603-899-6726  
603-899-6726 (Fax)

**RINDGE, NH**

## **Notification to Abutters Under the**

### *Massachusetts Wetlands Protection Act*

and

### *the Town of Arlington Wetlands Protection Bylaw*

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40, and the *Town of Arlington Wetlands Protection Bylaw*, you are hereby notified of the following:

The Conservation Commission will hold a public hearing in the second floor conference room of the Town Hall Annex, 730 Massachusetts Avenue, Arlington, on Thursday, May 7, 2020 at 7:30 p.m. in accordance with the provisions of the *Massachusetts Wetlands Protection Act* (M.G.L. Ch. 131, s. 40, as amended) and the *Town of Arlington Bylaws*, Article 8, *Bylaw for Wetland Protection*, for a Notice of Intent from Lori Philbin, to raze and rebuild an existing single-family dwelling and associated site appurtenances at 105 Lafayette Street, within 100 feet of a wetland OR 200 feet of a Riverfront OR a floodway, on Assessor's Property Map #2, Lot #5-14.

A copy of the application and accompanying plans are available for inspection Monday - Thursday 8:00 a.m. – 4:00 p.m. and Friday 8:00 a.m. – Noon at the Conservation Commission office, first floor of the Town Hall Annex, 730 Massachusetts Avenue, Arlington, MA. For more information, call the Applicant's representative, LEC Environmental Consultants, Inc. at 781-245-2500 or the Arlington Conservation Commission at 781-316-3012, or the DEP Northeast Regional Office at 978-694-3200.

NOTE: Notice of the Public Hearing, including its date, time, and place, will be published at least five (5) days in advance in The Arlington Advocate and will also be posted at least 48 hours in advance in the Arlington Town Hall.



Office of the  
Board of Assessors  
Robbins Memorial Town Hall  
Arlington, MA 02476  
(781) 316-3050  
Assessors@town.arlington.ma.us

### **Abutters List**

Date: March 03, 2020

Subject Property Address: 105 LAFAYETTE ST Arlington, MA  
Subject Property ID: 2-5-14

Search Distance: 100 Feet  
CONSERVATION

The Board of Assessors certifies the names and addresses of requested parties in interest, all abutters within 100 feet of the property lines, of subject property.

*Sam L. Feeley*  
*Robert E. Greeley*  
*[Signature]*

---

**Board of Assessors**

**Abutters List**

Date: March 03, 2020

Subject Property Address: 105 LAFAYETTE ST Arlington,  
MA  
Subject Property ID: 2-5-14

Search Distance: 100 Feet

-----  
Prop ID: 15-2-1  
Prop Location: 0-LOT THORNDIKE ST EXT Arlington, MA  
Owner: METROPOLITIAN DIST COMM  
Co-Owner:  
Mailing Address:  
20 SOMERSET STREET  
BOSTON, MA 02108  
-----

Prop ID: 15-2-2  
Prop Location: 0-LOT THORNDIKE ST EXT Arlington, MA  
Owner: DEPT/CONSERVATION & RECREATION  
Co-Owner: WATER SUPPLY PROTECTION DIV  
Mailing Address:  
20 SOMERSET ST  
BOSTON, MA 02108  
-----

Prop ID: 2-5-1  
Prop Location: 112 FAIRMONT ST Arlington, MA  
Owner: WILDER ALFRED E/GAIL K  
Co-Owner:  
Mailing Address:  
112 FAIRMONT STREET  
ARLINGTON, MA 02474  
-----

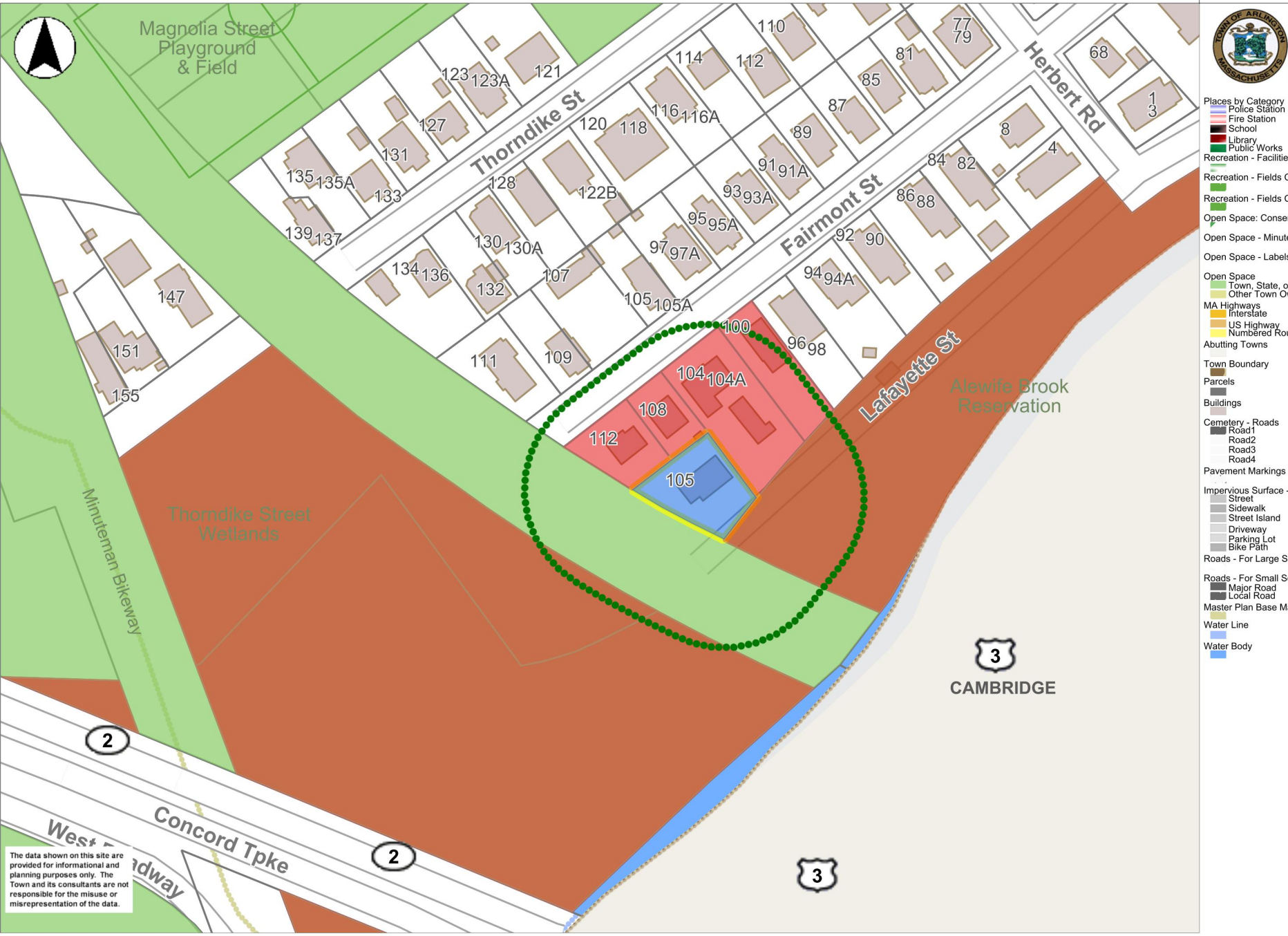
Prop ID: 2-5-14  
Prop Location: 105 LAFAYETTE ST Arlington, MA  
Owner: PHILBIN DAVID & LORI  
Co-Owner:  
Mailing Address:  
105 LAFAYETTE STREET  
ARLINGTON, MA 02474  
-----

Prop ID: 2-5-2  
Prop Location: 108 FAIRMONT ST Arlington, MA  
Owner: KEANE LAWRENCE D  
Co-Owner: DENNIS MARK  
Mailing Address:  
108 FAIRMONT ST  
ARLINGTON, MA 02474  
-----

Prop ID: 2-5-3  
Prop Location: 104-104A FAIRMONT ST Arlington, MA  
Owner: FAZZOLARI FRANK A  
Co-Owner: FAZZOLARI JOSEPH J  
Mailing Address:  
104 FAIRMONT ST  
ARLINGTON, MA 02474  
-----

-----  
Prop ID: 2-5-5  
Prop Location: 100 FAIRMONT ST Arlington, MA  
Owner: BEGOT AURELIEN &  
Co-Owner: ZIMMERMAN LARA E  
Mailing Address:  
100 FAIRMONT STREET  
ARLINGTON, MA 02474  
-----

Prop ID: 2-7-2  
Prop Location: 0-LOT LAFAYETTE ST Arlington, MA  
Owner: DEPT/CONSERVATION & RECREATION  
Co-Owner: WATER SUPPLY PROTECTION DIV  
Mailing Address:  
20 SOMERSET ST  
BOSTON, MA 02108  
-----



- Places by Category
- Police Station
  - Fire Station
  - School
  - Library
  - Public Works
  - Recreation - Facilities
- Recreation - Fields Courts
- Recreation - Fields Courts
  - Open Space: Conservation
  - Open Space - Minuteman
  - Open Space - Labels
  - Open Space
  - Town, State, or Private
  - Other Town Owned
- MA Highways
- Interstate
  - US Highway
  - Numbered Routes
- Abutting Towns
- Town Boundary
  - Parcels
  - Buildings
- Cemetery - Roads
- Road1
  - Road2
  - Road3
  - Road4
- Pavement Markings
- Impervious Surface - For B
- Street
  - Sidewalk
  - Street Island
  - Driveway
  - Parking Lot
  - Bike Path
- Roads - For Large Scale (f
- Roads - For Small Scale (f
- Major Road
  - Local Road
- Master Plan Base Map - M
- Water Line
- Water Body





**Notice of Intent Application  
& Wetland Resource Area Analysis**

105 Lafayette Street  
Assessor's Parcel ID: 2-5-14  
Arlington, Massachusetts

April 20, 2020

---

**1.**

**Introduction**

On behalf of the Applicant and Property Owner, Lori Philbin, LEC Environmental Consultants, Inc., (LEC) is filing the enclosed Notice of Intent (NOI) Application and *Wetland Resource Area Analysis* with the Arlington Conservation Commission under the *Massachusetts Wetlands Protection Act* (M.G.L. c. 131, s. 40, the *Act*), its implementing Regulations (310 CMR 10.00, the *Act Regulations*), the *Town of Arlington Wetlands Protection Bylaw* (Article 8, the *Bylaw*) and its implementing *Wetlands Protection Regulations* (March 1, 2018, the *Bylaw Regulations*). The Applicant is filing this NOI Application to raze and rebuild a single-family dwelling and associated site appurtenances within the 100-foot Buffer Zone to Bordering Vegetated Wetlands (BVW), the 200-foot Riverfront Area to Alewife Brook/Little River, and within Bordering Land Subject to Flooding (BLSF).

As part of this filing, the Applicant proposes to implement mitigation measures, including erosion controls, compensatory flood storage, and stormwater management. The existing conditions and proposed activities are depicted on *Grading/Drainage Plan - 105 Lafayette Street, Arlington, Massachusetts*, and *Details Plan* dated May 27, 2012 and revised through March 26, 2020, (*Site Plans*, Appendix B), prepared by Gala Simon Associates, Inc. Details of the stormwater management design, supporting calculations, and an Operation & Maintenance Plan are included in the *Engineering Drainage Calculations for 105 Lafayette Street, Arlington, Massachusetts*, dated March 26, 2020, and prepared by Gala Simon Associates, Inc (*Drainage Calculations*, attached).

**2.**

**General Site Description**

The 4,839± square foot property is located in a residential neighborhood north of the Route 2/Alewife Brook Parkway interchange, and across Lafayette Street from the Alewife Greenway Bike Path, within the southeastern portion of Arlington, Massachusetts. More specifically, the property is located at the terminus of Lafayette Street off the northwest side. Residential development associated with Fairmont Street and Lafayette Street occurs north and east of the property, respectively, while undeveloped forested land within Alewife Brook Reservation occurs to the south and

west. The Little River transitions to Alewife Brook south of the site and occurs roughly 156 feet away, across the Alewife Greenway Bike Path, and flows northeasterly toward its convergence with the Mystic River.

The property contains a 1-story, single-family dwelling within the central portion of the site. Access to the dwelling is provided via a paved driveway extending northwest from Lafayette Street. A gravel walkway also extends from Lafayette Street to a paved patio and concrete landing at the front entrance. A wooden deck occurs off the rear of the dwelling. Two wooden sheds are located southwest of the dwelling on adjacent town land. The dwelling is surrounded by landscape plants and lawn areas (see Photo 1), including scattered Norway maple (*Acer platanoides*) and red maple (*Acer rubrum*) shade trees, entanglements of oriental bittersweet (*Celastrus orbiculatus*) and grape (*Vitis* sp.), and scattered patches of black raspberry (*Rubus alleghaniensis*), sapling black cherry (*Prunus serotina*), sapling mulberry (*Morus* sp.), sapling and seedling sumac (*Rhus* sp.), and individuals of porcelain berry (*Ampelopsis brevipedunculata*). The groundcover includes patches of day-lily (*Hemerocallis* sp.), smartweed (*Polygonum* sp.), lemon-balm (*Melissa officinalis*), violets (*Viola* sp.), and scattered patches of burdock (*Arctium minus*) and hostas (*Hosta* sp.), with individuals of dock (*Rumex* sp.), buttercup (*Ranunculus* sp.), and Asiatic dayflower (*Commelina communis*).



Photo 1. Westerly view of front entrance and lawn of dwelling.

Forested uplands occur southwest and southeast of the property within Alewife Brook Reservation. Vegetation within the forested uplands includes a canopy dominated by Norway maple, with patches black cherry. The understory contains patches of saplings, black raspberry, entanglements of oriental bittersweet, and individuals

of burning bush (*Euonymus alatus*), apple (*Malus* sp.), sapling sumac, sapling mulberry, and multiflora rose (*Rosa multiflora*). The groundcover includes scattered seedlings,

poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), garlic mustard (*Alliaria petiolata*), yellow wood sorrel (*Oxalis stricta*), and scattered individuals of celandine (*Chelidonium majus*).

Utilizing a hand-held, Dutch-style auger, LEC inspected soil conditions within the upland areas along the BVW boundary and observed a gravelly, loamy sand topsoil (A horizon) measuring 19± inches thick, with a soil matrix of 10YR 3/2. No redoximorphic features were observed within the soil profile. This soil profile is ‘non-hydric’ in accordance with *Field Indicators to Identifying Hydric Soils in New England* (Version 4, May 2018, the *Field Indicators Guide*).

2.1

### **Natural Heritage and Endangered Species Program Designation**

According to the 14<sup>th</sup> Edition of the *Massachusetts Natural Heritage Atlas* (effective August 1, 2017) published by the Natural Heritage & Endangered Species Program (NHESP), no areas of Estimated or Priority Habitat for Rare Wildlife, or Potential or Certified Vernal Pools exist on the site (Appendix A, Figure 3).

3.

### **Wetland Boundary Determination Methodology**

LEC conducted site evaluations on June 23, 2011 and August 2, 2019 to identify and characterize existing protectable Wetland Resource Areas located on or immediately adjacent to the site, and to delineate the off-site Bordering Vegetated Wetland (BVW) boundary and Bank-Mean Annual High Water (MAHW) Line associated with the Little River/Alewife Brook. The extent of Wetland Resource Areas was determined through observations of existing plant communities, hydrologic indicators, and Bankfull Indicators in accordance with the *Act*, its implementing *Regulations*, and the *Bylaw* and *Bylaw Regulations*.

Based on these methods, LEC determined that an offsite BVW occurs southwest of the property, while the Bank-MAHW Line associated with the Little River/Alewife Brook is located southeast of the subject property within Alewife Brook Reservation. LEC delineated the BVW boundary with sequentially numbered, blaze orange surveyor’s tape with the words “LEC Resource Area” printed in black. LEC flagging stations 1 through 5 demarcate the BVW boundary. The Bank-MAHW Line was established with sequentially-numbered safety blue surveyors’ tape labelled B-1 through B-4. The BVW

and Bank-MAHW Line boundaries were survey located by Rober Survey, and are depicted on the attached *Site Plans*. The off-site BVW boundary and Bank-MAHW Line place the 100-foot Buffer Zone and 200-foot Riverfront Area on the subject property.

#### **4. Wetland Resource Areas**

Wetland Resource Areas associated with the site include BVW, Riverfront Area, and BLSF. The 100-foot Buffer Zone extends onto the property from the BVW boundary, while the 200-foot Riverfront Area extends onto the property from the Bank-MAHW boundary to Alewife Brook. The entire property is located within BLSF.

##### **4.1 Bordering Vegetated Wetlands**

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

According to the *Bylaw Regulations* [Section 21 B. (1) and (2)], *Vegetated Wetlands are freshwater wetlands, including both bordering vegetated wetlands (i.e., bordering on freshwater bodies such as on creeks, rivers, streams, ponds and lakes), and isolated vegetated wetlands which do not border on any permanent water body. The types of freshwater wetlands are wet meadows, marshes, swamps, bogs and vernal pools. Vegetated Wetlands are areas where soils are saturated and/or inundated such that they support a predominance of wetland indicator plants. The ground water and surface water hydrological regime, soils and the vegetational community which occur in each type of freshwater wetlands, including both bordering and isolated vegetated wetlands, are defined under the Bylaw based on G.L. c. 131, § 40. (2) The boundary of Vegetated Wetland, whether Bordering or Isolated, is the line within which 50% or more of the vegetational community consists of wetland indicator plants and saturated or inundated conditions exist. Wetland indicator plants shall include but not necessarily be limited to those plant species identified in the Act.*

An offsite BVW characterized as an emergent marsh occurs at the bottom of a steep slope descending southwesterly from the subject property. The sparse sapling layer within the marsh includes scattered individuals of sapling ash (*Fraxinus* sp.) along its edges. The marsh is otherwise dominated by common reed (*Phragmites australis*), with scattered patches of jewelweed (*Impatiens capensis*), and individuals of purple loosestrife (*Lythrum salicaria*), beggar-ticks (*Bidens* sp.), and climbing nightshade (*Solanum dulcamara*).

LEC inspected soils within the BVW using a hand-held, Dutch-style auger and observed a 17-inch thick, sapric organic layer (O<sub>a</sub> layer) with a soil matrix color of 10YR 2/1, underlain by a 3-inch thick, fine sandy loam topsoil (A horizon) with a soil matrix color of 10YR 3/2, to a depth of 20+ inches. This soil profile meets the Histosol (A1.) indicator for a hydric soil in accordance with the *Field Indicators Guide*.

LEC flags 1 through 5 demarcate the BVW boundary as it relates to the subject property.

4.2

### **Bank-Mean Annual High Water**

According to the *Act Regulations* [310 CMR 10.54 (2) (c)], 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*

According to the *Bylaw Regulations*, [Section 4. B. (9)] Bank is defined as *the portion of the land surface which normally abuts and confines a water body, often between the mean annual low flow level and the first observable break in the slope or the mean annual flood level, whichever is lower.*

According to the *Act Regulations* [310 CMR 10.58 (2) (a) 2], Mean Annual High Water (MAHW) is defined as *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*

MAHW is not defined in the *Bylaw* or *Bylaw Regulations* so the above definition prevails.





Photo 2. Northeasterly view of Alewife Brook

The Little River transitions to Alewife Brook, and occurs roughly 156 feet south of the property, across from Lafayette Street and the Alewife Greenway Bike Path. The portion of the Brook associated with the subject property is contained within a 20 to 30-foot wide channel, and flanked by concrete Banks (see Photo 2.). A metal, chain-link fence occurs along a portion of the Bank.

4.3

### **Riverfront Area**

According to the *Act Regulations* [310 CMR 10.58 2 (a)]: *Riverfront Area is defined as the area of land between a river's mean annual high water line and a parallel line measured horizontally 200 feet away.*

According to the *Bylaw Regulations* [Section 4. B. (68).], Riverfront Area is defined as *the area of land between a river's mean annual high water line and a parallel line measured 200 feet horizontally landward of the mean annual high water line.*

Riverfront Area includes land within 200 feet of the Bank-MAHW line associated with Alewife Brook and encompasses roughly the southeastern half of the property. This 2,321± square foot area comprises roughly the eastern half of the existing dwelling, the driveway, and the adjacent lawn and landscaped areas. The Riverfront Area on the site is considered 'previously developed,' while the footprint of the existing house and pavement, and gravel are considered 'degraded' in accordance with 310 CMR 10.58 (5).

4.4

### **Bordering Land Subject to Flooding**

According to the *Act Regulations* [310 CMR 10.57 (2) (a) 1], Bordering Land Subject to Flooding (BLSF) *is an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds or lakes. It extends from the banks of*

*these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland.*

According to the *Bylaw Regulations* [Section 23 B. (1)(a)(c)]. *Bordering land subject to flooding is an area with low, flat topography adjacent to and inundated by floodwaters rising from brooks, creeks, rivers, streams, pond or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland. (c) The boundary of bordering land subject to flooding is the estimated or observed maximum lateral extent of floodwater which will theoretically result or has resulted from the statistical 1%-annual-chance flood (also known as the one-hundred-year frequency storm). 1. Said boundary shall be that determined by reference to the most recently available flood profile data prepared for the Town of Arlington within which the work is proposed under the National Flood Insurance Program (NFIP, currently administered by the Federal Emergency Management agency, successor to the U.S. Department of Housing and Urban Development). Said boundary, so determined, shall be presumed accurate. This presumption may be overcome only by credible evidence from a registered professional engineer or other professional competent in such matters. 2. Notwithstanding the foregoing, where NFIP profile data is unavailable or is determined by the Commission to be outdated, inaccurate or not reflecting current conditions, the boundary of bordering land subject to flooding shall be the maximum lateral extent of floodwater which has been observed or recorded...*

According to the June 4, 2010 *Federal Emergency Management Agency Flood Insurance Rate Map* for Middlesex County, Massachusetts (Map No: 25017C0419E), the entire property is located within Zone AE (elevation 6.85 to 7; Datum NAVD 88): *Special Flood Hazard Areas Subject to Inundation by the 1% Annual Chance Flood; Base Flood Elevations Determined and Floodway Areas in Zone AE: The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.*

BLSF is present where Zone AE extends beyond the BVW and/or Bank-MAHW boundaries to Elevation 6.8 to 7 (Datum: NAVD88), and therefore encompasses the entire property.



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## 5. Proposed Construction Activities

### 5.1 Raze and Rebuild of a Single-Family Dwelling

The Applicant proposes to raze the existing 1,101± square-foot dwelling, and associated deck, driveway, and walkway, and construct a new 1,398± square-foot dwelling with a porous pavement driveway and front entrance walkway. The front (southeast) entrance walkway will provide access to a wood landing and steps, while the driveway will provide access to an additional wood landing and steps off the side (northeast) entrance of the dwelling. The two sheds located within the southwest portion of the site will be removed and converted to naturally-vegetated land.

In order to meet FEMA Building Code requirements, and in order to comply with compensatory flood storage requirements enumerated in the *Act* and *Bylaw*, the proposed dwelling will be constructed atop a crawl-space foundation. Seven (7) flood vents will be installed in the foundation walls to allow for flood water to ebb and flow as needed during anticipated flooding associated with the 0.1% annual chance flood.

While the new dwelling will measure roughly 25% larger than the existing dwelling, the total impervious area located on site will be decreased by 243± square feet. If one considers the change in impervious area only within the Riverfront Area, the impervious area reduces by 293± square feet. While 538 cubic feet of BLSF will be displaced with the project, minor grading of up to 1 foot east and north of the dwelling, and the proposed foundation with flood vents will provide 2,856± cubic feet of compensatory flood storage.

---

## 6. Mitigation Measures

The Applicant intends to implement erosion controls, and provide compensatory flood storage and stormwater management to mitigate for any potential impacts to resource areas, and improve the existing site conditions. A description of each of these mitigating measures is provided below.

## 6.1 **Erosion and Sedimentation Control**

The Applicant proposes to implement an erosion control program to protect the adjacent Wetland Resource Areas from sedimentation during construction activities. The plan for the control of potential impacts to the adjacent Wetland Resource Areas is based on DEP guidelines and will be comprised of staked compost filter tubes along the Limit-of-Work line, including a staked compost filter tube located on the eastern edge of Lafayette Street. All erosion control measures will remain in place until disturbed areas are stabilized by vegetation. The location of the proposed erosion controls and a detail are shown on the *Site Plans* (Appendix B).

## 6.2 **Stormwater Management**

While the project results in a decrease of impervious surface, both site-wide and within the Riverfront Area, and therefore not subject to Town of Arlington stormwater management requirements, the Applicant proposes to provide stormwater management for the run-off resulting from the rear of the proposed dwelling. Two (2) 50+ gallon rain barrels are proposed off the rear house corners, and the proposed driveway and walkway will be constructed of porous pavement. Porous pavement details are provided on the *Site Plans* (Appendix B) and drainage calculations showing no change or a reduction in the peak stormwater rates and volumes for the statistical 2, 10, 25, and 100-year storm events are provided in the *Drainage Calculations* (attached). A detailed Operation and Maintenance Plan also is included in the *Drainage Calculations*.

## 6.3 **Compensatory Flood Storage**

The project will result in a significant increase in flood storage associated with the site, via minor site grading, and flood vents and crawl space associated with the house foundation. As provided in the Flood Fill/Comp. Calculations Table on the *Site Plans*, a total of 538 cubic feet of filling within the floodplain is proposed, while 2,856 cubic feet of compensatory flood storage are proposed, with compensatory flood storage far exceeding floodplain fill for each incremental elevation between elevations 4 and 7 (NAVD 88). In all, a 5.3:1 ratio of compensatory flood storage to floodplain fill is proposed.

In addition to providing compensatory flood storage, the land area containing the two wooden sheds will be converted to a naturally-vegetated area, by way of installing twelve

(12) native shrubs, including six (6) witch hazel (*Hamamelis virginiana*) and six (6) American hazelnut (*Corylus americana*).

## 7. Regulatory Performance Standards

The *Act Regulations* and *Bylaw Regulations* provide specific performance standards for work within Riverfront Area and Bordering Land Subject to Flooding, and the *Bylaw Regulations* provide additional standards for climate resiliency. Citations of the pertinent performance standards are provided below, along with a description of how the project meets these standards.

### 7.1 Riverfront Area Performance Standards

While the proposed project is considered a ‘Redevelopment’ within ‘Previously Developed’ Riverfront Area in accordance with 310 CMR 10.58 (5), only a portion of the proposed development occurs within ‘degraded’ Riverfront Area. Regulations at 310 CMR 10.58 (5) (a) state:

*...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.*

Therefore, in addition to demonstrating compliance with the performance standards associated with ‘Previously Developed’ Riverfront Area in 310 CMR 10.58 (5) (provided below), pertinent citations of the performance standards under 310 CMR 10.58 (4) and a discussion of the project’s compliance with those standards is also provided. The performance standards outlined in 310 CMR 10.58 (4) include:

(a) Protection of Other Resource Areas: The proposed activities are also located within Bordering Land Subject to Flooding (BLSF). Compensatory Flood Storage is proposed to protect the function and value of the onsite BLSF;

(b) Protection of Rare Species: The site is not contained within Rare Species Habitat as noted above in Section 2.1;

(c) Practicable and Substantially Equivalent Economic Alternatives: An Alternatives Analysis is provided below; and

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

7.1.1

**Alternatives Analysis**

For this project, the scope of alternatives falls under 310 CMR 10.58 (4) (c) 2. a., which states:

*The area under consideration for practicable alternatives is limited to the lot, for activities associated with the construction or expansion of a single-family house on a lot recorded on or before August 1, 1996*

The purpose of this project is to replace a single-family dwelling in existence as of August 1, 1996. Under existing conditions, a portion of the dwelling and paved driveway are located within the Riverfront Area. While the proposed dwelling measures roughly 25% larger than the existing dwelling, the proposed dwelling is situated within the same general footprint of the existing dwelling, and only two feet closer to the river compared to the existing dwelling (183 feet compared to 185 feet). Despite this modest increase, the proposed alternative elevates the first floor of the structure two feet above the floodplain elevation; reduces impervious area site-wide, and within the Riverfront Area by 293± square feet; provides a 5.3:1 ratio of compensatory flood storage to BLSF fill, and proposes enhancement plantings where two off-site sheds currently exist. Overall, the proposed alternative protects the interests of the *Act* and *Bylaw* far greater than existing conditions or for a development with less mitigating measures.

7.1.2

**No Significant Adverse Impact**

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 property contains 2,321± square feet of Riverfront Area; therefore, 10% of the total Riverfront Area on the site is 232± square feet, which is significantly less than the 5,000 square-foot threshold enumerated above. The project results in a net improvement to the Riverfront Area by reducing impervious surface and by providing stormwater management where none exists today.

- (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 0-100' Riverfront Area is located off site, and the southeastern property boundary measures 156 linear feet from the Bank-MAHW Line at its closest point. The lot is separated from the Little River/Alewife Brook by Lafayette Street and the Alewife Greenway Bike Path, which occurs within the Alewife Greenway. The existing lawn/landscape within the Riverfront Area will be replaced, and the existing paved driveway will be replaced with a porous pavement driveway. The existing corridor of natural vegetation within the Riverfront Area, to the extent it exists, will remain and impervious area will be located farther from the river compared to existing conditions.

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

While stormwater management is not required by DEP for single-family dwellings, the Applicant proposes a reduction in impervious surface both site-wide and within the Riverfront Area. Rain barrels also are proposed off the rear house corners to collect roof run-off.

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

The preamble to 310 CMR 10.58 for Riverfront Area states that 'in those portions so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated, riverfront areas are not significant to the protection of important wildlife habitat...' This language mirrors the preamble language in 310 CMR 10.57 which includes a statement that such areas include paved areas, buildings, lawns, etc. The portion of Riverfront Area slated for development

contains an existing structure, pavement, lawn, and landscaped areas. Furthermore, the proposed development includes a net reduction of impervious surface for the site and within the Riverfront Area.

- (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 along the Limit-of-Work line, including on the eastern side of Lafayette Street, and porous pavement and rain barrels are proposed for stormwater management.

7.1.3

### **Redevelopment Within Previously Developed Riverfront Areas**

The *Act Regulations* provide performance standards for work within ‘previously developed’ Riverfront Area. Below are citations of the pertinent performance standards and an explanation of the project’s compliance with the performance standards.

*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.*

Impervious surface within the Riverfront Area will be reduced by 293± square feet and impervious surfaces will be situated farther from the river compared to existing conditions.

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

The DEP does not require stormwater management for single-family dwelling construction. However, a reduction in impervious surface, porous pavement, and rain barrels are proposed.

- (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....*

All work will be located greater than 100 feet from the Little River/Alewife Brook, and no work is proposed closer to the Little River/Alewife Brook compared to existing conditions.

- (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).*

All work is located within the outer 200-foot Riverfront Area to Alewife Brook.

- (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).*

The project site contains 2,321± square feet of Riverfront Area; therefore, 10% of the total Riverfront Area on the site is 232± square feet. The existing degraded Riverfront Area measures 816± square feet, and will be reduced to 523± square feet.

- (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...*

No restoration of degraded riverfront area is proposed or required in accordance with 310 CMR 10.58 (5) (f).

- (g) *When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant*

*measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary...*

No mitigation or restoration is proposed in accordance with 310 CMR 10.58 (5) (g).

7.2

## **Bordering Land Subject to Flooding Performance Standards**

The *Act Regulations* at 310 CMR 10.57 (4) state that *work within BLSF shall conform to the following criteria:*

### **(a) *Bordering Land Subject to Flooding***

- (1) Compensatory storage shall be provided for all flood storage volume that will be lost as a result of the proposed work.*

While the project will result in 538± cubic feet of floodplain displacement, the crawl space house foundation with flood vents and minor site grading will provide 2,856 cubic feet of flood storage between Elevations 4 through 7, resulting in a 5.3:1 ratio of compensatory flood storage to flood displacement. Care will be taken to ensure that the proposed amount of flood storage is provided, in part by establishing grade stakes throughout the site during the construction activities.

- (2) Work within BLSF...shall not restrict flows so as to cause an increase in flood stage or velocity.*

Proposed work in the floodplain will not restrict flows or cause an increase in flood storage.

- (3) Work within those portions of Bordering Land Subject to Flooding found to be significant to the protection of wildlife habitat shall not impair its capacity to provide important wildlife habitat functions...a project or projects on a single lot, for which Notice(s) of Intent is filed on or after November 1, 1987 that (cumulatively) alter(s) up to 10% or 5,000 square feet (whichever is less) of land in this resource area found to be significant to the protection of wildlife habitat, shall not be deemed to impair its capacity to provide important wildlife habitat functions.*

According to the BLSF Preamble at 310 CMR 10.57 (1) (a) 3., *Certain portions of Bordering Land Subject to Flooding are also likely to be significant to the*



*protection of wildlife habitat...except for those portions of which have been so extensively altered by human activity that their important wildlife habitat functions have been effectively eliminated (such "altered" areas include paved and graveled areas...buildings, lawns, gardens)...*

The proposed project will occur entirely within the existing footprint of the existing dwelling, lawn, and other impervious areas and will not impair wildlife habitat functions.

(b) Protection of Rare Wildlife Species

*(1) Notwithstanding the provisions of 310 CMR 10.57(4)(a) or (b), no project may be permitted which will have any adverse effect on specified wildlife habitat sites of rare vertebrate or invertebrate species.*

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.

7.3

**Bylaw Performance Standards for Work Within the Floodplain**

Section 23 D. of the *Bylaw Regulations* states: *The Commission may permit activity on land subject to flooding provided it shall not result in the following:*

*(1) Flood damage due to filling which causes lateral displacement of water that would otherwise be confined within said area.*

The project has been designed to provide a 5.3:1 ratio of compensatory flood storage to floodplain displacement and will not result in any increased lateral displacement of flood water.

*(2) Adverse effect on public and private water supply or groundwater supply, where said area is underlain by pervious material.*

The project will not result in any increase in pollutants that could otherwise potentially result in an adverse effect on public or private water supply or groundwater supply.

*(3) An adverse effect on the capacity of said area to prevent pollution of the groundwater, where the area is underlain by pervious material which in turn is covered by a mat of organic peat and muck.*

LEC did not observe any such conditions within or near the subject property, and a soil test pit conducted on the site (and described on the *Site Plans*) revealed fine sandy loam to loamy fine sand soils to a depth of 50 inches.

7.4

#### **BLSF Climate Change Impacts**

The *Bylaw Regulations* (Section 23 D.) also state that *the applicant shall take into consideration the impacts of climate change on the activities proposed on land subject to flooding, especially in terms of the compensatory flood storage as a climate change resilience strategy. Any such activity shall provide compensatory flood storage for all flood storage volume that will be lost at each elevation. Compensatory flood storage shall be at a 2:1 ratio, minimum, for each unit volume of flood storage lost at each elevation.*

As described above in Section 6.2 of this NOI Report, Project Engineer Al Gala of Gala Simon Associates, Inc., has designed the project to provide a 5.3:1 ratio of proposed flood storage compared to existing flood storage, as provided on the *Flood Fill/Comp. Calculations* section of the *Site Plans*. Work is proposed within BLSF between elevations 4 and 7. A >2:1 increase in available flood storage is provided for each incremental elevation. The first floor of the proposed dwelling (elevation 8.8) will be elevated two feet above the 0.1% Annual Chance Floodplain (elevation 6.8) and flood vents will be installed within the crawl-space foundation walls in order to minimize storm and flood damage. A total of twelve (12) enhancement plantings are proposed within the southwest corner of the property to re-vegetate the land where two sheds will be removed, and impervious area within the entire lot will be decreased.

8.

#### **Summary**

On behalf of the Applicant and Property Owner, Lori Philbin, LEC is filing the enclosed NOI Application and *Wetland Resource Area Analysis* with the Arlington Conservation Commission to raze and rebuild a single-family dwelling at 105 Lafayette Street in Arlington, Massachusetts. Portions of the proposed activities will occur within the outer portion of Riverfront Area associated with the Little River/Alewife Brook, and within the 100-foot Buffer Zone to BVW and BLSF, as jurisdictional under the *Act*, its implementing *Regulations*, and the *Bylaw* and *Bylaw Regulations*.

The new dwelling is situated in the same general footprint of the existing dwelling, and a reduction in impervious area site-wide and within the Riverfront Area are proposed. Rain barrels also will improve stormwater management associated with the site. The project results in a 5.3:1 ratio of compensatory flood storage to BLSF fill. Providing this additional flood storage, setting the first-floor elevation two feet higher than the BLSF elevation, reducing impervious area, and providing enhancement plantings also contribute to the climate resiliency associated with the project.

The proposed project, including the proposed mitigating measures, meets or exceeds the performance standards enumerated in the pertinent Statutes and Regulations. Accordingly, the Applicant requests that the Commission issue an Order of Conditions approving the project.

Arlington Conservation Commission, *Town of Arlington Wetlands Protection Bylaw* (Article 8) Town of Arlington, Massachusetts.

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 Natural Heritage and Endangered Species Program Atlas of Estimated Habitat of State-listed Rare Wetlands Wildlife, Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife, Route 135, Westborough, MA 01581, [www.state.ma.us/dfwele/dfw](http://www.state.ma.us/dfwele/dfw)

Massachusetts Wetlands Protection Act (M.G.L. c. 131, §. 40), [www.state.ma.us/dep](http://www.state.ma.us/dep)  
Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00),  
[www.state.ma.us/dep](http://www.state.ma.us/dep)

National Flood Insurance Program, Federal Emergency Management Agency Flood Insurance Rate Map, Middlesex County, June 4, 2010.

New England Hydric Soils Technical Committee. 2018, 4<sup>th</sup> ed., *Field Indicators for Identifying Hydric Soils in New England*, New England Interstate Water Pollution Control Commission, Lowell, MA.

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

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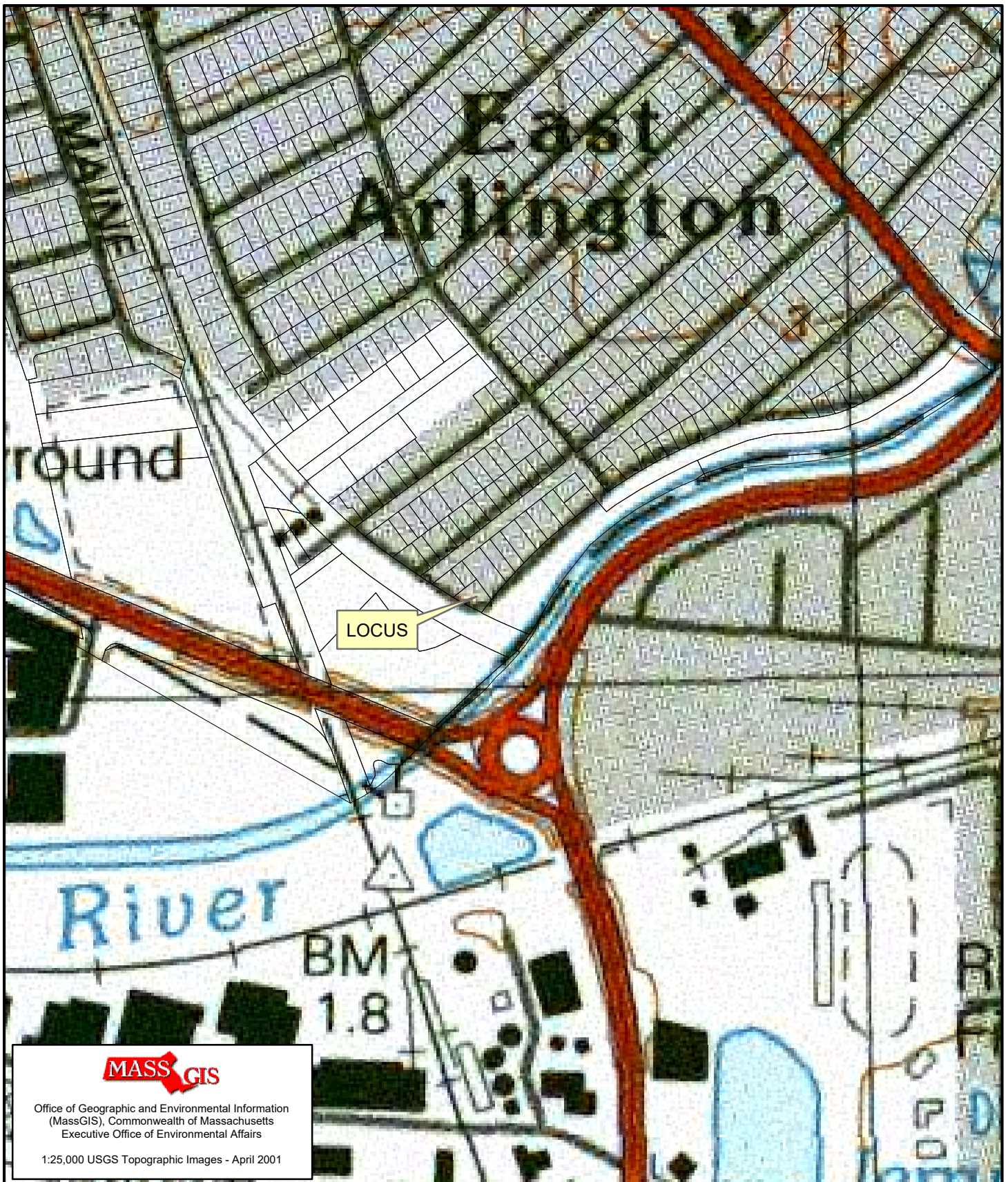
## **Appendix A**

### Locus Maps

Figure 1: USGS Topographic Quadrangle

Figure 2: FEMA Flood Insurance Rate Map

Figure 3: MassGIS Orthophoto & NHESP Estimated Habitat Map



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

1:25,000 USGS Topographic Images - April 2001



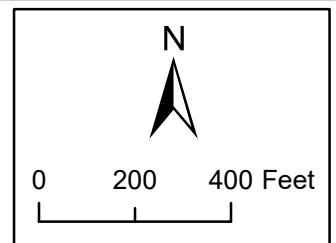
Environmental Consultants, Inc.

Wakefield, MA  
781.245.2500

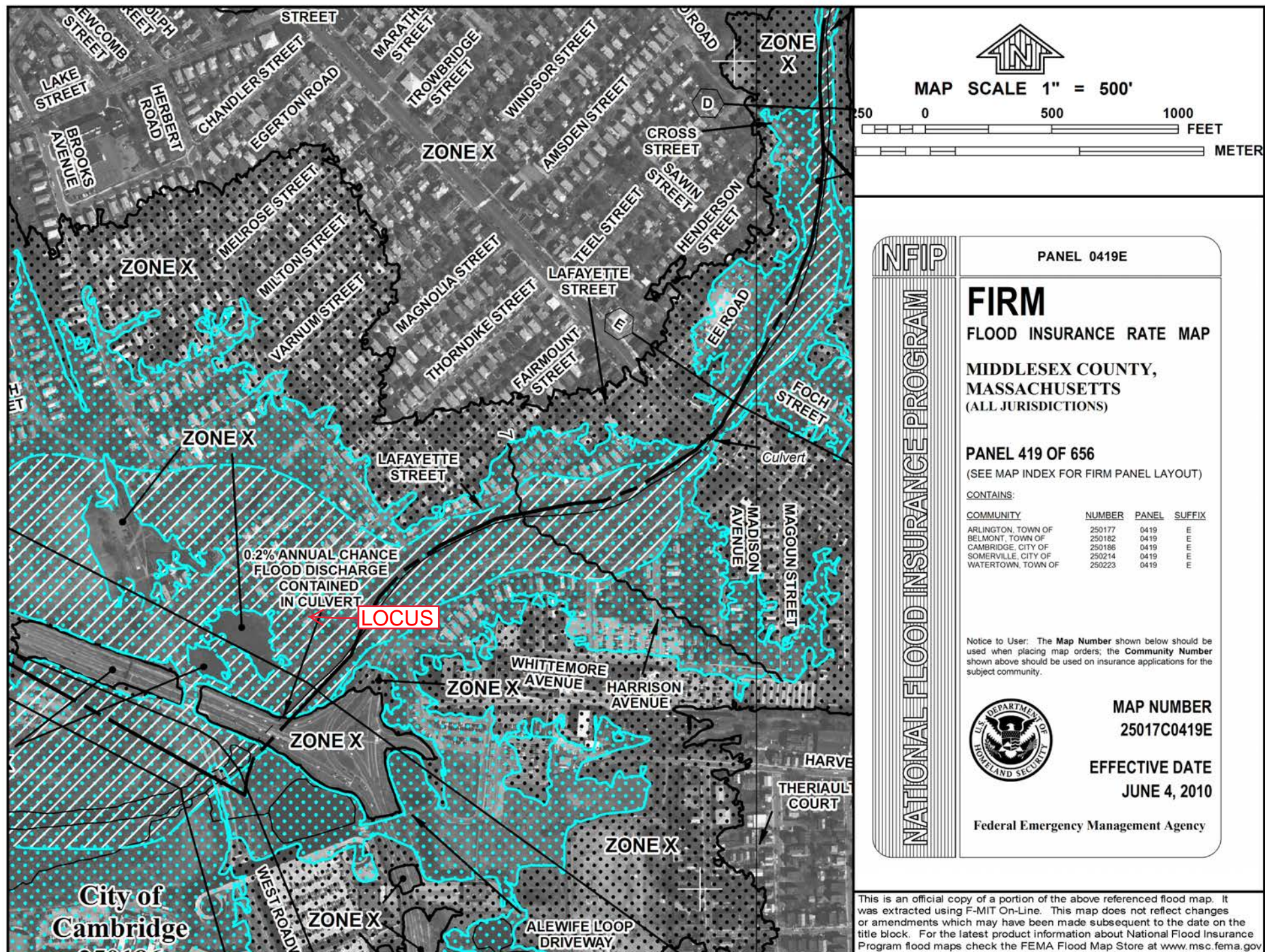
[www.lecenvironmental.com](http://www.lecenvironmental.com)

Figure 1: USGS Topographic Map  
105 Lafayette Street  
Arlington, MA

April 14, 2020









# LEGEND



## SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

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

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



## FLOODWAY AREAS IN ZONE AE

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



### ZONE X

## OTHER FLOOD AREAS

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



### ZONE X

## OTHER AREAS

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

### ZONE D

Areas in which flood hazards are undetermined, but possible.



## COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS



## OTHERWISE PROTECTED AREAS (OPAs)

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



1% annual chance floodplain boundary



0.2% annual chance floodplain boundary



Floodway boundary



Zone D boundary



CBRS and OPA boundary



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



Base Flood Elevation line and value; elevation in feet\*

(EL 987)

Base Flood Elevation value where uniform within zone; elevation in feet\*

\* Referenced to the North American Vertical Datum of 1988



Cross section line



Transect line

87°07'45", 32°22'30"

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

2476000mN

1000-meter Universal Transverse Mercator grid values, zone 19

600000 FT

5000-foot grid values: Massachusetts State Plane coordinate system, Mainland zone (FIPZONE 2001), Lambert Conformal Conic projection

DX5510 x

Bench mark (see explanation in Notes to Users section of this FIRM panel)

● M1.5

River Mile

## MAP REPOSITORY

Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE  
FLOOD INSURANCE RATE MAP

June 4, 2010

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





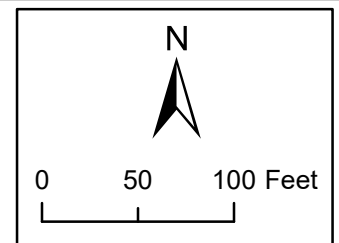
Environmental Consultants, Inc.

Wakefield, MA  
781.245.2500

[www.lecenvironmental.com](http://www.lecenvironmental.com)

Figure 3: MassGIS Orthophoto & NHESP Map  
105 Lafayette Street  
Arlington, MA

April 14, 2020



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## **Appendix B**

*Drainage/Grading Plan 105 Lafayette Street, Arlington, Massachusetts,*  
dated May 27, 2012 and revised through March 26, 2020, prepared by Gala Simon Associates, Inc.