

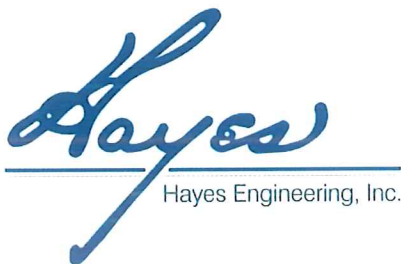
Applicant:
Haralambos Katsikis
#2 Dearborn Way
Middleton, MA 01949

Project File: LYF-0452N

Notice of Intent Application

Proposed Single Family House
#4 Taylor Terrace
Lynnfield, Massachusetts

July 2020



603 Salem Street
Wakefield, MA 01880
Tel: (781) 246-2800
Fax: (781) 246-7596

Nantucket, MA 02554
Tel: (508) 228 -7909

**CONTENTS
NOTICE OF INTENT
#4 TAYLOR TERRACE
LYNNFIELD, MASSACHUSETTS**

June 29, 2020

LIST OF PLANS AND DOCUMENTS

<u>Identifying Number / Letter</u>	<u>Title / Date</u>
DOCUMENT A	WPA Form 3- Notice of Intent and NOI Wetland Fee Transmittal Form – Proposed Single Family House, #4 Taylor Terrace, Lynnfield, MA (including USGS Locus Map, Certified List of Abutters (June 2020), Abutter Notification letter, and Affidavit of Service).
DOCUMENT B	Project Narrative, Proposed Single Family House, #4 Taylor Terrace, Lynnfield, MA; June 29, 2020.
DOCUMENT C	Erosion and Sedimentation Control, #4 Taylor Terrace, Lynnfield, MA; June 29, 2020.
PLAN	Certified Proposed Plot Plan & Sanitary Disposal System Plan, Lynnfield, Mass, #4 Taylor Terrace; Hayes Engineering, Inc.; Scale: 1"= 20'; Dated: July 6, 2020. (Sheet 1 of 2).



WPA Form 3 – Notice of Intent

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

MassDEP File Number

Document Transaction Number

Lynnfield

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):

4 Taylor Terrace, Subdivision Lot 13	Lynnfield	01940
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:	42d 31m 56s N	17d 02m 40s W
	d. Latitude	e. Longitude
34	1025	
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant:

Haralambos	Katsikis	
a. First Name	b. Last Name	
c. Organization		
2 Dearborn Way		
d. Street Address		
Middleton	MA	01949
e. City/Town	f. State	g. Zip Code
(978)930-5001	steliosrestaurant@yahoo.com	
h. Phone Number	i. Fax Number	j. Email Address

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

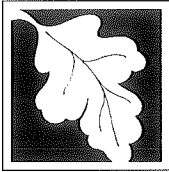
Haralambos	Katsikis	
a. First Name	b. Last Name	
c. Organization		
2 Dearborn Way		
d. Street Address		
Middleton	MA	01949
e. City/Town	f. State	g. Zip Code
(978)930-5001	steliosrestaurant@yahoo.com	
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

a. First Name	b. Last Name	
Hayes Engineering, Inc.		
c. Company		
603 Salem Street		
d. Street Address		
Wakefield	MA	01880
e. City/Town	f. State	g. Zip Code
(781)246-2800	(781)246-7596	lwallis@hayeseng.com
h. Phone Number	i. Fax Number	j. Email address

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

\$500.00	\$237.50	\$262.50
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



WPA Form 3 – Notice of Intent

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

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Lynnfield

City/Town

A. General Information (continued)

6. General Project Description:

The applicant proposes to construct a single family house with associated patio, driveway, septic system and other appurtenances as shown on the accompanying plan and as described in the attached project narrative.

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

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

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

- 1. Yes No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(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:

Essex south
a. County

Cert 83601, Doc. #504483
b. Certificate # (if registered land)

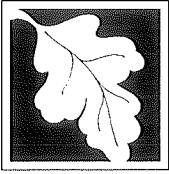
c. Book

d. Page Number

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

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

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



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

Provided by MassDEP:

MassDEP File Number _____

Document Transaction Number _____

Lynnfield

City/Town

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 _____	2. square feet _____
	3. cubic yards dredged _____	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet _____	2. square feet _____
	3. cubic feet of flood storage lost _____	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 type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland _____	

2. Width of Riverfront Area (check one):

- 25 ft. - Designated Densely Developed Areas only
- 100 ft. - New agricultural projects only
- 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

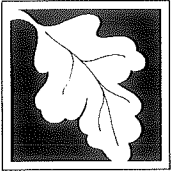
a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

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.



WPA Form 3 – Notice of Intent

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

MassDEP File Number _____

Document Transaction Number _____

Lynnfield

City/Town

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. 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.

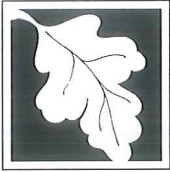
_____ a. square feet of BVW

_____ b. square feet of Salt Marsh

5. Project Involves Stream Crossings

_____ a. number of new stream crossings

_____ b. number of replacement stream crossings



WPA Form 3 – Notice of Intent

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

MassDEP File Number _____

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Lynnfield

City/Town

C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

- a. Yes No **If yes, include proof of mailing or hand delivery of NOI to:**

MassGIS NHESP
online mapping _____

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

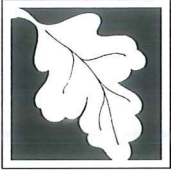
If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section 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.



WPA Form 3 – Notice of Intent

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

MassDEP File Number

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Lynnfield

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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).
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; 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:

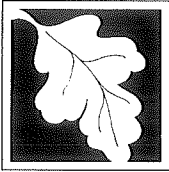
South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

North Shore - Hull to New Hampshire border:

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

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

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



WPA Form 3 – Notice of Intent

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

MassDEP File Number

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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.

Refer to the accompanying document "Contents / List of Plans and Documents" for titles and dates of submitted materials.

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

e. Scale

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.

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:

168
2. Municipal Check Number

7/2/20
3. Check date

167
4. State Check Number

7/2/20
5. Check date

HARALAMBOS
6. Payor name on check: First Name

KATS, KIS
7. Payor name on check: Last Name



WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

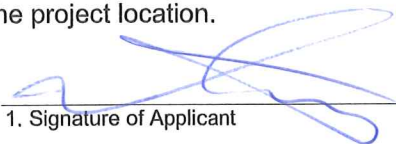
Document Transaction Number

Lynnfield
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)

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:

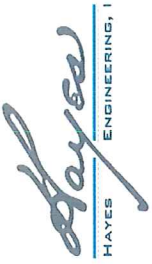
One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

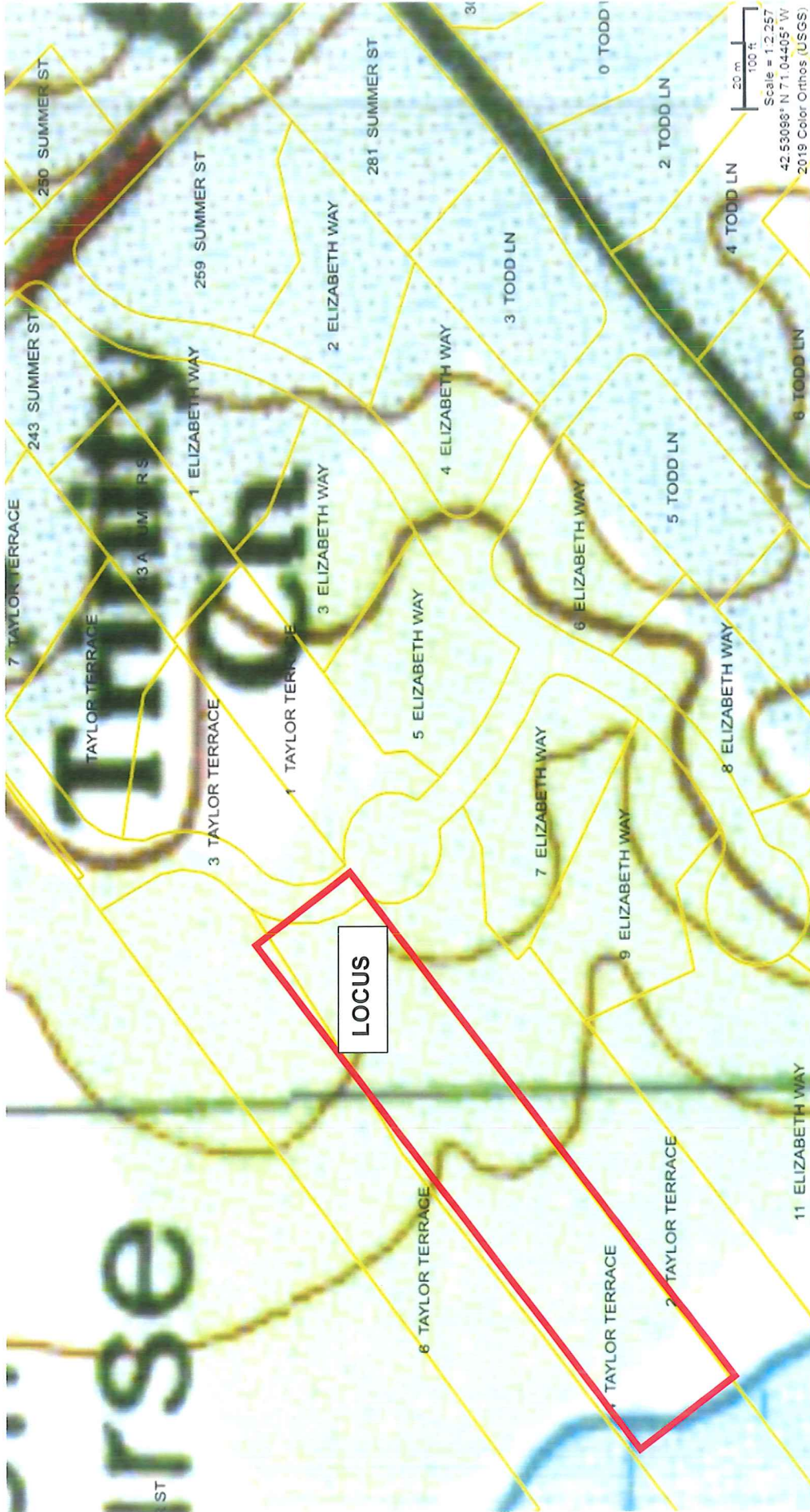
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

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.

HAYES ENGINEERING, INC.
CIVIL ENGINEERING &
LAND SURVEYORS



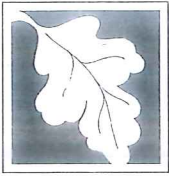
603 SALEM STREET
WAKEFIELD, MA 01880
(781) 246-2800



UNITED STATES GEOLOGICAL SURVEY MAP
25K MASSGIS QUADRANGLE
(Map Source: MassGIS "Oliver" Online Mapping)

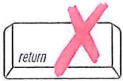
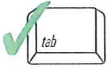
LOCUS MAP
#4 TAYLOR TERRACE
LYNNFIELD, MASSACHUSETTS

N
↑



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

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



A. Applicant Information

1. Location of Project:

4 Taylor Terrace, Subdivision Lot 13
 a. Street Address
 Lynnfield
 b. City/Town

 c. Check number
 d. Fee amount

2. Applicant Mailing Address:

Haralambos
 a. First Name
 Katsikis
 b. Last Name

 c. Organization
 2 Dearborn Way
 d. Mailing Address
 Middleton MA 01949
 e. City/Town f. State g. Zip Code
 (978)930-5001 stelosrestaurant@yahoo.com
 h. Phone Number i. Fax Number j. Email Address

3. Property Owner (if different):

Haralambos
 a. First Name
 Katsikis
 b. Last Name

 c. Organization
 2 Dearborn Way
 d. Mailing Address
 Middleton f. State g. Zip Code
 (978)930-5001 stelosrestaurant@yahoo.com
 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).

HARALAMBOS KATSIKIS
2 DEARBORN WAY
MIDDLETON, MA 01949

5-7017/2110

167

DATE

7/2/2020

PAY TO THE
ORDER OF

COMMONWEALTH OF MASS

\$ 237.50

THE SUM 237 DOLLARS AND 50 CENTS

DOLLARS



Security Features
Included
Details on Back

Citizens Bank

MEMO

⑆ 211070175⑆ 1400946619⑆ 0167

HARALAMBOS KATSIKIS
2 DEARBORN WAY
MIDDLETON, MA 01949

5-7017/2110

168

DATE

7/2/2020

PAY TO THE
ORDER OF

TOWN OF LYNNFIELD

\$ 262.50

THE SUM 262 DOLLARS AND 50 CENTS

DOLLARS



Security Features
Included
Details on Back

Citizens Bank

MEMO

⑆ 211070175⑆ 1400946619⑆ 0168

HARALAMBOS KATSIKIS
2 DEARBORN WAY
MIDDLETON, MA 01949

5-7017/2110

169

DATE

7/2/2020

PAY TO THE
ORDER OF

TO LYNNFIELD VILLAGER

\$ 35.00

THE SUM 35 DOLLARS AND 00 CENTS

DOLLARS



Security Features
Included
Details on Back

Citizens Bank

MEMO

⑆ 211070175⑆ 1400946619⑆ 0169

AFFIDAVIT OF SERVICE

Under the Massachusetts Wetlands Protection Act

(to be submitted to the Massachusetts Department of
Environmental Protection and the Conservation Commission
when filing a Notice of Intent)

I, Deane Benoit, hereby certify under the pains and
penalties of perjury that on 7/9/20 I gave notification to abutters in
compliance with the second paragraph of Massachusetts General Laws, Chapter 131,
Section 40, and the **DEP Guide to Abutter Notification** dated April 8, 1994, in
connection with the following matter:

Single family house construction.

A Notice of Intent filed under the Massachusetts Wetlands Protection Act has been submitted by
Haralambos Katsikis with the Lynnfield Conservation Commission on 7/9/20 for
property located at #4 Taylor Terrace, Lot 13 (Assessors Map 34, Lot 1025)

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

Deane Benoit
Name - Signature

7/9/20
Date

NOTICE TO ABUTTERS
MASSACHUSETTS WETLANDS PROTECTION ACT
AND
TOWN OF LYNNFIELD CH. 240 WETLAND PROTECTION BYLAW

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

The Lynnfield Conservation Commission will hold a public hearing anticipated to be held on August 18, 2020 at 6:30 pm. and conducted remotely through the Zoom video conferencing platform or as otherwise scheduled, in regard to a Notice of Intent filed under the Massachusetts Wetlands Protection Act, (M.G.L. C 131, s. 40). as noted below. Hearing access information will be made available on the applicable meeting agenda provided on the Town of Lynnfield Conservation Commission website: <https://www.town.lynnfield.ma.us/conservation-commission> .

Name of Applicant (please print) Haralambos Katsikis

Location of Proposed Activity: #4 Taylor Terrace (Lot 13) - Assessors Map 34, Lot 1025

The Applicant Proposes to:

Construct a single family house and appurtenances within 100 feet of wetlands.

Application Information:

The Notice of Intent application, plans, and other project information are on file in the Conservation Commission Office at the Lynnfield Town Hall, #55 Summer Street, Lynnfield, MA 01940. Contact the Conservation Administrator at ecademartori@town.lynnfield.ma.us or call (781) 334-9495 for more information regarding the public hearing or application.

To review or obtain copies of the Notice of Intent (for a reasonable fee), please contact either (check one) the applicant _____ or applicant's representative Hayes Engineering, Inc., 603 Salem Street, Wakefield, MA 02880, (781)246-2800 between the hours of 8:00 am and 4:00 pm on Monday through Friday.

Note: The public hearing will be advertised in the Lynnfield Villager at least five (5) business days before the hearing

RECEIVED

JUN 29 2020

TOWN OF LYNNFIELD
BOARD OF ASSESSORS
55 Summer Street
Lynnfield, MA 01940
Ph:781-334-9450 Fax:781-334-9419

LYNNFIELD
BOARD OF ASSESSORS

REQUEST FOR CERTIFICATION OF ABUTTER'S LIST
To be submitted to (check one)

_____ Board of Appeals
_____ Board of Health
 Conservation Commission
_____ Planning Board
_____ Other _____

If this form is not complete it will be returned.

Fee: \$5.00 for first five pages \$1.00 each consecutive page

Property owner of record: Katsikis Haralambos, T/E, Katsikis Georgia, T/E

Address of Property: #4 Taylor Terrace.

Assessor's Map #: 34 Parcel 1025

Name of Applicant (print): Hayes Engineering, Inc./o Elizabeth Wallis

Applicant Address: #603 Salem Street
(No. & Street)
Wakefield, MA 01880
(City/Town & State)

Applicant's Telephone (781)246-2800, Email Address: lwallis@hayeseng.com

CERTIFIED LIST WILL BE PROVIDED WITHIN SEVEN TO TEN WORKING
DAYS

-----Assessors Use Only-----
Certified by: Marie Gardner

Date: 6/29/20



100 foot Abutters List Report

Lynnfield, MA
June 29, 2020

Subject Property:

Parcel Number: 0034-0000-1025
CAMA Number: 0034-0000-1025
Property Address: 4 TAYLOR TERRACE

Mailing Address: KATSIKIS HARALAMBOS, T/E KATSIKIS
GEORGIA, T/E
2 DEARBORN WAY
MIDDLETON, MA 01949

Abutters:

Parcel Number: 0029-0000-2414
CAMA Number: 0029-0000-2414
Property Address: 165 SUMMER ST

Mailing Address: TOWN OF LYNNFIELD TOWN HALL
55 SUMMER STREET
LYNNFIELD, MA 01940

Parcel Number: 0034-0000-0388
CAMA Number: 0034-0000-0388
Property Address: 6 TAYLOR TERRACE

Mailing Address: SCHENA ANTHONY J, T/E SCHENA
HEATHA C, T/E
6 TAYLOR TERRACE
LYNNFIELD, MA 01940

Parcel Number: 0034-0000-0429
CAMA Number: 0034-0000-0429
Property Address: 3 TAYLOR TERRACE

Mailing Address: PETERSON DAVID S, T/E PETERSON
MELANIE R, T/E
3 TAYLOR TERRACE
LYNNFIELD, MA 01940

Parcel Number: 0034-0000-0456
CAMA Number: 0034-0000-0456
Property Address: 1 TAYLOR TERRACE

Mailing Address: VO HAO MINH NGO DIEP N.
1 TAYLOR TERRACE
LYNNFIELD, MA 01940

Parcel Number: 0034-0000-0489
CAMA Number: 0034-0000-0489
Property Address: 7 ELIZABETH WAY

Mailing Address: CARPI THOMAS, T/E CARPI RITA J, T/E
7 ELIZABETH WAY
LYNNFIELD, MA 01940

Parcel Number: 0034-0000-1055
CAMA Number: 0034-0000-1055
Property Address: 2 TAYLOR TERRACE

Mailing Address: BRALEY ISSAC C, T/E BRALEY LINDSAY
K V, T/E
2 TAYLOR TERRACE
LYNNFIELD, MA 01940



www.cai-tech.com

Data shown on this report is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this report.

6/29/2020

Page 1 of 1

BRALEY ISSAC C, T/E
BRALEY LINDSAY K V, T/E
2 TAYLOR TERRACE
LYNNFIELD, MA 01940

CARPI THOMAS, T/E
CARPI RITA J, T/E
7 ELIZABETH WAY
LYNNFIELD, MA 01940

PETERSON DAVID S, T/E
PETERSON MELANIE R, T/E
3 TAYLOR TERRACE
LYNNFIELD, MA 01940

SCENA ANTHONY J, T/E
SCENA HEATHA C, T/E
6 TAYLOR TERRACE
LYNNFIELD, MA 01940

TOWN OF LYNNFIELD
TOWN HALL
55 SUMMER STREET
LYNNFIELD, MA 01940

VO HAO MINH
NGO DIEP N.
1 TAYLOR TERRACE
LYNNFIELD, MA 01940

Haralambos and Georgia Katsikis
2 Dearborn Way
Middleton, MA 01949

Town of Lynnfield
55 Summer Street
Lynnfield, MA 01940

Anthony J. & Heath C. Schena
6 Taylor Terrace
Lynnfield, MA 01940

David S. & Melanie R. Peterson
3 Taylor Terrace
Lynnfield, MA 01940

Vo Hao Minh Ngo Diep N.
1 Taylor Terrace
Lynnfield, MA 01940

Thomas & Rita J. Carpi
7 Elizabeth Way
Lynnfield, MA 01940

Issac C. & Lindsay K V Braley
2 Taylor Terrace
Lynnfield, MA 01940

4 taylor terrace, Lynnfield

Zoom to a town



**PROJECT NARRATIVE
PROPOSED SINGLE FAMILY HOUSE
#4 TAYLOR TERRACE
LYNNFIELD, MASSACHUSETTS**

June 29, 2020

Existing Conditions

The locus site is a 156,042± s.f. residential property known as #4 Taylor Terrace (a.k.a. Taylor Terrace Extension lot 13, formerly Lot 9). This vacant parcel, located between fully developed residential properties at #2 and #6 Taylor Terrace, contains areas of lawn as well as an upland meadow-type plant community in the easterly portion of the property and a red maple swamp-type wetland in the westerly portion of the property. A small portion of the constructed stormwater management basin for treatment of Taylor Terrace drainage is present on the northern side of the property (the main portion being on #6 Taylor Terrace).

The boundary of the wetland on this property was initially delineated by Hayes Engineering, Inc. in February 2005 (wetland flags numbered #A-5 – A20) and subsequently revised in July 2005 by the Conservation Commission's peer reviewer, B.S.C. pursuant to review of the previous Taylor Terrace Extension Notice of Intent for stormwater basin and house construction on this lot. That reviewed wetland line was included as part of the project under Order of Conditions issued under DEP file #209 – 400. In preparation for submission of this current Notice of Intent, Hayes Engineering, Inc. replaced the wetland line approved under the previous Order of Conditions and subsequently confirmed the accuracy of the flagged boundary during a site visit on June 23, 2020.

The wetland boundary and other existing site features are shown on the July 2020 Hayes Engineering, Inc. plan titled "Certified Proposed Plot Plan & Sanitary Disposal System Plan in Lynnfield, Mass., #4 Taylor Terrace".

Proposed Conditions

The project will consist of constructing a 2,867± square foot single family house with garage, roof runoff infiltration system, paver patio, paved driveway, septic system, and grassed yard as shown on the above-referenced plan. Activities will occur at least 25 feet from the wetland boundary, with the building and patio being 50' feet away. Buffer zone activities associated with this work include vegetation removal; excavation; foundation installation; house construction; utilities; patio installation; retaining wall construction; driveway grading and paving; and loaming and seeding or other landscaping. Temporary buffer zone disturbances may result from machinery and personnel access as well as the temporary storage of building materials, tools and machinery within lawn areas. All areas of bare soil resulting from this project will be loamed and seeded or otherwise stabilized. Construction and demolition debris will be placed in an appropriate disposal container for transport off of the site.

This project design minimizes buffer zone impacts through placement of the structures at least 50 feet from the wetland boundary as possible and locating activities within areas occupied by existing lawn and other manmade disturbances. Erosion control procedures will be implemented as described in the attached document, "Erosion and Sedimentation Control" to protect adjacent bank resource area and buffer zone areas from sediment and personnel encroachment.

**EROSION AND SEDIMENTATION CONTROL
#4 TAYLOR TERRACE
LYNNFIELD, MASSACHUSETTS**

June 29, 2020

PART I - GENERAL

QUALITY ASSURANCE

- A. The applicant and all site contractors shall be responsible for reviewing, and taking steps to meet, all requirements contained in the Order of Conditions issued by the Conservation Commission for this project.
- B. Follow siltation control methods as outlined below, shown on the plan and as directed by Engineer.
- C. Operations will be restricted to areas of work indicated on drawings (and clearly marked on site) and area which must be entered for construction of temporary or permanent facilities.
- D. Conservation Commission has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and fill operations, and to direct immediate permanent or temporary pollution control measures to prevent contamination of wetlands, including construction of temporary berms, sediment basins, sediment traps, slope drains and use of temporary mulches, mats or other control devices or methods as necessary to control erosion.
- E. Temporary stockpiles of soil shall be located in an upland area (not to exceed the limit of construction as demarcated by siltation fencing shown on the plan) and be surrounded with an erosion control barrier to prevent sediments from encroaching upon adjacent resource areas.

PART 2 – EROSION CONTROL BARRIERS

Erosion barriers shall be installed along wetland boundaries as shown on the Notice of Intent Plan prior to commencement of any site work. Barriers specified on the plan shall be installed as specified below. Alternative types of barriers (i.e straw, coir or Filtrexx™ type logs) may be used with the approval of the Conservation Commission and Project Engineer, and be installed per manufacturer's instructions. The approved alternative barrier must be designed and sized specifically for conditions on this site. After initial barrier installation, site personnel shall perform weekly inspections of, and maintain, the siltation control barrier during construction. Inspections of the siltation control barrier shall also be performed prior to and immediately following major (>1") rainfall event. After all construction activities are completed, and the areas of bare soil are vegetated and or stabilized, the siltation control barriers may be removed upon approval of the Conservation Commission. It is important that the disturbed areas previously occupied by the siltation control barriers, as well as adjacent areas, be repaired and vegetated immediately after removal of the barriers.

A. MATERIALS

Staked Haybale Barrier

- 1. Hay or straw bales, enough to accomplish length specified on plan and 10 to be reserved for replacement or barrier re-enforcement use, as needed.
- 2. 2-inch by 2-inch by 3.5-foot wooden stakes for hay bales, two stakes per bale.

Filter Fences

A. Synthetic Filter Fabric

- 1. Synthetic filter fabric (i.e Marafi or other brand of siltation control filter fabric) shall consist of a pervious sheet of propylene, nylon, polyester or ethylene filaments. Standard or extra –strength filter fabric may be installed.
- 2. Certified by manufacturer or supplier as conforming to the following requirements:

<u>Physical Property</u>	<u>Minimum Requirements</u>
Filtering Efficiency	75 percent
Tensile Strength at 20% (maximum) Elongation	Extra Strength: 50 lbs./ linear inch Standard Strength: 30 lbs./ linear inch
Flow Rate	.3 gal./ sq.ft.

B. Non-synthetic Filter Fabric

- 1. Shall consist of burlap fabric weighing 10 ounces per square yard.

C. Filter Fabric Support

- 1. Posts or stakes for filter fences shall be of sufficient size and strength to support the fabric. Steel posts shall have projections for fastening wire to them.
- 2. When standard strength filter fabric fencing is used on a sloped location, the fabric shall be reinforced by wire mesh fence. Wire fence reinforcement for filter fences shall be a minimum of 36 inches in height, a minimum of 14 gauge and a maximum mesh spacing of 6 inches.

B. INSTALLATION

1. Location

Install erosion controls prior to commencement of construction activities along limits of work area as specified on plan, surrounding bases of all deposits of stored fill material outside of disturbed area, and where directed by the Conservation Commission.

2. Barrier Installment

- A. Hay Bales
Hay bales, if specified, will be embedded in the soil a minimum of 4 inches. Hold bales in place with two 2-inch by 2-inch by 3.5-foot stakes so that each bale is butted tightly against adjoining bale, thereby precluding short-circuiting of erosion check. The first stake in each bale shall be driven toward the previously-laid bale to push the bales together.
- B. Filter Fences (If required)
 - 1. Excavate trench along post line 6 inches wide and 6 inches deep on the upslope side of the barrier.
 - 2. Space posts a maximum of 10 feet apart and drive them a minimum of 12 inches into the ground. The posts should not be greater than 36 inches above the ground.
 - 4. Staple, wire or tie the standard or extra- strength filter fabric to the posts. The fabric shall extend 8 inches into the trench and shall not extend more than 36 inches above the ground. Do not staple filter fabric to existing trees.
 - 5. Backfill trench and compact soil over filter fabric.
 - 6. When extra-strength filter fabric or burlap and closer post spacing (6 ' max.) is used for projects on slopes, wire mesh support may be eliminated, in which case the filter fabric is stapled, wired or tied directly to the posts with all other provisions of item 4 applying.

PART 3 – POLLUTION CONTROL MEASURES

- A. Discharge silt-laden water from excavations onto filter fabric mat and/or baled hay or straw sediment traps to ensure that only sediment-free water is returned to wetland areas. Sediment traps, if needed, should be constructed by standard methods.
- B. Do not place soil backfill material adjacent to resource areas without proper siltation controls or otherwise preventing the soil from washing away by high water or runoff.
- C. Do not dump any materials into any streams, wetlands, surface waters or unspecified locations.
- D. Do not dispose of trees, brush, debris, paints, chemicals, asphalt products, concrete curing compounds, fuels, lubricants, insecticides, washwater from concrete trucks or hydroseeders, or any other pollutant into any streams, wetlands, surface waters or natural or man-made channels leading thereto, or unspecified locations.
- E. No disturbance or alteration of any kind allowed between the specified limit of work and the flagged wetland boundary.
- F. Prevent any operation of equipment outside the designated limit of work (erosion control barrier).

- G. Prevent indiscriminate, arbitrary or capricious operation of equipment in surface waters.

PART 5 – EQUIPMENT STORAGE AND REFUELING

- A. All equipment refueling shall take place as far away as possible from wetlands as possible.
- B. All equipment shall be parked as far away as possible from the on-site wetland boundary or removed from the site at the end of the workday.
- C. No permanent or temporary storage of fuel and / or lubricants allowed on the site.

PART 6 – STABILIZATION TECHNIQUES

- A. Protecting and Minimizing Exposed Areas

Steps shall be taken to minimize area of bare soil exposure by preserving existing vegetation and providing soil stabilization. Equipment and trucks shall be routed only over areas of proposed work and workers shall minimize foot traffic in vegetated areas adjacent to the work area as much as possible. During site work, utilization of stabilization techniques is necessary for controlling erosion on exposed areas, including grading, seeding and otherwise stabilizing the areas.

- B. Sediment And Erosion Control / Soil Stabilization

- i) Prior to any construction occurring adjacent to identified resource areas (shown on the plan and/or marked in the field, proper erosion and siltation barriers will be installed so that throughout and until completion of construction, those areas will be afforded maximum protection. Temporary stockpiles of soil shall be surrounded with an erosion control barrier to prevent sediments from exiting the subject property. All erosion control barriers are to be Maintained and periodically inspected until areas of bare soil are stabilized to ensure that they are in functioning condition. Any accumulations of sediments present along erosion control barriers shall be removed as soon as possible after deposition in order to ensure the effectiveness of all sedimentation controls.
- ii) On sites where grading or other work will occur on moderately steep slopes (3:1 and greater) located immediately upgradient of wetlands, the contractor shall work on one portion of the slope at a time, ensuring the stability of the disturbed soil by immediately loaming and seeding the slope, or otherwise vegetating the slope as desired, and installing erosion control mats (straw or cocoanut fiber designed for the slope steepness). If work is interrupted and the slope is to be left bare or otherwise unstabilized for duration of a day or more, a series of erosion control fences oriented parallel to the slope contours shall be installed along the length of slope.

- C. Vegetational Covers

1. Temporary Vegetational Cover

Any area proposed for removal of vegetation where soil will be exposed for more than 10 days shall be mulched or otherwise treated to prevent erosion. On sediment-producing areas in the buffer zone, where the period of exposure will be more than 30 days, the following procedures should be followed for a cover of annual rye. When bare soils are not completely graded and vegetated by September 30 of any year, winter rye shall be planted as specified in table and mulched with three (3) inches of hay or straw.

- a. Install needed surface water control measures.
- b. Perform all cultural operations at right angles to the slope.
- c. Establish grass or other ground cover species as recommended in the attached excerpt (pgs 144 -146) from Massachusetts Erosion and Sedimentation Guidelines for Urban and Suburban Areas, 2003.

2. Permanent Vegetational Cover

To reduce damages from the potential incidence of sedimentation and runoff to other properties, and to avoid erosion on the site itself, a permanent type cover shall be established in disturbed areas located adjacent to resource areas immediately upon completion of grading. Seeding herbaceous cover is usually the most economical and practical way to stabilize any large area. For this site, all disturbed areas where lawns are desired will be seeded in Fall during the period of August 1 to October 1; or in spring by May 15 with a commercial lawn mixture utilizing standard landscape methods and as recommended by the seed manufacturer. Grass sod or landscape plantings may be used instead of seed, if preferred.

In upland/ buffer zone areas, outside of lawn locations, where an erosion control - wildlife seed mixture is desired, prepare soil and use one of grass seed mixes #1 through #6 as recommended in the attached excerpts (pgs 136 -139) from Massachusetts Erosion and Sedimentation Guidelines for Urban and Suburban Areas 2003, to establish a stable, permanent cover.

REFERENCES

Department of Environmental Protection, Bureau of Resource Protection and U.S. Environmental Protection Agency, Massachusetts Erosion and Sedimentation Guidelines for Urban and Suburban Areas: A Guide for Planners, Designers and Municipal Officials. Massachusetts Executive Office of Environmental Affairs, Boston, Massachusetts, Reprint: May 2003.

Use low-maintenance native species wherever possible.

Planting should be timed to minimize the need for irrigation.

Sheet erosion, caused by the impact of rain on bare soil, is the source of most fine particles in sediment. To reduce this sediment load in runoff, the soil surface itself should be protected. The most efficient and economical means of controlling sheet and rill erosion is to establish vegetative cover. Annual plants which sprout rapidly and survive for only one growing season are suitable for establishing temporary vegetative cover. Temporary seeding is effective when combined with construction phasing so bare areas of the site are minimized at all times.

Temporary seeding may prevent costly maintenance operations on other erosion control systems. For example, sediment basin clean-outs will be reduced if the drainage area of the basin is seeded where grading and construction are not taking place. Perimeter dikes will be more effective if not choked with sediment.

Proper seedbed preparation and the use of quality seed are important in this practice just as in permanent seeding. Failure to carefully follow sound agronomic recommendations will often result in an inadequate stand of vegetation that provides little or no erosion control.

Soil that has been compacted by heavy traffic or machinery may need to be loosened. Successful growth usually requires that the soil be tilled before the seed is applied. Topsoiling is not necessary for temporary seeding; however, it may improve the chances of establishing temporary vegetation in an area.

Planting Procedures

Time of Planting

Planting should preferably be done between April 1 and June 30, and September 1 through September 30. If planting is done in the months of July and August, irrigation may be required. If planting is done between October 1 and March 31, mulching should be applied immediately after planting. If seeding is done during the summer months, irrigation of some sort will probably be necessary.

Site Preparation

Before seeding, install needed surface runoff control measures such as gradient terraces, interceptor dike/swales, level spreaders, and sediment basins.

Seedbed Preparation

The seedbed should be firm with a fairly fine surface.

Perform all cultural operations across or at right angles to the slope. See **Topsoiling** and **Surface Roughening** for more information on seedbed preparation. A minimum of 2 to 4 inches of tilled topsoil is required.

Annual ryegrass used for temporary seeding

Ryegrass reseeds itself and makes it difficult to establish a good cover of permanent vegetation.

Seed not broadcast evenly or rate too low

Results in patchy growth and erosion.

Maintenance

Inspect within 6 weeks of planting to see if stands are adequate. Check for damage after heavy rains. Stands should be uniform and dense. Fertilize, reseed, and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.

Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather or on adverse sites. Water application rates should be controlled to prevent runoff.

References

Massachusetts Department of Environmental Protection, Office of Watershed Management, Nonpoint Source Program, Massachusetts **Nonpoint Source Management Manual**, Boston, Massachusetts, June, 1993.

North Carolina Department of Environment, Health, and Natural Resources, **Erosion and Sediment Control Field Manual**, Raleigh, NC, February 1991.

U.S. Environmental Protection Agency, **Storm Water Management For Construction Activities**, EPA-832-R-92-005, Washington, DC, September, 1992.

Washington State Department of Ecology, **Stormwater Management Manual for the Puget Sound Basin**, Olympia, WA, February, 1992.

Silt Curtain

A temporary sediment barrier installed parallel to the bank of a stream or lake. Used to contain the sediment produced by construction operations on the bank of a stream or lake and allow for its removal.

Where Practice Applies

The silt curtain is used along the banks of streams or lakes where sediment could pollute or degrade the stream or lake.

Seeding Dates

Seeding operations should be performed as an early spring seeding (April 1-May 15) with the use of cold treated seed. A late fall early winter dormant seeding (November 1 - December 15) can also be made, however the seeding rate will need to be increased by 50%.

Seeding Methods

Seeding should be performed by one of the following methods:

- ⊘ Drill seedings (de-awned or de-bearded seed should be used unless the drill is equipped with special features to accept awned seed).
- ⊘ Broadcast seeding with subsequent rolling, cultipacking or tracking the seeding with small track construction equipment. Tracking should be oriented up and down the slope.
- ⊘ Hydroseeding with subsequent tracking. If wood fiber mulch is used, it should be applied as a separate operation after seeding and tracking to assure good seed to soil contact.

Mulch

Mulch the seedings with straw applied at the rate of ½ tons per acre. Anchor the mulch with erosion control netting or fabric on sloping areas.

Seed Mixtures for Permanent Cover

Recommended mixtures for permanent seeding are provided on the following pages. Select plant species which are suited to the site conditions and planned use. Soil moisture conditions, often the major limiting site factor, are usually classified as follows:

Dry - Sands and gravels to sandy loams. No effective moisture supply from seepage or a high water table.

Moist - Well drained to moderately well drained sandy loams, loams, and finer; or coarser textured material with moderate influence on root zone from seepage or a high water table.

Wet - All textures with a water table at or very near the soil surface, or with enduring seepage.

When other factors strongly influence site conditions, the plants selected must also be tolerant of these conditions.

Permanent Seeding Mixtures

Seed, Pounds per:

Mix	Site	Seed Mixture	Acre	1,000 sf	Remarks
1	Dry	Little Bluestem	10	0.25	* Use Warm Season planting procedure.
		or Broomsedge			* Roadsides
		Tumble Lovegrass*	1	0.10	* Sand and Gravel Stabilization
		Switchgrass	10	0.25	* Clover requires inoculation with nitrogen-fixing bacteria
		Bush Clover*	2	0.10	
		Red Top	1	0.10	* Rates for this mix are for PLS.
2	Dry	Deertongue	15	0.35	* Use Warm Season planting procedures.
		Broomsedge	10	0.25	* Acid sites/Mine spoil
		Bush Clover*	2	0.10	* Clover requires inoculation with nitrogen-fixing bacteria.
		Red Top	1	0.10	
					*Rates for this mix are for PLS.
3	Dry	Big Bluestem	10	0.25	* Use Warm Season planting procedures.
		Indian Grass	10	0.25	* Eastern Prairie appearance
		Switchgrass	10	0.25	* Sand and Gravel pits.
		Little Bluestem	10	0.25	* Golf Course Wild Areas
		Red Top or	1	0.10	* Sanitary Landfill Cover seeding
		Perennial Ryegrass	10	0.25	* Wildlife Areas
					*OK to substitute Poverty Dropseed in place of Red Top/Ryegrass.
					*Rates for this mix are for PLS.
4	Dry	Flat Pea	25	0.60	* Use Cool Season planting procedures
		Red Top or	2	0.10	* Utility Rights-of-Ways (tends to suppress woody growth)
		Perennial Ryegrass	15	0.35	
5	Dry	Little Bluestem	5	0.10	* Use Warm Season planting procedures.
		Switchgrass	10	0.25	* Coastal sites
		Beach Pea*	20	0.45	* Rates for Bluestein and Switchgrass are for PLS.
		Perennial Ryegrass	10	0.25	
6	Dry - Moist	Red Fescue	10	0.25	* Use Cool Season planting procedure.
		Canada Bluegrass	10	0.25	* Provides quick cover but is non-aggressive; will tend to allow indigenous plant colonization.
		Perennial Ryegrass	10	0.25	
		Red Top	1	0.10	* General erosion control on variety of sites, including forest roads, skid trails and landings.
7	Moist- Wet	Switchgrass	10	0.25	* Use Warm Season planting procedure.
		Virginia Wild Rye	5	0.10	* Coastal plain/flood plain
		Big Bluestem	15	0.35	* Rates for Bluestem and Switchgrass are for PLS.
		Red Top	1	0.10	

Permanent Seeding Mixtures

Seed, Pounds per:

Mix	Site	Seed Mixture	Acre	1,000 sf	Remarks
8	Moist	Creeping Bentgrass	5	0.10	* Use Cool Season planting procedures.
	Wet	Fringed Bromegrass	5	0.10	* Pond Banks
		Fowl Meadowgrass	5	0.10	* Waterways/ditch banks
		Bluejoint Reedgrass or Rice Cutgrass	2	0.10	
		Perennial Ryegrass	10	0.25	
9	Moist	Red Fescue	5	0.10	*Salt Tolerant
	Wet	Creeping Bentgrass	2	0.10	* Fescue and Bentgrass provide low growing appearance, while Switchgrass provides tall cover for wildlife.
		Switchgrass	8	0.20	
		Perennial Ryegrass	10	0.25	
10	Moist	Red Fescue	5	0.10	* Use Cool Season planting procedure.
	Wet	Creeping Bentgrass	5	0.10	* Trefoil requires inoculation with nitrogen fixing bacteria.
		Virginia Wild Rye	8	0.20	
		Wood Reed Grass*	1	0.10	* Suitable for forest access roads, skid trails and other partial shade situations.
		Showy Tick Trefoil*	1	0.10	
11	Moist	Creeping Bentgrass	5	0.10	* Use Cool Season planting procedure.
	Wet	Bluejoint Reed Grass	1	0.10	* Suitable for waterways, pond or ditch banks.
		Virginia Wild Rye	3	0.10	* Trefoil requires inoculation with nitrogen fixing bacteria.
		Fowl Meadow Grass	10	0.25	
		Showy Tick Trefoil*	1	0.10	
		Red Top	1	0.10	
12	Wet	Blue Joint Reed Grass	1	0.10	* Use Cool Season planting procedure.
		Canada Manna Grass	1	0.10	* OK to seed in saturated soil conditions, but not in standing water.
		Rice Cut Grass	1	0.10	
		Creeping Bent Grass	5	0.10	* Suitable as stabilization seeding for created wetland.
		Fowl Meadow Grass	5	0.10	* All species in this mix are native to Massachusetts.
13	Dry -	American Beachgrass 18"		18'	*Vegetative planting with dormant culms, 3-5 culms per planting centers
	Moist			centers	
14	Inter-	Smooth Cordgrass 12-18"		12-18"	* Vegetative planting with transplants.
	Tidal	Saltmeadow Cordgrass		centers	centers

Notes:

* Species such as Tumble Lovegrass, Fringed Bromegrass, Wood Reedgrass, Bush Clover and Beach Pea, while known to be commercially available from specific seed suppliers, may not always be available from your particular seed suppliers. The local Natural Resources Conservation Service office may be able to help with a source of supply. In the event a particular species listed in a mix can not be obtained, however, it may be possible to substitute another species.

Seed mixtures by courtesy of Natural Resources Conservation Service, Amherst, MA

(PLS) Pure Live Seed

Warm Season grass seed is sold and planted on the basis of pure live seed. An adjustment is made to the bulk rate of the seed to compensate for inert material and non-viable seed. Percent of pure live seed is calculated by multiplying the percent purity by the percent germination:
 $(\% \text{ purity}) \times (\% \text{ germination}) = \text{percent PLS.}$

For example, if the seeding rate calls for 10 lbs./acre PLS and the seed lot has a purity of 70% and germination of 75%, the PLS factor is:

$$(.70 \times .75) = .53$$

$$10 \text{ lbs. divided by } .53 = \text{approx. } 19 \text{ lbs.}$$

Therefore, 19 lbs of seed from the particular lot will need to be applied to obtain 10 lbs. of pure live seed.

Special Note

Tall Fescue, Reed Canary Grass, Crownvetch and Birdsfoot Trefoil are no longer recommended for general erosion control use in Massachusetts due to the invasive characteristics of each. If these species are used, it is recommended that the ecosystem of the site be analyzed for the effects species invasiveness may impose. The mixes listed in the above mixtures include either species native to Massachusetts or non-native species that are not perceived to be invasive, as per the Massachusetts Native Plant Advisory Committee.

Wetlands Seed Mixtures

For newly created wetlands, a wetlands specialist should design plantings to provide the best chance of success. Do not use introduced, invasive plants like reed canarygrass (*Phalaris arundinacea*) or purple loosestrife (*Lythrum salicaria*). Using plants such as these will cause many more problems than they will solve.

The following grasses all thrive in wetland situations:

- ☞ Fresh Water Cordgrass (*Spartina pectinata*)
- ☞ Marsh/Creeping Bentgrass (*Agrostis stolonifera*, var. *Palustris*)
- ☞ Broomsedge (*Andropogon virginicus*)
- ☞ Fringed Bromegrass (*Bromus ciliatus*)
- ☞ Blue Joint Reed Grass (*Calamagrostis canadensis*)
- ☞ Fowl Meadow Grass (*Glyceria striata*)
- ☞ Riverbank Wild Rye (*Elymus riparius*)
- ☞ Rice Cutgrass (*Leersia oryzoides*)
- ☞ Stout Wood Reed (*Cinna arundinacea*)
- ☞ Canada Manna Grass (*Glyceria canadensis*)