



May 14, 2020

Walpole Conservation Commission  
135 School Street  
Walpole, MA 02081

**Re: Notice of Intent, 55 Summer Street, Walpole, MA.**

Dear Members of the Commission:

Howard Stein Hudson, on behalf of 55 BH LLC and 55 SS LLC, submit the following Notice of Intent, Site Plan and Supplemental Data for the review and approval of site work within jurisdictional Buffer Zone and resource areas for the proposed combined single family and multifamily residential project, "Cedar Edge" and "Cedar Crossing".

The mostly wooded 54 site-acres consist of uplands, wetland systems, vernal pools and is bordered to the north by the Cedar Swamp Brook and mapped Priority and Estimated Habitats.

The proposal calls for the development of sixty (60) single family detached homes, forty-eight (48) townhomes in four (4) and six (6) unit buildings and one hundred and ninety-two (192) apartment homes within four (4), 4 story structures.

Please see attached materials:

- WPA Form 3 Notice of Intent
- Checklist for Stormwater Report
- Supplemental Data Report dated May 2020
- Site Plan for Proposed Multifamily Development 51,53,55 Summer Street, Walpole last revised 5-1-20.
- USGS Map
- Appendix B Wildlife Habitat Assessments (2)
- Estimated Habitat Map
- MESA letter April 2020
- Mounding Analysis (6 Infiltration basins)
- Project Locus Map with Rare Species

Please do not hesitate to call Howard Stein Hudson's Chelmsford Office with any questions or concerns. I look forward to presenting this project to the Commission at the next available date.

Sincerely,

Katie Enright, P.E.  
Associate Principal



**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

Walpole

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):

55 Summer Street

a. Street Address

Walpole

b. City/Town

02071

Latitude and Longitude:

42.10567N

d. Latitude

71.26473W

e. Longitude

Map 308

f. Assessors Map/Plat Number

Block 52 Lots 56, 60 and portion of 307-52-78

g. Parcel /Lot Number

2. Applicant:

David

a. First Name

Hale

b. Last Name

55 BH LLC/55 SS LLC

c. Organization

6 Lyberty Way Suite 203

d. Street Address

Westford

e. City/Town

MA

f. State

01886

g. Zip Code

978-369-4884

h. Phone Number

978-405-5049

i. Fax Number

dhale@omniproperties.com

j. Email Address

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

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):

Katie

a. First Name

Enright

b. Last Name

Howard Stein Hudson

c. Company

114 Turnpike Road Suite 2C

d. Street Address

Chelmsford

e. City/Town

MA

f. State

01824

g. Zip Code

978-844-5251

h. Phone Number

i. Fax Number

Kenright@hshassoc.com

j. Email address

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

\$52,400.00

a. Total Fee Paid

\$26,187.50

b. State Fee Paid

\$26,212.50

c. City/Town Fee Paid



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**A. General Information** (continued)

6. General Project Description:

The site proposal is to construct 300 residential units in a mixture of townhome, single family home, and apartment structures. Associated site grading, utilities, and site drainage is proposed, a portion of which will be within the outer riparian zone of Cedar Swamp Brook, the 100 ft buffer of a bordering vegetated wetland and three onsite vernal pools. Two wetland crossings are proposed.

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 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:

Norfolk

a. County

37303, 37105

c. Book

b. Certificate # (if registered land)

11, 482

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.



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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 checked="" type="checkbox"/> Bank	113 ft 1. linear feet	73 ft 2. linear feet
b. <input checked="" type="checkbox"/> Bordering Vegetated Wetland	4,683 SF 1. square feet	7,106 SF 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 type="checkbox"/> Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 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	Cedar Swamp Brook 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: 0'-100'=253,178 sf  
100'-200'=217,188 sf

4. Proposed alteration of the Riverfront Area:

71,986 sf	0	71,986 sf
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.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
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 BWV

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

05/2020

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	0.1% / 0.1 acre
	percentage/acreage
(b) outside Resource Area	51% / 28.0 acre
	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/nhesp/regulatory\\_review/mesa/mesa\\_fee\\_schedule.htm](http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm)). Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

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

- (d)  Vegetation cover type map of site
- (e)  Project plans showing Priority & Estimated Habitat boundaries
- (f) OR Check One of the Following
1.  Project is exempt from MESA review.  
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, [http://www.mass.gov/dfwele/dfw/nhesp/regulatory\\_review/mesa/mesa\\_exemptions.htm](http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm); the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)
2.  Separate MESA review ongoing. a. NHESP Tracking # \_\_\_\_\_ b. Date submitted to NHESP \_\_\_\_\_
3.  Separate MESA review completed.  
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?
- a.  Not applicable – project is in inland resource area only      b.  Yes     No

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

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

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

Proposed Multifamily Development

a. Plan Title

Howard Stein Hudson

Katie Enright, P.E.

b. Prepared By

c. Signed and Stamped by

5-1-20

1"=40'

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:

2. Municipal Check Number 1019

3. Check date 5/13/20

4. State Check Number 1017

5. Check date 5/13/20

6. Payor name on check: First Name 55 SS LLC

7. Payor name on check: Last Name



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**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 Don E. Hal Manager 55 04 LLC + 55 34 LLC 2. Date May 13, 2020

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.



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

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**A. Applicant Information**

1. Location of Project:

55 Summer Street  
 a. Street Address  
 Walpole  
 b. City/Town  
 \_\_\_\_\_  
 c. Check number  
 \_\_\_\_\_  
 d. Fee amount

2. Applicant Mailing Address:

David  
 a. First Name  
 Hale  
 b. Last Name  
 55 BH LLC/55 SS LLC  
 c. Organization  
 6 Lyberty Way Suite 203  
 d. Mailing Address  
 Westford  
 e. City/Town  
 MA  
 f. State  
 01886  
 g. Zip Code  
 978-369-4884  
 h. Phone Number  
 978-405-5049  
 i. Fax Number  
 dhale@omniproperties.com  
 j. Email Address

3. Property Owner (if different):

\_\_\_\_\_  
 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).



Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Cat. 2.g.)Point Source	3	x1.5 (river)	\$2250
Cat. 3.b) Each BLDG	45	\$1,050.00	\$47,250
Cat. 4.a) Each Crossing for RD	2	\$1,450.00	\$2,900
<b>Step 5/Total Project Fee:</b>			\$52,400.00
<b>Step 6/Fee Payments:</b>			
Total Project Fee:			\$52,400.00
			a. Total Fee from Step 5
State share of filing Fee:			\$26,187.50
			b. 1/2 Total Fee less \$12.50
City/Town share of filling Fee:			\$26,212.50
			c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

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

Department of Environmental Protection  
Box 4062  
Boston, MA 02211

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

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



# Checklist for Stormwater Report

## A. Introduction

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



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.<sup>1</sup> This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8<sup>2</sup>
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

<sup>1</sup> The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

<sup>2</sup> For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



# Checklist for Stormwater Report

## B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

*Note:* Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

### Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



*Katie L. Enright*  
Signature and Date

5-19-20

## Checklist

**Project Type:** Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



# Checklist for Stormwater Report

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## Checklist (continued)

**LID Measures:** Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
  - Credit 1
  - Credit 2
  - Credit 3
- Use of "country drainage" versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe): \_\_\_\_\_

### Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



# Checklist for Stormwater Report

## Checklist (continued)

### Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

### Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
  - Static
  - Simple Dynamic
  - Dynamic Field<sup>1</sup>
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
  - Site is comprised solely of C and D soils and/or bedrock at the land surface
  - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
  - Solid Waste Landfill pursuant to 310 CMR 19.000
  - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

<sup>1</sup> 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.





# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

### Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
  - Provisions for storing materials and waste products inside or under cover;
  - Vehicle washing controls;
  - Requirements for routine inspections and maintenance of stormwater BMPs;
  - Spill prevention and response plans;
  - Provisions for maintenance of lawns, gardens, and other landscaped areas;
  - Requirements for storage and use of fertilizers, herbicides, and pesticides;
  - Pet waste management provisions;
  - Provisions for operation and management of septic systems;
  - Provisions for solid waste management;
  - Snow disposal and plowing plans relative to Wetland Resource Areas;
  - Winter Road Salt and/or Sand Use and Storage restrictions;
  - Street sweeping schedules;
  - Provisions for prevention of illicit discharges to the stormwater management system;
  - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
  - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
  - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
- Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
- is within the Zone II or Interim Wellhead Protection Area
  - is near or to other critical areas
  - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
  - involves runoff from land uses with higher potential pollutant loads.
- The Required Water Quality Volume is reduced through use of the LID site Design Credits.
- Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
  - The ½" or 1" Water Quality Volume or
  - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

### Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does **not** cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

### Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
  - Limited Project
  - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
  - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
  - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
  - Bike Path and/or Foot Path
  - Redevelopment Project
  - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
  - Construction Period Operation and Maintenance Plan;
  - Names of Persons or Entity Responsible for Plan Compliance;
  - Construction Period Pollution Prevention Measures;
  - Erosion and Sedimentation Control Plan Drawings;
  - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
  - Vegetation Planning;
  - Site Development Plan;
  - Construction Sequencing Plan;
  - Sequencing of Erosion and Sedimentation Controls;
  - Operation and Maintenance of Erosion and Sedimentation Controls;
  - Inspection Schedule;
  - Maintenance Schedule;
  - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



# Checklist for Stormwater Report

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## Checklist (continued)

### Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

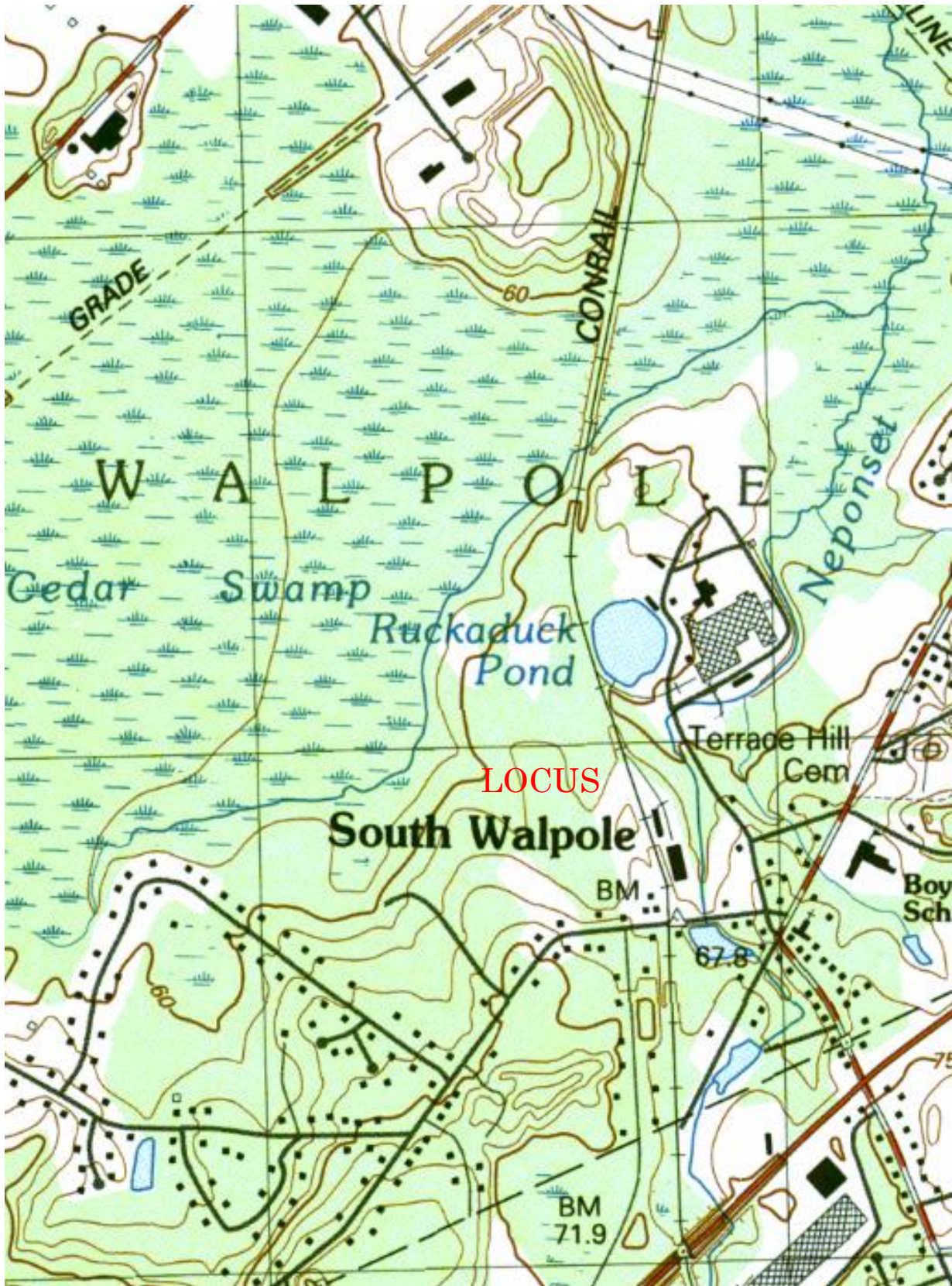
- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

### Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
  - Name of the stormwater management system owners;
  - Party responsible for operation and maintenance;
  - Schedule for implementation of routine and non-routine maintenance tasks;
  - Plan showing the location of all stormwater BMPs maintenance access areas;
  - Description and delineation of public safety features;
  - Estimated operation and maintenance budget; and
  - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
  - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
  - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

### Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.



**Wildlife Habitat Assessment, Appendix B  
Supplemental Narrative  
for  
Bank Crossing 1 and Bank Crossing 2**

**May 14, 2020**

**1.0 Introduction**

The “Cedar Edge” project Site that is the subject of the accompanying Notice of Intent consists of 57.8+/- acres, composed of three accessor’s parcels being combined for the development of the Cedar Edge, Comprehensive Permit (MGL Ch. 40B) residential development. Wetland resource areas on the premises were delineated and reviewed under two ANRAD’s submitted during 2019 for the two Project parcels supporting jurisdictional wetlands; MA DEP File Numbers, 315-1205 and 315-1215. Approximately 17.7 Site-acres consist of palustrine forested wetland draining to Cedar Swamp Brook and the Ruckaduck Pond subdrainages to the Neponset River. Surface drainage is generally from south to north, by way of poorly defined, low-gradient intermittent streams embedded within forested wetlands.

The predominant cover type within the Site is second growth mixed coniferous/deciduous forest and a small open-canopy zone (+/- 1 acre) adjacent to Summer Street where there was a former farm homestead. The westerly portion of the Site (former Cofsky property) supported various agricultural activities until about a half century ago, including a piggery. The north and east portion (former Baker-Hughes parcel) also has a remote agricultural history but was most recently commercially owned, though without any significant use or land disturbance in the last half century or more. Both parcels are therefore predominantly advanced, second growth forest with several modest patches of earlier seral stage, upland scrub habitat.

The Site contains three (3) basins that meet the Massachusetts Division of Fisheries and Wildlife Criteria for vernal pools. All of these are located greater than 100 horizontal feet from any alteration of wetland resource area proposed within the project Site.

The Site has been further described in the respective ANRAD submittal materials and in the Notice of Intent which this Habitat Assessment accompanies. The Project consists of a Comprehensive Permit (MGL Ch. 40B) residential development consisting of three housing types: Single family homes, free standing condominiums and garden style apartment buildings, as well as appurtenances and amenities. The Project is also described elsewhere in the NOI and other submittal materials on record.

Two crossings of jurisdictional wetlands are proposed to provide access to upland parts of the Site. This assessment addresses Crossing 1 (easterly) and Crossing 2 (westerly)

individually within the same document; separate Appendix B checklist documents are provided for the respective, specific alterations of Bank associated with each crossing.

## 2.0 Regulatory Compliance

In March, 2006, Mass DEP published the guidance document, *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands* (the “*Manual*”) which, based on the standards found at 310 CMR 10.60 and thresholds at 310 CMR 10.54(4)(a)5, and 10.56 (4)(a)4, identifies when wildlife habitat evaluations are required under the Act.

Under the Wetlands Protection Act, wildlife habitat is defined as those areas:

*“which due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or overwintering areas, or breeding areas for wildlife”* (see MGL c.131 §40, para. 14).

Thus, the presence of wildlife in a wetland resource area is not the sole factor in evaluating wildlife habitat value. Plant community composition and structure, hydrologic regime, or other characteristics providing “important” features for wildlife must be present. Specifically, it is wetland habitat value and not a particular wildlife species (with the exception of rare species regulated separately at 310 CMR 10.59) that is protected by the Act.

As summarized in the *Manual*, for many projects with smaller alterations, only the Simplified Wildlife Habitat Evaluation (*Manual*, Appendix A) may be required. This simplified evaluation tool provides a convenient way to document the presence of important wildlife habitat features and describes activities that may have significant impacts on wildlife habitat functions. Appendix A may also be used to avoid and minimize important wildlife habitat features during design, and to restore or replicate wildlife habitat. For projects with greater alterations, e.g., those exceeding regulatory thresholds, such as the current matter, the more detailed wildlife habitat evaluation that uses “Appendix B” of the *Manual* as a platform is typically required.

Wildlife habitat evaluation field data forms (App. A or B) provided in the 2006 Guidance document must be completed by a qualified individual(s) on behalf of the Applicant if proposed impacts exceed thresholds identified in the Regulations.

This assessment is prepared in compliance with the requirements at 310 CMR 10.60 (1) (a) and (b), and 10.60 (3) (a) through (h), and addresses wetland habitat features and functions of wetland resource areas proposed to be altered within the Cedar Edge residential development Project in South 3Walpole, Massachusetts.

In the current case, the thresholds triggering a Wildlife Habitat Assessment to demonstrate whether or not proposed actions can be implemented so as to result in “no

adverse effect” on wildlife habitat are relative to Bank (the lesser of, 50 linear feet, or 10% of the on-site resource). The proposed activities exceed the threshold for alteration of Bank, and therefore must be shown to meet the no adverse effect standard in order to be approvable by the Issuing Authority (Walpole Conservation Commission).

Paraphrasing 310 CMR 10.60(1), an alteration(s) of the specified resource area must result in an impact-neutral, or impact-positive condition following, “...two growing seasons of project completion and thereafter...”, with regard to the features of important wildlife habitat lost or impacted.

Two crossings of jurisdictional wetlands are proposed to provide access to the proposed residential development in compliance with State and local requirements.

## **2.0 Alteration of Resource Area – Wetland Crossings 1 and 2**

The proposed site development is predominantly within upland, with the exception of two wetland crossings necessitated for access to upland and the health and safety of future residents. The aggregate alteration of all wetland resource areas has been deliberately limited to less than 5,000 square feet of Bordering Vegetated Wetlands (BVW). Additionally, all alterations of resource area are greater than one-hundred horizontal feet from areas identified as meeting MDFW vernal pool certification criteria.

Two alterations of intermittent stream and BVW equaling 1,996+/- (Crossing 1) and 2,721+/- (Crossing 2) sq. ft. (total = 4,718+/- sq. ft.) are proposed. This Habitat Assessment for Crossings 1 and 2 is necessitated by the alteration of greater than fifty (50) linear feet of inland Bank as provided for in the Performance Standards for that resource at 310 CMR 10.54 (4) (a) 5. The impacts to BVW, and the compensatory replication plan for same are described within the Notice of Intent submitted for the aggregate Project.

The net proposed impact to Bordering Vegetated Wetland is 4,718+/- square feet for the entire Project, inclusive of the embedded Bank resource. The net alteration of Bank is 43 linear feet of stream at Crossing 1, and 76 linear feet of stream at Crossing 2. Utilizing both banks of the intermittent streams the total linear alteration is 86 (Crossing 1) and 152 (Crossing 2) linear feet of Bank for a total of 238 linear feet of Bank. We estimate there is approximately 8,000 linear feet of Bank associated with intermittent streams on the premises.

At this (the lesser of 50 feet or 10 percent) impact threshold, the 2006 *Manual* indicates a “Detailed Wildlife Habitat Evaluation”, also referred to as an “Appendix B” be conducted to assess the impacts proposed and compliance with the applicable performance standards.

The completed Appendix B Wildlife Habitat Evaluation form(s) are appended to this narrative. However, whereas some of the information requirements on the form(s) are



space-limited, elaborations are provided in this narrative with sectional labels corresponding to those found in the Massachusetts DEP Appendix B form document. Similarly, where appropriate, the fillable sections within the form direct the reader to this document.

The scope of this evaluation is predominantly limited, as per the DEP Guidance, to the resource area impact; in this case 86 linear feet of Bank associated with Crossing 1 and 142 linear feet at Crossing 2.

The proposed crossings consist of spanning, bottomless box culverts at each locus. The dimensions and specifications of the crossing structures are provided in the Notice of Intent.

At Crossing 1, the poorly defined stream is intended to be left intact and spanned in place, with embellishment of the Bank and adjacent BVW with cobbles currently available in a windrow from former farming activity near Crossing 1. Crossing 2 will necessarily require realignment of the stream bed and *de novo* manufacturing of the Bank and adjacent land area within the culvert, also utilizing native cobble materials for stability and a naturalistic affect. The extant stream at Crossing 2 was deliberately routed around a historic promontory of fill associated with an old agricultural crossing. In that regard, the sinuous loop created by prior farming activities will be re-aligned to be similar to the presumed historic routing of this drainage.

The crossings are within low-gradient, low velocity sections of poorly defined streams meandering through palustrine forest without evidence of scouring or other indicators of even episodic, energized flow. This condition facilitates the manipulations proposed to accommodate the box culverted crossings. The drainage areas contributing to the crossing points are estimated at 0.013 sq. mi. (Crossing 1) and 0.008 sq. mi. (Crossing 2).

### **3.0 Evaluation Methods**

The impact areas were examined specifically for purposes of preparing this assessment on March 26, 2020. Brian O. Butler, M.S. (Oxbow Associates, Inc.) conducted the site examinations for the Appendix B Habitat Evaluation. Prior to this formal review specifically for preparation of an Appendix B submittal, the areas of proposed wetland alteration were also examined during site visits on: March 4 and 23, 2020 and numerous precedent dates during the delineation of the premises and the planning for the location(s) of the proposed crossings to minimize impact and assure compliance with applicable standards.

Standard methods iterated in the *Manual* were employed in conducting the field work, under sunny conditions on March 26, 2020. The Bank(s) was examined and plant species, and physiographic features were noted and recorded. Soil samples were extracted with an auger and examined at selected points.

Materials used or available in the field included site plans prepared by Howard, Stein, Hudson, Inc. as well as previously generated GIS materials, including orthophotographic plan overlays showing the proposed crossing alignments relative to the flags placed in the field delineating inland Bank. We also utilized the DEP *Manual*, a Dutch auger, Munsell color guide, digital cameras and a 50' field tape.

As habitat features within the proposed impact area were observed and recorded these same features were examined for indications of specific or general habitat for wildlife. Attributes such as burrows and cavities were actively searched for and the physiographic features of the proposed impact area and surrounding habitat were noted.

#### **4.0 General Features of the Crossing Locations**

##### **4.1 Crossing 1**

The features of the Bank at Crossing 1 are generally indistinct and the Bank is a subtle consolidation of cobbles and mucky loam with variable herbaceous vegetation. Linear, seasonal flow is limited to a poorly defined path among the cobbles. Due to low velocity of the flow there is no benthic material coarser than silt and muck at the substrate surface. Surface flow to the crossing point is throttled by an up-gradient (app. 115 feet), six-inch, ductile iron pipe remaining from agricultural road through BVW on the property that conveys most, if not all of the local surface flow to the point of Crossing 1.

Crossing 1 has mossy cobbles, hydrophilic grasses and sparse fern growth within the actual Bank limits. There is one large (est. 1.5 cu. yd.) puddingstone, erratic boulder in the stream at the crossing and scattered cobbles from 4 to 12 inches. None of the potential cover objects (stones) appear to have significant voids beneath. Additionally, the hydroperiod of this part of the stream is too ephemeral to support stream salamanders (e.g., northern two-lined salamander, dusky salamander) or aquatic crustaceans and insects. Similarly, there are no indicators that there is even ephemeral visitation to this location by finfishes; water depth averages one-inch or less in most areas.

There is virtually no vertical Bank within the area of interest; the absence of mammal or other burrows in the feature is therefore not unexpected. The stones within the limits of the Bank and adjacent are fully embedded or otherwise insufficient to provide visitation to this location by finfishes; water depth averages one-inch or less in most areas.



Photo 1. Intermittent stream Crossing 1. (See App. B for locus)

#### 4.2 Crossing 2

The general features at Crossing 2 are also unexceptional, however this locus is a point of an historic agricultural crossing, re-utilized for the current project to minimize impacts to resource area. Essentially, the existing conditions consist of a small peninsula formed by the construction of an archaic farm road. This road apparently displaced the subtle stream course to a point where it was narrowed as a convenience for crossing, without the need for a culvert. At the westerly point of the old road crossing the channel is about four feet wide, an armored with cobbles.



Photo 2. Intermittent stream Crossing 2, view to the east. (See App. B for locus).

## 5.0 DEP Wildlife Habitat Protection Guidance Supplemental Information (Crossings 1 and 2)

### Page 3, Part 2., Section III. Important Habitat Features - Wildlife Food

- **Wetland Food Plants (Crossings 1 & 2)** Both Crossing 1 and 2 occur in areas of manipulated (during agricultural use) low gradient, low-flow, intermittent, short-hydroperiod streams. Both sites have cobbles forming the majority of the Bank feature with muck and an absence of aquatic plants typically associated with the production of wildlife food; either attributable to seed or plant roots or thallus.

In that regard both sites are absent significant food sources for wildlife.

- **Important Upland/Wetland Food Plants** are generally absent from the proposed impact areas. Japanese barberry seeds are eaten by some species but are not a significant food source. Winterberry holly occurs in modest amounts, predominantly outside the Bank resource and in an understory condition reducing fruiting potential. There are no mature oaks, hickory or pine trees in the resource impact area to produce hard mast. There is no substantial mast/berry source within the areas of proposed impact.

- **Shrub thickets or Streambeds.** There are no monocultural or mixed species “thickets” of food producing shrubs, particularly within the Bank resource in the impact sites. The stream flow duration at both sites is limited; Crossing 2 was without flow or continuous surface water on March 23, 2020. Neither site is an area typically utilized by woodcock or similar species for feeding.

- **Shrub and/or Herbaceous Vegetation Suitable for Veery Nesting** are sparsely present within the areas of impact, however, no typical configurations (height, aspect, context) for veery were observed.

### Page 6, Part 2., Section IV-A. Landscape Context

#### Forest Continuity

This project Site lies within approximately fifty acres of second growth mixed forest and abuts approximately twenty additional, predominantly coniferous woods and a significant area of coniferous palustrine woodlands. The wetlands that contain the two crossing locations are low-gradient first-order drainages seasonally conveying surface water toward Cedar Swamp Brook, 1,200 feet to the north. The crossings, in isolation will not present significant alterations to forest continuity in that large areas of the Site

are beyond WPA jurisdiction or within Buffer Zone and subject to alteration in full regulatory compliance.

### **Page 8, Part 2., Section VI. Quantification Table for Important Habitat Characteristics**

Within the proposed impact areas we noted an absence of significant biophysical features of significance to wildlife.

Mature trees within the resource area impacts are few in number. Both sites each have a significant dead snag in proximity to the resource impact, but not within. We observed no significant cavities in either specimen; most likely attributable to the advanced state of decay and large limb loss in both snags. Remnants of these can be dropped in or near-in place to provide coarse woody debris within the wetland/buffer zone.

Small or medium-sized mammal burrows are absent from both crossing sites. This is most readily explained by the poorly defined Bank feature, that has little verticality to encourage or support burrowing by fossorial mammals. The graduated, poorly defined Bank in each locus does not provide a vertical, burrowable feature above ground/surface water to support this activity or use.

#### **5.1 Description of Proposed Impact Area**

The areas of proposed wetland impacts lie within historically manipulated, poorly defined areas of inland Bank. Both areas are subject to limited, winter and spring hydroperiods owing to their limited contributing watersheds. Crossing 2 was historically a site of a farm road crossing where a broad section of unconsolidated surface flow was compressed into a small (3' wide), manufactured (with cobbles) channel. Crossing 1 is bounded by windrows of three, to six inch cobbles, gathered from adjacent pastures and disposed of near the wetland where the land was less valuable to agriculture.

Neither site has a suitable hydroperiod to support typical aquatic species associated with southern New England streams such as: Caddis flies, black flies, May flies, stone flies, two-lined salamander and dusky salamander. In that regard and in other aspects, both crossing locations are unexceptional with regard to palpable, specific wildlife habitat attributes. These localities were chosen both for remoteness from significant features (vernal pool) as well as minimization of resource area alteration. They represent historically manipulated sites subject to invasive vegetation and without physiographic features associated with more significant and persistent streams (Banks) that are capable of providing biophysical features of significance to wildlife habitat values as provided for in the *Manual*.

## **6.0 Compliance With Performance Standards (310 CMR 10.60)**

The proposed impact to inland Bank in excess of allowable thresholds, is presumed to be significant to the statutory interests of the Massachusetts Wetlands Protection Act, (MGL Ch. 131A), excepting when the Bank feature(s) is examined in compliance with Departmental Guidance and found to belie the threshold of significance.

In the above assessments we have established that the proposed work within an area of forested wetland will not impact inland Bank containing or supporting significant

habitat attributes for native wildlife. A wetland replication plan, providing a 1.5:1 compensatory wetland ratio for BVW impacts is proposed (see Notice of Intent). These areas will provide greater plant diversity and early successional woody wetland habitat than the poorly defined areas of intermittent stream flow. Crossing 1 will remain largely intact, with embellishment of the existing bank with locally gathered cobbles. Similarly, Crossing 2 will be reconstructed using the same on-site cobble materials to establish a new Bank feature within the oversized box culvert at that location.

## **7.0 Materials Consulted or Reviewed**

Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C., Jamestown, ND: Northern Prairie Wildlife Research Center Home Page.  
<http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.htm> (Version 04DEC98).

Golet, F.C., A.J.K. Calhoun, W.R. DeTagon, D.J. Lowry and A.J. Gold, 1993. *Ecology of Red Maple Swamps in the Glaciated Northeast: A Community Profile*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Biological Report No. 12,.151 pp.

Massachusetts Department of Environmental Protection. 2006. *Massachusetts Wildlife Habitat Protection Guidance for Inland Wetlands*. MA DEP, Boston. 64 pp.

## **8.0 Appendixes**

**Appendix A, MA DEP Detailed Wildlife Habitat Evaluation Forms, 8 pp.,  
Crossing 1 and Crossing 2.**

**Appendix B, Crossing Locations, 2019 Orthophotograph, 1"=50'.**

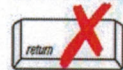


# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 1. Summary Sheet

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



Cedar Edge - Proposed Residential Subdivision

Project Name  
55 SUMMER ST, WALPOLE MA  
Location  
43 LINEAR FT OF INTERMITTENT STREAM/86 LINEAR FT OF BANK  
Size of Area Being Impacted  
03/26/2020  
Date

Impact Areas (linear feet, square feet, or acres for each of the impact areas within the site)

Name	Waterbody/ Waterway	Wetland	Upland*	Total Area
1. Int. Stream Crossing 1	Unnamed	A	-	1996 BVW/86' Bank
2.				
3.				
4.				
5.				
6.				
7.				

\*Riverfront Area/BLSF

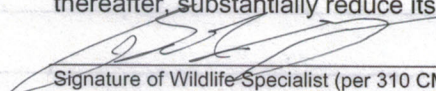
Attach Sketch map and/or photos of the Impact Areas

Narrative Description of Site (attach separate page if necessary)

Intermittent stream in second growth former agricultural area. See Narrative for description.

### Certification

I hereby certify that this project has been designed to avoid, minimize, and mitigate adverse effects on wildlife habitat, and that it will not, following two growing seasons of project completion and thereafter, substantially reduce its capacity to provide important wildlife habitat functions.

  
Signature of Wildlife Specialist (per 310 CMR 10.60 (1) (b))

Brian O. Butler, M.S.

Typed or Printed Name



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

# **Wildlife Habitat Protection Guidance**

## **Appendix B: Detailed Wildlife Habitat Evaluation**

### **Part 2. Field Data Form (for each wetland or non-wetland resource area)**

#### **I. General Information**

55 SUMMER ST, WALPOLE, MA 02071

Project Location (from NOI page 1)

CROSSING 1

Impact Area (number/name)

3/26/20, 3/23/20 and numerous planning visits.

Date(s) of Site Visit(s) and Data Collection

Sunny, low 50's.

Weather Conditions During Site Visit (if snow cover, include depth)

Brian O. Butler, M.S.

05/13/20

Person completing form per 310 CMR 10.60(1)(b)

Date this form was completed

The information on this data sheet is based on my observations unless otherwise indicated

Signature

#### **II. Site Description (complete A or B under Classification - see instructions for full description)**

##### **A. Classification**

##### **1. For Wetland Resource Areas, complete the following:**

System: PFO1 - Palustrine

Subsystem: \_\_\_\_\_

Class: Forested (FO)

Subclass: \_\_\_\_\_

1 - Broad-leaved Deciduous

##### **Hydrology/Water Regime**

Permanently flooded

Saturated

Intermittently exposed

Temporarily flooded

Semi-permanently flooded

Intermittently flooded

Seasonally flooded

Artificially flooded

##### **2. For Riverfront or Bordering Land Subject to Flooding Resource Areas, complete the following. Use a terrestrial classification system such as one of the two listed below:**

- a. "Classification of the Natural Communities of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. Kearsley, MA DFW NHESP, Westborough, MA. July 2000. ([Department of Fish & Game Website](#))
- b. "New England Wildlife: Habitat, Natural History, and Distribution" by Richard M. DeGraaf and Deborah D. Rudis, USDA Forest Service, Northeastern Forest Experiment Station. General Technical Report NE-108. August 1992. 491 pages.

n/a

Community Name

Vegetation Description

Physical Description





# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

#### B. Inventory (Plant community)

% Cover:                 
Trees (> 20')      Shrubs (< 20')      Woody vines      Mosses      Herbaceous

Plant Lists (species that comprise 10% or more of the vegetative cover in each strata; "\*" designates a dominant plant species for the strata):

Strata	Plant Species	Strata	Plant Species
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

#### C. Inventory (Soils)

Soil Survey Unit \_\_\_\_\_ Drainage Class \_\_\_\_\_

Texture (upper part) \_\_\_\_\_ Depth \_\_\_\_\_

Depth to Water Table \_\_\_\_\_

### III. Important Habitat Features (complete for all resource areas)

If the following habitat characteristics are present, describe & quantify them on a separate sheet & attach.

#### Wildlife Food

Important Wetland/Aquatic Food Plants (smartweeds, pondweeds, wild rice, bulrush, wild celery)

Abundant                       Present                       Absent

Important Upland/Wetland Food Plants (hard mast and fruit/berry producers)

Abundant                       Present                       Absent

Shrub thickets or streambeds with abundant earthworms (American woodcock)

Present                       Absent

Shrub and/or herbaceous vegetation suitable for veery nesting

Present                       Absent



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

Number of trees (live or dead) > 30" DBH: \_\_\_\_\_

Number (or density) of Standing Dead Trees (potential for cavities and perches):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Number of Tree Cavities in trunks or limbs of:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Small mammal burrows

Abundant                       Present                       Absent

Cover/Perches/Basking/Denning/Nesting Habitat

Dense herbaceous cover (voles, small mammals, amphibians & reptiles)

Large woody debris on the ground (small mammals, mink, amphibians & reptiles)

Rocks, crevices, logs, tree roots or hummocks under water's surface (turtles, snakes, frogs)

Rocks, crevices, fallen logs, overhanging branches or hummocks at, or within 1m above the water's surface (turtles, snakes, frogs, wading birds, wood duck, mink, raccoon)

Rock piles, crevices, or hollow logs suitable for:

otter                       mink                       porcupine                       bear                       bobcat                       turkey vulture

Live or dead standing vegetation overhanging water or offering good visibility of open water (e.g., osprey, kingfisher, flycatchers, cedar waxwings)

Depressions that may serve as seasonal (vernal/autumnal) pools

Present                       Absent

Standing water present at least part of the growing season, suitable for use by

Breeding amphibians                       Non-breeding amphibians (foraging, re-hydration)

Turtles                       Foraging waterfowl

Sphagnum hummocks or mats, moss-covered logs or saturated logs, overhanging or directly adjacent to pools of standing water in spring (four-toed salamander)

Present                       Absent



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

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### Part 2. Field Data Form (continued)

Important habitat characteristics (if present, describe and quantify them on a separate sheet)

Medium to large (> 6"), flat rocks within a stream (cover for stream salamanders and nesting habitat for spring & two-lined salamanders)

Present  Absent

Flat rocks and logs on banks or within exposed portions of streambeds (cover for stream salamanders and nesting habitat for dusky salamanders)

Present  Absent

Underwater banks of fine silt and/or clay (beaver, muskrat, otter)

Present  Absent

Undercut or overhanging banks (small mammals, mink, weasels)

Present  Absent

Vertical sandy banks (bank swallow, kingfisher)

Present  Absent

Areas of ice-free open water in winter

Present  Absent

Mud flats

Present  Absent

Exposed areas of well-drained, sandy soil suitable for turtle nesting

Present  Absent

Wildlife dens/nests (if present, describe & quantify them on the back of this sheet)

Turtle nesting sites

Present  Absent

Bank swallow colony

Present  Absent

Nest(s) present of

Bald Eagle  Osprey  Great Blue Heron

Den(s) present of

Otter  Mink  Beaver



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

Project area is within:

- 100' of beaver, mink or otter den, bank swallow colony or turtle nesting area
- 200' of Great Blue Heron or osprey nest(s)
- 1400' of a Bald Eagle nest<sup>1</sup>

Emergent Wetlands (if present, describe & quantify them on a separate sheet)

Emergent wetland vegetation at least seasonally flooded during the growing season (wood duck, green heron, black-crowned night heron, king rail, Virginia rail, coot, etc.)

Flooded > 5 cm  Present  Absent

Flooded > 25 cm (pied-billed grebe)  Present  Absent

Persistent emergent wetland vegetation at least seasonally flooded during the growing season (mallard, American bittern, sora, common snipe, red-winged blackbird, swamp sparrow, marsh wren)

Flooded > 5 cm  Present  Absent

Flooded > 25 cm (least bittern, common moorhen)  Present  Absent

Cattail emergent wetland vegetation at least seasonally flooded during the growing season

Flooded > 5 cm (marsh wren)  Present  Absent

Flooded > 25 cm (least bittern, common moorhen)  Present  Absent

Fine-leaved emergent vegetation (grasses and sedges) at least seasonally flooded during the growing season (common snipe, spotted sandpiper, sedge wren)

Flooded > 5 cm  Present  Absent

Flooded > 25 cm (least bittern, common moorhen)  Present  Absent

#### IV. Landscape Context

A. **Habitat Continuity** (if present, describe the landscape context on a separate sheet and its importance for area-sensitive species)

- |   |                     |                              |                             |
|---|---------------------|------------------------------|-----------------------------|
| Is the impact area part of an emergent marsh at least | 1.0 acre in size?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (marsh and waterbirds)                                | 2.0 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 5.0 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 10.0 acres in size? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

<sup>1</sup> 1400 feet is the distance used by NHESP for evaluating potential disturbance impacts on eagle nests under MESA. Keep in mind, however, that this doesn't give jurisdiction within 1400' of an eagle's nest; it only identifies it on the checklist so that adverse effects can be avoided if work in a resource area is within 1400 feet.



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

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### Part 2. Field Data Form (continued)

- |   |                     |                              |                             |
|---|---------------------|------------------------------|-----------------------------|
| Is the impact area part of a wetland complex at least                                     | 2.5 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (turtles, frogs, waterfowl, mammals)  | 5.0 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 10.0 acres in size? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 25.0 acres in size? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| For upland resource areas is the impact area part of contiguous forested habitat at least |                     |                              |                             |
| (forest interior nesting birds)   | 50 acres in size?   | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 100 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 250 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
|   | 500 acres in size?  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (grassland nesting birds)   | > 1.0 acre in size? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| (special habitat such as gallery floodplain forest, alder thicket, etc.)                  | > 1.0 acre in size? | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

### B. Connectivity with adjoining natural habitats

- No direct connections to adjacent areas of wildlife habitat (little connectivity function)
- Connectors numerous or impact area is embedded in a large area of natural habitat (limited connectivity function)
- Impact area contributes to a limited number of connectors to adjacent areas of habitat (somewhat important for connectivity function)
- Impact area serves as *part of* a sole connector to adjacent areas of habitat (important for connectivity function)
- Impact area serves as *only* connector to adjacent areas of habitat (very important for connectivity function)

### V. Habitat Degradation (describe degradation and wildlife impacts on the back of the sheet)

- Evidence of significant chemical contamination
- Evidence of significant levels of dumping
- Evidence of significant erosion or sedimentation problems
- Significant invasion of exotic plants (e.g., purple loosestrife, *Phragmites*, glossy buckthorn)
- Disturbance from roads or highways  Other human disturbance
- Is the site the only resource area in the vicinity of an otherwise developed area

Note: These are not the only important habitat features that may be observed on a site. If the wildlife specialist identifies other features they should be noted in the application.



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (continued)

#### VI. Quantification Table for Important Habitat Characteristics

Habitat Characteristic	Amount Impacted in Impact Area	Current (entire site)	Post-Construction (entire site)
Example: standing dead trees 6-12" dbh	4	12	8

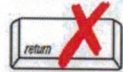


# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 1. Summary Sheet

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



Cedar Edge - Proposed Residential Subdivision

Project Name

55 SUMMER ST, WALPOLE MA

Location

76 LINEAR FT OF INTERMITTENT STREAM/152 LINEAR FT OF BANK

03/26/2020

Size of Area Being Impacted

Date

Impact Areas (linear feet, square feet, or acres for each of the impact areas within the site)

Name	Waterbody/ Waterway	Wetland	Upland*	Total Area
1. Int. Stream Crossing 2	Unnamed	B	-	2727 BVW/152' Bank
2.				
3.				
4.				
5.				
6.				
7.				

\*Riverfront Area/BLSF

Attach Sketch map and/or photos of the Impact Areas

Narrative Description of Site (attach separate page if necessary)

Intermittent stream in second growth former agricultural area. See Narrative for description.

### Certification

I hereby certify that this project has been designed to avoid, minimize, and mitigate adverse effects on wildlife habitat, and that it will not, following two growing seasons of project completion and thereafter, substantially reduce its capacity to provide important wildlife habitat functions.

Signature of Wildlife Specialist (per 310 CMR 10.60 (1) (b))

Brian O. Butler, M.S.

Typed or Printed Name



# Wildlife Habitat Protection Guidance

## Appendix B: Detailed Wildlife Habitat Evaluation

### Part 2. Field Data Form (for each wetland or non-wetland resource area)

#### I. General Information

55 SUMMER ST, WALPOLE, MA 02071

Project Location (from NOI page 1)

CROSSING 2

Impact Area (number/name)

3/26/20, 3/23/20 and numerous planning visits.

Date(s) of Site Visit(s) and Data Collection

Sunny, low 50's.

Weather Conditions During Site Visit (if snow cover, include depth)

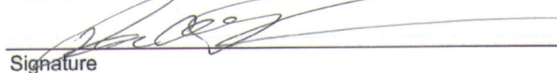
Brian O. Butler, M.S.

05/13/20

Person completing form per 310 CMR 10.60(1)(b)

Date this form was completed

The information on this data-sheet is based on my observations unless otherwise indicated



Signature

#### II. Site Description (complete A or B under Classification - see instructions for full description)

##### A. Classification

1. For Wetland Resource Areas, complete the following:

System: PFO1 - Palustrine Subsystem: \_\_\_\_\_  
Class: Forested (FO) Subclass: 1 - Broad-leaved Deciduous

##### Hydrology/Water Regime

- |  |   |
|--|---|
| <input type="checkbox"/> Permanently flooded           | <input type="checkbox"/> Saturated              |
| <input type="checkbox"/> Intermittently exposed        | <input type="checkbox"/> Temporarily flooded    |
| <input type="checkbox"/> Semi-permanently flooded      | <input type="checkbox"/> Intermittently flooded |
| <input checked="" type="checkbox"/> Seasonally flooded | <input type="checkbox"/> Artificially flooded   |

2. For Riverfront or Bordering Land Subject to Flooding Resource Areas, complete the following.  
Use a terrestrial classification system such as one of the two listed below:

- "Classification of the Natural Communities of Massachusetts (Draft)" by Patricia C. Swain and Jennifer B. Kearsley, MA DFW NHESP, Westborough, MA. July 2000. ([Department of Fish & Game Website](#))
- "New England Wildlife: Habitat, Natural History, and Distribution" by Richard M. DeGraaf and Deborah D. Rudis, USDA Forest Service, Northeastern Forest Experiment Station. General Technical Report NE-108. August 1992. 491 pages.

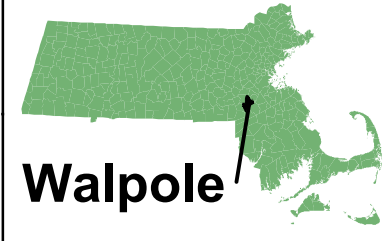
n/a

Community Name

Vegetation Description

Physical Description





Walpole

Appendix B

Wildlife Habitat Assessment  
Cedar Edge  
Walpole, MA

2019 Orthophoto  
May 14, 2020

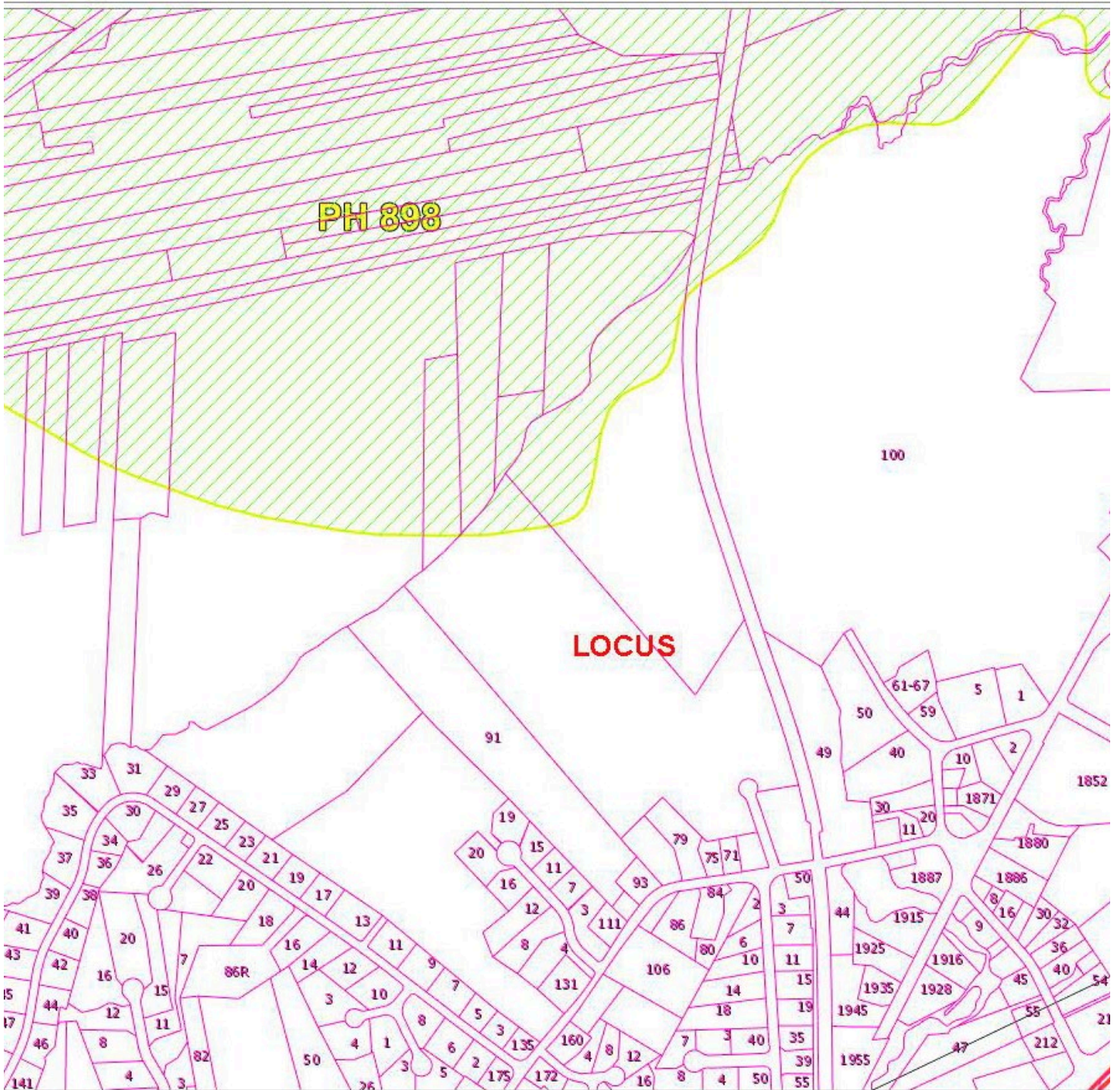


0 50 100  
Feet

Legend

- Bank Flag
- Bank
- Vernal Pool
- Wetland line
- WetlandLine







MASSWILDLIFE

DIVISION OF  
**FISHERIES & WILDLIFE**

1 Rabbit Hill Road, Westborough, MA 01581

p: (508) 389-6300 | f: (508) 389-7890

**MASS.GOV/MASSWILDLIFE**

April 1, 2020

David Hale  
55 BH LLC  
6 Liberty Way, Suite 203  
Westford MA 01886

RE: Project Location: 55 Summer Street, Walpole  
Project Description: Residential subdivision  
NHESP File No.: **19-38660**

Dear Applicant:

Thank you for submitting the MESA Project Review Checklist, site plans (dated January 10, 2020) and other required materials to the Natural Heritage and Endangered Species Program of the MA Division of Fisheries & Wildlife (the "Division") for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

Based on a review of the information that was provided and the information that is currently contained in our database, the Division has determined that this project, as currently proposed, **will not result in a prohibited Take** of state-listed rare species. This determination is a final decision of the Division of Fisheries & Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Emily Holt, Endangered Species Review Assistant, at (508) 389-6385.

Sincerely,

A handwritten signature in black ink that reads "Everose Schlüter".

Everose Schlüter, Ph.D.  
Assistant Director

cc: Brian Butler, Oxbow Associates, Inc.

MASSWILDLIFE

POND 1

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin.

Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated. Cells highlighted in yellow are values that can be changed by the user. Cells highlighted in red are output values based on user-specified inputs. **The user MUST click the blue "Re-Calculate Now" button each time ANY of the user-specified inputs are changed** otherwise necessary iterations to converge on the correct solution will not be done and values shown will be incorrect. Use consistent units for all input values (for example, feet and days)

Pond #1

use consistent units (e.g. feet & days or inches & hours)

**Conversion Table**

inch/hour	feet/day
0.67	1.33
2.00	4.00
hours	days
36	1.50

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

**Input Values**

0.4820	R
0.260	Sy
4.82	K
121.000	x
17.000	y
1.000	t
50.000	hi(0)

**Recharge (infiltration) rate (feet/day)**  
**Specific yield, Sy (dimensionless, between 0 and 1)**  
**Horizontal hydraulic conductivity, Kh (feet/day)\***  
**1/2 length of basin (x direction, in feet)**  
**1/2 width of basin (y direction, in feet)**  
**duration of infiltration period (days)**  
**initial thickness of saturated zone (feet)**

50.906	h(max)
0.906	Δh(max)

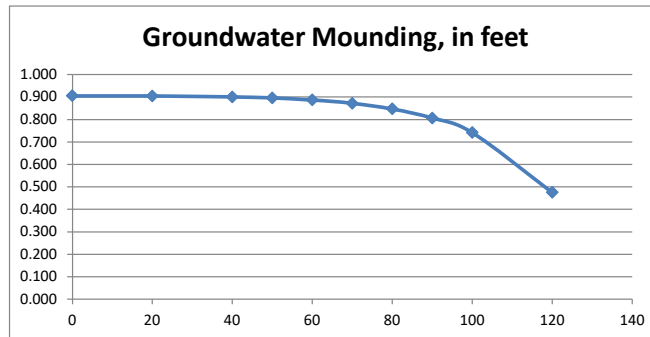
**maximum thickness of saturated zone (beneath center of basin at end of infiltration period)**  
**maximum groundwater mounding (beneath center of basin at end of infiltration period)**

Ground-water Mounding, in feet  
 Distance from center of basin in x direction, in feet

0.906	0
0.905	20
0.901	40
0.896	50
0.887	60
0.872	70
0.847	80
0.807	90
0.742	100
0.475	120



**Re-Calculate Now**



**Disclaimer**

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

POND 2

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin.

Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

Cells highlighted in yellow are values that can be changed by the user. Cells highlighted in red are output values based on user-specified inputs. **The user MUST click the blue "Re-Calculate Now" button each time ANY of the user-specified inputs are changed** otherwise necessary iterations to converge on the correct solution will not be done and values shown will be incorrect. Use consistent units for all input values (for example, feet and days)

Pond #2

use consistent units (e.g. feet & days or inches & hours)

**Conversion Table**

Input Values

0.4820	R
0.260	Sy
4.82	K
134.000	x
24.000	y
1.000	t
50.000	hi(0)

**Recharge (infiltration) rate (feet/day)**  
**Specific yield, Sy (dimensionless, between 0 and 1)**  
**Horizontal hydraulic conductivity, Kh (feet/day)\***  
**1/2 length of basin (x direction, in feet)**  
**1/2 width of basin (y direction, in feet)**  
**duration of infiltration period (days)**  
**initial thickness of saturated zone (feet)**

inch/hour	feet/day
0.67	1.33
2.00	4.00
hours	days
36	1.50

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

50.906	h(max)
0.906	Δh(max)

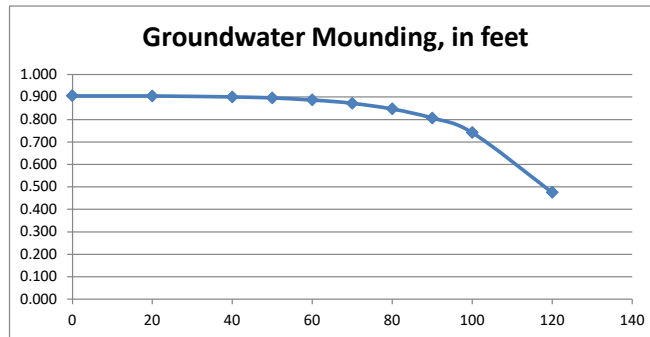
**maximum thickness of saturated zone (beneath center of basin at end of infiltration period)**  
**maximum groundwater mounding (beneath center of basin at end of infiltration period)**

Ground-water Mounding, in feet  
 Distance from center of basin in x direction, in feet

0.906	0
0.905	20
0.901	40
0.896	50
0.887	60
0.872	70
0.847	80
0.807	90
0.742	100
0.475	120



Re-Calculate Now



**Disclaimer**

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POND 3

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

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Pond #3	Input Values	Parameter	Unit	Conversion Table
	0.4820	R	Recharge (infiltration) rate (feet/day)	inch/hour    feet/day
	0.260	Sy	Specific yield, Sy (dimensionless, between 0 and 1)	0.67    1.33
	4.82	K	Horizontal hydraulic conductivity, Kh (feet/day)*	2.00    4.00
	115.000	x	1/2 length of basin (x direction, in feet)	hours    days
	25.000	y	1/2 width of basin (y direction, in feet)	36    1.50
	1.000	t	duration of infiltration period (days)	
	50.000	hi(0)	initial thickness of saturated zone (feet)	
	50.906	h(max)	maximum thickness of saturated zone (beneath center of basin at end of infiltration period)	
	0.906	Δh(max)	maximum groundwater mounding (beneath center of basin at end of infiltration period)	

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

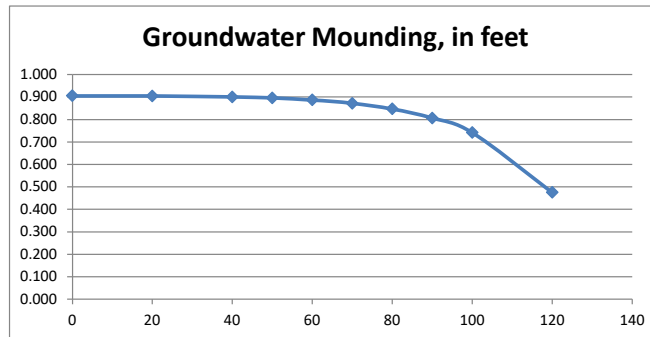
Ground-water Mounding, in feet

Distance from center of basin in x direction, in feet

0.906	0
0.905	20
0.901	40
0.896	50
0.887	60
0.872	70
0.847	80
0.807	90
0.742	100
0.475	120



Re-Calculate Now



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POND 4

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

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Pond #4

use consistent units (e.g. feet & days or inches & hours)

**Conversion Table**

Input Values

1.6540	R
0.260	Sy
16.54	K
62.000	x
21.000	y
1.000	t
50.000	hi(0)

**Recharge (infiltration) rate (feet/day)**  
**Specific yield, Sy (dimensionless, between 0 and 1)**  
**Horizontal hydraulic conductivity, Kh (feet/day)\***  
**1/2 length of basin (x direction, in feet)**  
**1/2 width of basin (y direction, in feet)**  
**duration of infiltration period (days)**  
**initial thickness of saturated zone (feet)**

inch/hour    feet/day

0.67    1.33

2.00    4.00

hours    days

36    1.50

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

50.906	h(max)
0.906	Δh(max)

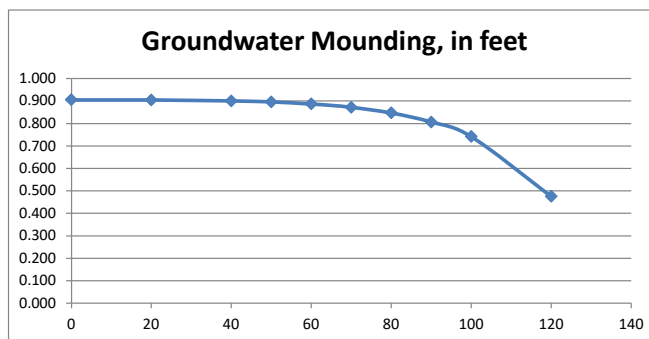
**maximum thickness of saturated zone (beneath center of basin at end of infiltration period)**  
**maximum groundwater mounding (beneath center of basin at end of infiltration period)**

Ground-water Mounding, in feet    Distance from center of basin in x direction, in feet

0.906	0
0.905	20
0.901	40
0.896	50
0.887	60
0.872	70
0.847	80
0.807	90
0.742	100
0.475	120



Re-Calculate Now



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POND 5

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

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Pond #5

use consistent units (e.g. feet & days or inches & hours)

**Conversion Table**

inch/hour    feet/day

0.67        1.33

2.00        4.00

hours        days

36            1.50

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

Input Values

0.4820

R

Recharge (infiltration) rate (feet/day)

0.260

Sy

Specific yield, Sy (dimensionless, between 0 and 1)

4.82

K

Horizontal hydraulic conductivity, Kh (feet/day)\*

66.000

x

1/2 length of basin (x direction, in feet)

14.000

y

1/2 width of basin (y direction, in feet)

1.000

t

duration of infiltration period (days)

50.000

hi(0)

initial thickness of saturated zone (feet)

50.906

h(max)

maximum thickness of saturated zone (beneath center of basin at end of infiltration period)

0.906

Δh(max)

maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-

Distance from

water

center of basin

Mounding, in

in x direction, in

feet

feet

0.906

0

0.905

20

0.901

40

0.896

50

0.887

60

0.872

70

0.847

80

0.807

90

0.742

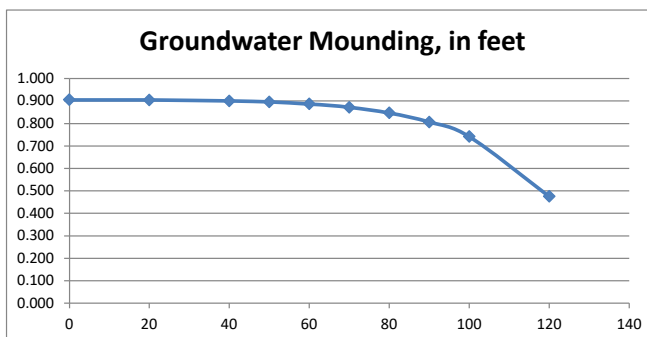
100

0.475

120



Re-Calculate Now



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POND 6

This spreadsheet will calculate the height of a groundwater mound beneath a stormwater infiltration basin. More information can be found in the U.S. Geological Survey Scientific Investigations Report 2010-5102 "Simulation of groundwater mounding beneath hypothetical stormwater infiltration basins".

The user must specify infiltration rate (R), specific yield (Sy), horizontal hydraulic conductivity (Kh), basin dimensions (x, y), duration of infiltration period (t), and the initial thickness of the saturated zone (hi(0)), height of the water table if the bottom of the aquifer is the datum). For a square basin the half width equals the half length (x = y). For a rectangular basin, if the user wants the water-table changes perpendicular to the long side, specify x as the short dimension and y as the long dimension. Conversely, if the user wants the values perpendicular to the short side, specify y as the short dimension, x as the long dimension. All distances are from the center of the basin. Users can change the distances from the center of the basin at which water-table aquifer thickness are calculated.

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Stormtech System

use consistent units (e.g. feet & days or inches & hours)

**Conversion Table**

Input Values

0.4820	R
0.260	Sy
4.82	K
52.000	x
19.000	y
1.000	t
50.000	hi(0)

**Recharge (infiltration) rate (feet/day)**  
**Specific yield, Sy (dimensionless, between 0 and 1)**  
**Horizontal hydraulic conductivity, Kh (feet/day)\***  
**1/2 length of basin (x direction, in feet)**  
**1/2 width of basin (y direction, in feet)**  
**duration of infiltration period (days)**  
**initial thickness of saturated zone (feet)**

inch/hour	feet/day
0.67	1.33
2.00	4.00
hours	days
36	1.50

In the report accompanying this spreadsheet (USGS SIR 2010-5102), vertical soil permeability (ft/d) is assumed to be one-tenth horizontal hydraulic conductivity (ft/d).

50.906	h(max)
0.906	Δh(max)

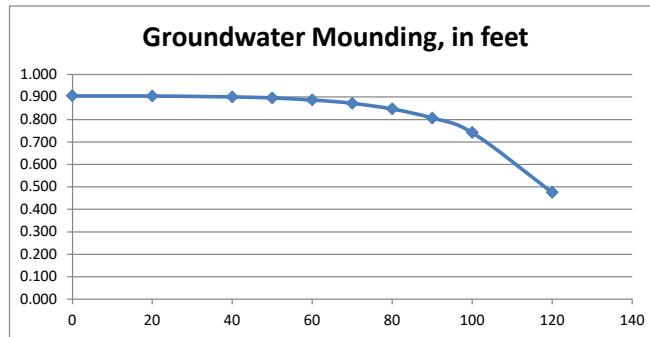
**maximum thickness of saturated zone (beneath center of basin at end of infiltration period)**  
**maximum groundwater mounding (beneath center of basin at end of infiltration period)**

Ground-water Mounding, in feet  
 Distance from center of basin in x direction, in feet

0.906	0
0.905	20
0.901	40
0.896	50
0.887	60
0.872	70
0.847	80
0.807	90
0.742	100
0.475	120

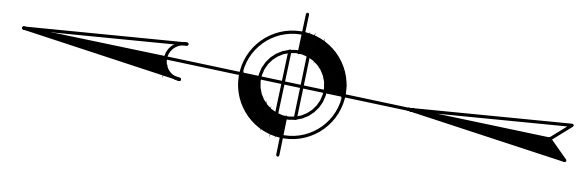


Re-Calculate Now



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PREPARED FOR:  
**56 BH LLC**  
 6 LYBERTY WAY, SUITE 203  
 WESTFORD, MA 01886

**PROPOSED MULTIFAMILY  
 DEVELOPMENT**  
 SUMMER STREET  
 WALPOLE, MA

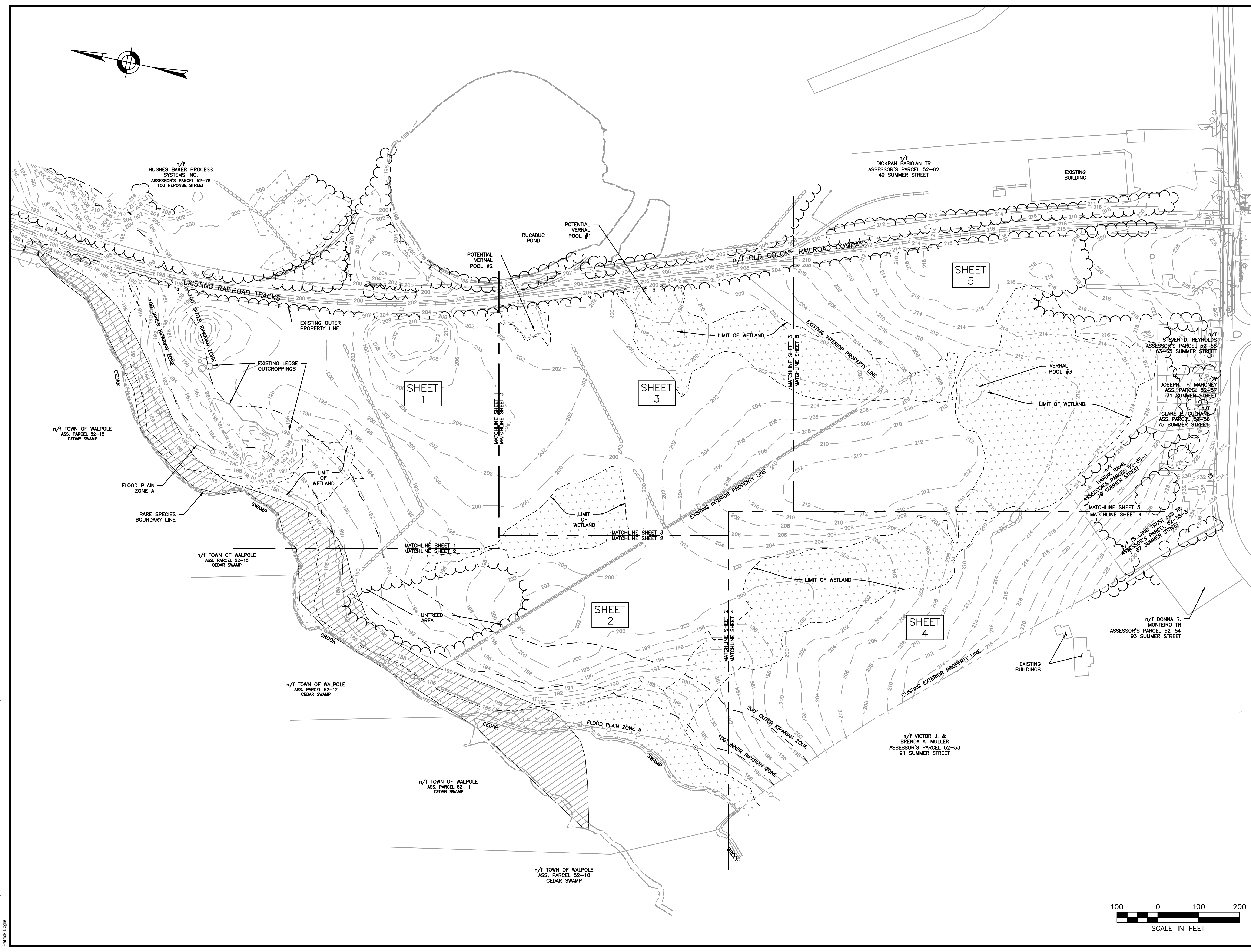
REVISIONS:

NO	BY	DATE	DESCRIPTION
1	PB	5/1/20	REV. SITE PLANS
2	PB	5/8/20	REV. PER CON COM

SITE PLAN

LOCUS PLAN

DATE:	JANUARY 10, 2020
PROJECT NUMBER:	19097
DESIGNED BY:	PB/KE/KF
DRAWN BY:	PB/KF
CHECKED BY:	KE
	C.3



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