Bay Colony Group, Inc.
Professional Civil Engineers & Land Surveyors

4 School Street, PO Box 9136
Foxborough, Massachusetts 02035
Telephone (508) 543-3939 • Fax (508) 543-8866
E-mail: mailbox@baycolonygroup.com

NOTICE OF INTENT
WETLANDS PROTECTION ACT
MASS G.L.C. 131, SECTION 40

61 East Belcher Road
Foxborough, MA

November, 2022

PREPARED FOR: Blue Diamond Realty Trust
73 East Belcher Road
Foxborough, MA 02035

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November 10, 2022

Mr. Robert Boette, Chair
Foxborough Conservation Commission
40 South Street
Foxborough, MA 02035

RE: 61 East Belcher Road
FOXBOROUGH, MA

Dear Mr. Boette,

On behalf of our client, Blue Diamond Realty Trust, we are submitting herewith a Notice of Intent pursuant to MGL Chapter 131, S.40, Wetlands Protection Act (WPA) and article 267 of the General Bylaws of the Town of Foborough for the construction of a commercial building along with the associated parking, grading and utilities at 61 East Belcher Road that lies partially within the buffer zone to a bordering vegetated wetland (BVW).

Enclosed please find 8 copies of the WPA Form 3 - Notice of Intent (NOI), which includes the site plan for 61 East Belcher Road prepared by this office. All abutting owners within 100' of the property have been notified about the proposed work by certified mail. A check in the amount of $537.50 based on the WPA fee of $1,050.00 and a check in the amount of $1,500.00 based on the local bylaw is enclosed.

The property consists of two parcels of land (Map 122, Parcel 006 & Map 135, Parcel 002) located on the southwestern side of East Belcher Road about 1500' west of the intersection with Souza Avenue **(Appendix A)**. The southwestern portion of the property is currently undeveloped and consists of a wooded area. The remainder of the site consists of a gravel area and another wooded area to the northeast. The property contains bordering vegetated wetland (BVW) located on the northeastern portion of the property. The wetlands were flagged by the Pare Corporation on September 28, 2021 and located by this firm in an on the ground survey on September 29, 2021. A copy of the Pare Corporation Wetland Field Report is enclosed in **Appendix B**.

The proposed work consists of constructing a 6,250 square foot building along with the associated parking, grading and utilities on the northeastern portion of the property at the end of the existing access road off of East Belcher Road. A portion of the parking area, the grading and storm water basin will lie within the buffer zone to a BVW. The parking area will sit about 78' from the wetlands at its closet point and the grading for the grading will take place

about 27' from the wetlands at its closet point. About 1,542 square feet of buffer zone will be altered due to the parking area and about 9,372 square feet will be altered due to the grading and stormwater basin. In all about 10,914 square feet of alterations will take place within the 100' buffer zone. No work is proposed within the 25' No-Disturbance Zone.

The building will be serviced by municipal water and a conventional septic system located southeast of the proposed building. The septic system will be located at least 150' away from the wetlands, which meets the Commission's setback requirement. The storm water system will include roof drains, deep sump catch basins and the stormwater basins. The stormwater runoff from the building and parking area will be treated by the proposed catch basins before being conveyed to the storm water basin. The system has been designed to comply with the DEP Stormwater Standards and the stormwater standards outlined in the Town of Foxborough Stormwater Management Bylaws. A copy of the stormwater impact report is enclosed in **Appendix C**.

Access to the site will take place over the existing access road off of East Belcher Road. Erosion control for this project will consist of silt socks and sacks that will be installed prior to the start of construction and will be maintained until the project has been completed and ground cover has been reestablished. A stabilized construction entrance will also be installed to prevent the tracking of sediment by construction vehicles that exit the site.

The sequence of construction for the project can be found on **Sheet 8** (SWPPP & Snow Storage Plan) of the site plan. Once a contractor is chosen the plan will be update. This sequence is subject to change based on weather, availability of materials, and personnel.

This site also lies within a NHESP Priority Habitat. Oxbow Associates has worked closely with the owner to submit a MESA review on 4/15/2022. The Division has reviewed the project and issued a permit on September 30, 2022 File No.15-34673 with the condition that a turtle protection plan be submitted to the division. Oxbow Associates has prepared a Blanding's Turtle Protection Plan for the site (**Appendix D**).

Thank you for your consideration and please feel free to contact me should you have any questions or concerns that you would like us to address prior to the public hearing.

Very truly yours,

BAY COLONY GROUP, INC.

Cameron Gray
Project Engineer

William R. Buckley, Jr., P.E.
Project Manager

List of Documents

Previous Page – Letter to Conservation Commission

WPA Form 3 – Notice of Intent
- Wetland Fee Transmittal Form
- Copies of Checks
- Town of Foxborough Checklist

Form of Notification to Abutters

List of Abutters

Appendix A
- USGS Quadrangle Map Extract
- FEMA Flood Insurance Rate Map
- Extract from MassMapper

Appendix B
- Pare Corporation Wetland Field Report dated October 13, 2021

Appendix C
- Stormwater Management Report 61 East Belcher Road Foxborough, MA

Appendix D
- NHESP Permit and Oxbow Blanding's Turtle Protection Plan

Attachments
- Site Development Plan of Land 61 East Belcher Road by Bay Colony Group, Inc dated November 10, 2022

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

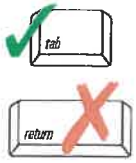
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
Foxborough Wetlands Protection Bylaw, Ch. 267

(To be provided by MassDEP)

MassDEP File Number

Foxborough
Town

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



A. General Information

1. **Project Location:**

61 East Belcher Road
a. Street Address

Foxborough
b. Town

02035
c. Zip Code

Latitude and Longitude:

42° 03' 21.3"N
d. Latitude

71° 15' 37.9"W
e. Longitude

122 & 135
f. Assessors Map/Plat Number

006 & 002
g. Parcel /Lot Number

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

2. **Applicant:**

a. First Name

b. Last Name

Blue Diamond Reality Trust
c. Organization

73 East Belcher Road
d. Street Address

Foxborough
e. City/Town

MA
f. State

02035
g. Zip Code

508.989.1289
h. Phone Number

i. Fax Number

frank-bluediamondcc@comcast.net
j. Email Address

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

Francis
a. First Name

Mahoney
b. Last Name

c. Organization

695 Winter Street
d. Street Address

Walpole
e. City/Town

MA
f. State

02035
g. Zip Code

508.989.1289
h. Phone Number

i. Fax Number

frank-bluediamondcc@comcast.net
j. Email address

4. **Representative** (if any):

William
a. First Name

Buckley, Jr.
b. Last Name

Bay Colony Group, Inc.
c. Company

4 School Street
d. Street Address

Foxborough
e. City/Town

MA
f. State

02035
g. Zip Code

508.543.3939
h. Phone Number

508.543.8866
i. Fax Number

billbuckley@baycolonygroup.com
j. Email address

5. **Wetland Filing Fees Paid** *(to calculate fees, refer to attached NOI Wetland Fee Transmittal Form):*

$1,050	$512.50	$537.50	$1,500
a. State WPA Fee/***Total***	b. WPA Fee/***State's Share***	c. WPA Fee/***Town's Share***	d. Town Bylaw (Ch. 267) Fee

A. General Information *(continued)*

6. General Project Description:

The construction of a commercial facility along with the associated parking, grading and utilities that lie partially within the buffer zone

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. ☐ N/A - 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 10.53 (inland)?

1. ☐ Yes ☒ No

If yes, describe which limited project applies to this project. (See 310 CMR 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 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

a. County	b. Certificate # (if registered land)	c. Book	d. Page Number
Norfolk		35034/245	40315/95

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, or Inland Bank.
2. ☐ Inland Resource Areas (see 310 CMR 10.54-10.58).

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

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

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

Resource Area	Size of Proposed Alteration	*(if any)* Proposed Replacement
a. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet
d. ☐ Bordering Land Subject to Flooding	1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. ☐ Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. ☐ Riverfront Area *(if checked, complete #1-6)*	1. Name of Waterway (if available)	

2. Width of Riverfront Area (check one):

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

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

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 feet	c. square feet between 100 feet and 200 feet
	0	

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. ☐ Bylaw Resource Areas *(Foxborough Wetlands Protection Bylaw, Ch. 267; No Activity Zones)*

   a. ☐ 100 Foot Vernal Pool Adjacent Upland Resource Area

   b. ☐ 25 Foot No Activity Zone

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 above, please enter the additional amount here.

   a. square feet of BVW

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings	b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

☐ **This is a proposal for an Ecological Restoration Limited Project.** *If checked, skip Section C and complete Appendix A: Ecological Restoration Notice of Intent – Required Actions (310 CMR 10.11).*

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

   a. ☒ Yes ☐ No

   2022 Mass Mapper
   b. Date of map

   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 - Phone: (508) 389-6360

   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.1.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

   c. Submit Supplemental Information for Endangered Species Review*

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

         (a) within wetland Resource Area _____ percentage/acreage

         (b) outside Resource Area _____ percentage/acreage

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

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

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

   (b) ☐ Photographs representative of the site

   (c) ☐ MESA filing fee - Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address (fee information available at https://www.mass.gov/regulatory-review)

   *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 - see next page

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

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

C. Other Applicable Standards and Requirements (continued)

(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, https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 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 and Management Permit with approved plan.

3. For coastal projects only: ☒ Not applicable in Foxborough

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.

   Canoe River Aquifer
   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)?

   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.

8. ☐ **This is a proposed Ecological Restoration Limited Project**. *[If checked, skip Section D and complete Appendix A: Ecological Restoration NOI; Minimum Required Documents (310 CMR 10.12).]*

D. Additional Information

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

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.
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.
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.

Site Development Plan of #61 East Belcher Road
a. Plan Title

Bay Colony Group, Inc.
b. Prepared By

William Buckley, Jr., #35813
c. Signed and Stamped by

November 10, 2022
d. Final Revision Date

1"=50'
e. Scale

f. Additional Plan or Document Title

g. Date

h. Additional Plan or Document Title

i. Date

5. ☐ If more than one property owner, attach a list of property owners not listed on this form.
6. ☐ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. ☒ Notice of Intent Application checklist
8. ☒ Abutter Notification Form
9. ☐ Affidavit of Service Form
10. ☐ Attach Stormwater Report with *signed, stamped Stormwater Checklist (unless exempt).*

E. Fees

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

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

412
2. Check Number (town share of state fee [see A.5.c., page 1])

11/21/2022
3. Check date (town share of state fee)

413
4. Check Number (Bylaw filing fee [see A.5.d, page 1])

11/21/2022
5. Check date (Bylaw filing fee)

411
6. State Check Number (state share of state fee [see A.5.b.])

11/21/2022
7. Check date (state share of state filing fee)

Blue Diamond Realty Trust
8. First Name of Payor on checks

9. Last Name of Payor on checks

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 hereby grant permission, to the Agent or member of the Conservation Commission and the Department of Environmental Protection, to enter and inspect the area subject to this Notice at reasonable hours to evaluate the wetland resource boundaries, if included with this application, subject to this Notice, and to require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

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

1. Signature of Applicant

2. Date

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date 11/21/2022

Tax Collector's Release

The above referenced applicant is applying for a permit from the Conservation Commission and is in good standing with respect to any taxes, fees, assessments, betterments or other municipal charges as recorded with the Foxborough Treasurer's Office.

1. Signature of Tax Collector or Agent

2. Date 11/21/22

F. Signatures and Submittal Requirements

Submittal Requirements *(please refer to NOI Filing Instructions, downloadable at http://www.foxboroughma.gov/Pages/FoxboroughMA_Conservation/Forms)*

For Foxborough Conservation Commission:

One original and seven (7) copies of this completed Notice of Intent (form 3), including supporting plans and documents *(listed at section D. "Additional Information"),* NOI Filing Check List, Abutter Notification, one copy of the NOI Wetland Fee Transmittal Form *(see following page; attached),* and the two town fee payments (Bylaw filing fee and town share of State filing fee), by certified mail or hand delivery to:

Foxborough Conservation Commission
Town Hall, 40 South Street, Foxborough, MA 02035

For MassDEP:

One copy of this completed Notice of Intent (form 3), including supporting plans and documents *(listed at Section D),* one copy of the NOI Wetland Fee Transmittal Form *(attached),* and a ***copy*** of the state fee payment (for State share, see below) by certified mail or hand delivery to:

MassDEP Southeast Regional Office
20 Riverside Drive, Lakeville, MA 02347

State share of the filing fee (check or money order, payable to the *Commonwealth of Massachusetts)* and the NOI Wetland Fee Transmittal Form by certified mail or hand delivery to:

Department of Environmental Protection
Box 4062, Boston, MA 02211

Other:

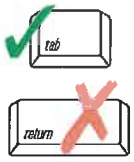
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements. The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
Foxborough Wetlands Protection Bylaw, Chapter 267

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



A. Applicant Information

1. Location of Project:

61 East Belcher Road	Foxborough
a. Street Address	b. City/Town

2. Applicant Mailing Address:

a. First Name	b. Last Name

Blue Diamond Reality Trust
c. Organization

73 E. Belcher Road	Foxborough	MA	02035
d. Mailing Address	e. City/Town	f. State	g. Zip Code

508.989.1289		frank-bluediamondcc@comcast.net
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner *(if different from Applicant)*:

Francis	Mahoney
a. First Name	b. Last Name

c. Organization

695 Winter Street	Walpole	MA	02081
d. Mailing Address	e. City/Town	f. State	g. Zip Code

508.989.1289		frank-bluediamondcc@comcast.net
h. Phone Number	i. Fax Number	j. Email Address

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

B. Fees - *Please see NOI Instructions before filling out worksheet.*

Fees should be calculated using the following process and the worksheet on the next page.

Refer to Conservation Commission's website to download the Town and State Filing Fee Schedules:
http://www.foxboroughma.gov/Pages/FoxboroughMA_Conservation/Forms

State Wetlands Protection Act (WPA) Filing Fee Instructions

Step 1/ Type of Activity: Describe each type of activity that will occur in a wetland resource area and/or buffer zone *(the area within 100 feet of a wetland, or 200 feet of a river).*

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

Step 6a-c/ Fee Payments (State):
To calculate the state share of the fee, divide the total fee in half and subtract $12.50.
To calculate the town share of the fee, divide the total fee in half and add $12.50.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40
Foxborough Wetlands Protection Bylaw, Chapter 267

B. Fees (continued)

Town Bylaw Filing Fee Instructions

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

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

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

Step 4a/ Subtotal Activity Fee: Multiply the number of activities (identified in Step 2a) times the fee per category (identified in Step 3a) 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 5a/ Total Bylaw Project Fees:
Determine the total project fee by adding the subtotal amounts from Step 4a.

Step 6d/ Fee Payment (Bylaw): ***Insert Step 5a fee payment amount.***

Type of Activity	Number of Activities	Individual Activity Fee	Subtotal Activity Fee
State Filing Fees: *(Step 1)*	*(Step 2)*	*(Step 3)*	*(Step 4)*
3. b. - Construction of Commercial Building	1	$1,050	$1,050
Total State Filing Fee: *(Step 5)*			
Bylaw Filing Fees: *(Step 1a)*	*(Step 2a)*	*(Step 3a)*	*(Step 4a)*
3. b. - Construction of Commercial Building	1	$1,500	$1,500
Total Bylaw Filing Fee: *(Step 5a)*			
Filing Fee Payments: *(Step 6)*			
Total State Filing Fee:	*(insert the following amount on this NOI form page 1, Section A.5.a)*		$1,050 a. Total **State** Fee from Step 5
State's share of filing fee: *(Paid to State [Boston address])*	*(insert following amount on this NOI form page 1, Section A.5.b.)*		$512.50 b. 1/2 of (a), above, **less** $12.50
Town's share of filing fee: *(Paid to Town of Foxborough)*	*(insert following amount on this NOI form page 1, Section A.5.c.)*		$537.50 c. 1/2 of (a) above, **plus** $12.50
Bylaw Filing Fee: *(Paid to Town of Foxborough)*	*(insert following amount on this NOI form page 1, Section A.5.d.)*		$1,500 d. Total **Bylaw** Fee from Step 5a

See Submittal Requirements and Instructions on the next page.

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
Foxborough Wetlands Protection Bylaw, Chapter 267

C. Submittal Requirements

For additional instructions, please refer to the Submittal Instructions on the last page (page 7) of the attached NOI Form (above).

a. ***To Department of Environmental Protection:***

Complete pages 1 and 2 of this NOI Wetland Fee Transmittal Form and send with a check or money order for the **State share of the filing fee**, payable to the *Commonwealth of Massachusetts*.

Department of Environmental Protection
Box 4062
Boston, MA 02211

b. ***To the Foxborough Conservation Commission:***

Send the Notice of Intent or Abbreviated Notice of Intent; one **copy** of this form and the Town fee payments (**Bylaw fee and town share of State fee**), payable to the *Town of Foxborough*.

Foxborough Conservation Commission
40 South Street
Foxborough, MA 02035

c. ***To MassDEP Regional Office:***

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.

MassDEP, Southeast Regional Office
20 Riverside Drive
Lakeville, MA 02347

0411

BLUE DIAMOND REALTY TRUST
695 WINTER STREET
WALPOLE, MA 02081

Middlesex Savings Bank
53-7122-2113

EZShield™ Check Fraud Protection for Business

11/21/2022

PAY TO THE ORDER OF Commonwealth of Massachusetts

$ **512.50

Five Hundred Twelve and 50/100********** DOLLARS

Commonwealth of Massachusetts

MEMO Conservation Commission 61 East Belcher

AUTHORIZED SIGNATURE

Security features. Details on back.

0412

BLUE DIAMOND REALTY TRUST
695 WINTER STREET
WALPOLE, MA 02081

Middlesex Savings Bank
53-7122-2113

EZShield™ Check Fraud Protection for Business

11/21/2022

PAY TO THE ORDER OF Town of Foxborough

$ **537.50

Five Hundred Thirty-Seven and 50/100********** DOLLARS

Town of Foxborough
PO Box 341
Medford MA 02155-0004

MEMO 61 E Belcher Conservation Commission

AUTHORIZED SIGNATURE

Security features. Details on back.

0413

BLUE DIAMOND REALTY TRUST
695 WINTER STREET
WALPOLE, MA 02081

Middlesex Savings Bank
53-7122-2113

EZShield™ Check Fraud Protection for Business

11/21/2022

PAY TO THE ORDER OF Town of Foxborough

$ **1,500.00

One Thousand Five Hundred and 00/100********** DOLLARS

Town of Foxborough
PO Box 341
Medford MA 02155-0004

MEMO 61 E Belcher Town bylaw Filing Fee

AUTHORIZED SIGNATURE

Security features. Details on back.

NOTICE OF INTENT APPLICATION CHECKLIST

This checklist, which is referred to in the Conservation Commission's *Filing Instructions for Notices of Intent Under the Foxborough Wetlands Protection Bylaw, Chapter 267,* has been designed to efficiently assist the applicant and the Commission through the review process. It applies to all filings under the Foxborough Wetlands Protection Bylaw, Chapter 267 (unless otherwise specifically stated). Close adherence to this checklist and the referenced *Filing Instructions* is recommended.

All of the following information will be required, unless exempted in writing by the Commission. After completing each item below, please check the box next to the item and, when finished, **include a copy of the completed checklist in your NOI application package**.

INFORMATION TO BE INCLUDED IN NOTICE OF INTENT NARRATIVE

EXISTING CONDITIONS

- ☒ Description of topography, soils, and geology
- ☒ Description of vegetation types (upland or wetlands community types and plant species)
- ☒ USGS quadrangle map (most recent version), with site location circled (locus map)
- ☒ National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM), and associated Flood Profile Study if available, with site location circled

PROPOSED CONDITIONS

- ☒ Description of activities, construction sequencing and estimated timetable, including future phases
- ☒ Description of indirect and direct impacts, both temporary and permanent, on wetland resource areas
- ☒ Calculations of lot's impervious areas, comparing pre-construction to post construction conditions
- ☐ Volume of fill required, if applicable, and source of fill
- ☒ Description of soil erosion and sediment control plan, including monitoring and measures to be taken to prevent negative impacts to resource areas
- ☐ Detailed mitigation plan for activities in the buffer zone to prevent long term, indirect impacts to adjacent resource areas
- ☒ Description of storm water management plan, including existing and proposed drainage areas
- ☒ Description of wastewater management plan, if applicable
- ☐ Description of wetlands restoration plan, if proposed, including area to be restored with existing and proposed topography contours (at one-foot intervals), description of soils, stockpile areas, plantings (including Latin names of plants/seeds and source of materials [both plants and soils]), invasive species eradication and monitoring plan and a timetable of proposed work.

SITE VISIT REQUIREMENTS FOR REVIEW OF NOTICE OF INTENT

The following markings and flagging must be in place before the field inspection, where applicable. Failure to properly stake and mark the site may result in delays, non-review, or denial of a proposed project.

- ☒ Edges of wetlands must be flagged with numbered flags, as reflected on submitted project plans
- ☐ House number must be visible from the street, if work is proposed at a pre-existing house; if no house is on the property, the lot number must be posted and visible.
- ☐ Property boundaries must be staked with numbered stakes at all corners
- ☐ All proposed structures or additions, including decks, must be staked for identification purposes at all corners; stakes must be numbered and labeled, as reflected on submitted project plans
- ☐ Locations of septic tank, leaching field and wells (if in the buffer zone) must be staked and labeled

INFORMATION TO BE INCLUDED ON SITE PLANS

ALL PLANS

- ☒ Title Box: Include the date, name and address of proposed project; owner and/or applicant name; preparer's name; scale (1 inch = 30 feet or less); north arrow; assessor's map/parcel number
- ☒ Stamp/Signature: Plan to be prepared and stamped by a registered professional engineer (PE) or land surveyor, as appropriate. At least one original signed copy of each plan must be submitted

  (Note: The professional who stamps the original plans must also stamp, sign and date revisions.)
- ☒ Locus Map: Include on a corner of plan's first page, at least 3" x 3" in size
- ☒ Topography: Contours at two-foot intervals or less; NAVD88 elevations (if available), or assumed datum and location of benchmark elevation
- ☒ Project Site: Include lot size(s) and property boundaries.
- ☒ Abutting Properties: Property owner names and property lines of abutting land parcels
- ☐ Watershed Areas: For projects that alter the stormwater runoff from the site, identify total watershed area in which site is located, all sub-watersheds on site, and on- and off-site discharge points
- ☒ Test Pits: Location, date and soil summaries of all soil borings and test pits on site; location, date and readings of groundwater level measurements on site
- ☒ Stone walls or other barriers located between the area of work and the area(s) subject to protection
- ☒ Easements: Location and type of easements, both on site and within 50 feet of property line

Resource Areas and Buffer Zones

- ☒ Wetland Resource Areas: Boundaries of wetland resource areas on or within 100 feet of the proposed project area (200 feet for perennial streams and rivers), with flow directions, if applicable
- ☒ Wetland Flags: Numbered flags/stakes; note date of flagging and name/firm of delineator/botanist
- ☐ Bank: Delineate the banks of streams, rivers, ponds and/or lakes
- ☒ 25 Foot No Activity Zone (Chapter 267)
- ☐ Bordering Land Subject to Flooding, including 100-year storm elevation (FEMA floodplain or highest observed or recorded elevation)
- ☐ Isolated Land Subject to Flooding, including highest observed or recorded water level
- ☐ Vernal Pools, (all) including highest observed or recorded water level
- ☐ Certified Vernal Pools: Boundary of 100 foot No Activity Zone (Chapter 267)
- ☐ High Water Level for all water bodies, from best available data (data source must be cited)
- ☐ Riverfront Area: Boundaries of 100 Foot Inner Riparian Area and 200 Foot Outer Riparian Area
- ☐ Mean Annual High Water Line (MAHWL) of any river
- ☒ 100 Foot Buffer Zone (100-foot radius from all wetland resources areas)

EXISTING CONDITIONS PLANS

- ☒ Existing Topography: Contours at two-foot intervals or less
- ☒ Above-Ground: All on-site above-ground structures, roadways, access ways, stone walls, fences
- ☒ Below-Ground: All on-site below-ground structures, including but not limited to utility lines, drainage structures, septic systems, cesspools, wells, storage tanks

PROPOSED CONDITIONS PLANS

- ☒ Proposed Topography: Contours at two-foot intervals or less; NAVD88 elevations or assumed datum
- ☒ Limit of Work: delineate all areas where vegetation or soil will be altered
- ☒ Erosion Controls: locations and type of temporary erosion controls, including installation details
- ☐ Stockpiles: locations of stockpiles
- ☐ Fill: Note the amount of fill required to be added or removed (in cubic yards and maximum thickness); pre- and post- development grades on all slopes

PROPOSED CONDITIONS PLANS (continued)

- ☐ Construction Equipment access routes and storage/parking areas during proposed work
- ☐ Construction Details, including cross-sections and elevations of drainage structures (including but not limited to catch basins, leaching basins, dry wells, swales, retention areas, ditches, etc.) and road crossings in wetland resource areas
- ☒ Above-Ground Alterations: All on-site structures, roadways, access ways, stone walls, fences, and all other physical alterations proposed in the buffer zone; location and elevation of lowest floor of all structures; identify roadway or surface material proposed
- ☒ Below-ground Alterations: All on-site below-ground alterations and structures in the buffer zone, including but not limited to utility lines, drainage structures, septic systems, cesspools, wells, tanks
- ☐ Drainage Patterns: Existing natural drainage patterns and proposed alterations
- ☐ Distance of proposed on-site leaching facility to wetlands or other resource areas
- ☐ Distance of proposed alteration to wetlands or other resource areas
- ☐ Wells: Location of all existing and proposed wells on property and within 200 feet of project on abutting properties, and minimum distance to all septic systems

DOCUMENT SUBMISSION DEADLINES

NOI Application:
All documentation (including plans, maps, tables, charts, reports, etc.) to be considered as part of an applicant's permit filing must be submitted to the Commission by the application deadline, as posted in the Conservation Office in Town Hall and on the Commission's website. Application forms, instructions and deadlines can all be downloaded on the Commission's website:
http://www.foxboroughma.gov/Pages/FoxboroughMA_Conservation/index

Continued Hearing Submissions:
All document and plan revisions must be received *by the Conservation Department* ***at least four business days before a scheduled (continued) hearing date****.*

Four days is the minimum time needed to allow the Conservation Commission and Conservation Manager to properly review and analyze new submissions. Documents that are not submitted at least four business days before the date of a continued hearing may be excluded from consideration during that hearing and held for discussion during a future Conservation Commission meeting.

NOTIFICATION TO ABUTTERS

Under the
Massachusetts Wetlands Protection Act &
Foxborough Wetlands and Groundwater Protection Bylaw (Article IX)

(This form must be completed and mailed, certified mail return receipt requested, to all abutters within 100 feet of the proposed project)

In accordance with the second paragraph of Massachusetts Wetlands Protection Act (G.L. Ch. 131, §40), and §10.05(4)(a) of 310 CMR 10.00, and the Foxborough Wetlands and Groundwater Protection Bylaw (Article IX) and regulations, you are hereby notified of a public hearing on the matter described below:

A. The applicant has filed a Notice of Intent with the Foxborough Conservation Commission seeking permission to alter an area subject to protection under the Wetlands Protection Act and the Foxborough Wetlands and Groundwater Protection Bylaw.

B. The name of the applicant is Blue Diamond Reality Trust

C. The address of the land where the activity is proposed is 61 East Belcher Road Foxborough.

D. The work proposed is The construction of a commercial facility along with the associated parking, grading and utilities.

E. Copies of the Notice of Intent may be examined at the Conservation Commission's office, 40 South Street, Foxborough Town Hall, between 9 am and 4 pm, Monday through Thursday (please call first, to ensure that the Conservation Manager is in the office and not out on site visits).

For more information, please call: Bay Colony Group, Inc.
Check One: This is the ☐ applicant, ☒ applicant's representative, or ☐ other _____

F. Copies of the Notice of Intent may be obtained from either (check one) the ☐ applicant or the ☒ applicant's representative by calling 508.543.3939 from 8:00-5:00 on Monday through Friday.

G. Information regarding the date, time and place of the public hearing may be obtained from either (check one) the ☐ applicant or the ☒ applicant's representative by calling 508.543.3939 from 8:00-5:00 on Monday through Friday.

Conservation Commission meeting agendas may be viewed online at
http://www.foxboroughma.gov/Pages/FoxboroughMA_ConsAgendas/

Notice of the public hearing, including date, time and place, will be published at least five business days in advance in The Sun Chronicle and will be posted in the Town Hall and online at least 48 hours in advance.

Contact the Foxborough Conservation Commission for information about this application or the Foxborough Wetlands and Groundwater Protection Bylaw or the Department of Environmental Protection (DEP) Southeast Regional Office for more information about this application or the Wetlands Protection Act.

Conservation Commission:
508-543-1251
http://www.foxboroughma.gov/Pages/FoxboroughMA_Conservation/index

DEP, Southeast Regional Office (Lakeville):

508-946-2836

BOARD OF ASSESSORS
TOWN OF FOXBOROUGH
40 SOUTH STREET
FOXBOROUGH MASSACHUSETTS 02035

(508) 543-1215 Fax: (508) 543-6278

CERTIFICATION OF ABUTTERS

PROPERTY OWNER: Francis A. Mahoney, Tr

MAILING ADDESSS:695 Winter Street, Walpole, MA 02081

PROPERTY LOCATION: 61 East Belcher Road

ASSESSORS MAP/PARCEL: 122//006/000/000

APPLICANT: Bay Colony Group PHONE: 508-543-3939

AUTHORITY REQUESTING LIST: Planning Board & Conservation Commission

DATE SUBMITTED: 11/14/2022

LIST REQUESTED:___500 FT ___300 FT X 100FT ___ABUTTER TO ABUTTER

I, [signature] _____ _____ __, acting as a custodian of assessment records, do hereby certify that the attached documents contain true and complete information from the most recent tax list of the Town of Foxborough, Massachusetts.

I further state that these documents include the names and addresses of abutters to the abutters Map 122 Parcel 006 100ft. _____

Date: 11/15/22

BOARD OF ASSESSORS
FOXBOROUGH MASSACHUSETTS

Massachusetts General Law c. 40A, s.11, "The assessors maintaining any applicable tax list shall certify to the permit granting authority or special permit granting authority the names and addresses of parties in interest and such certification shall be conclusive for all purposes."

The Assessors Office will complete the abutters list within 7-10 business days. There is a $25.00 fee for an abutters list.

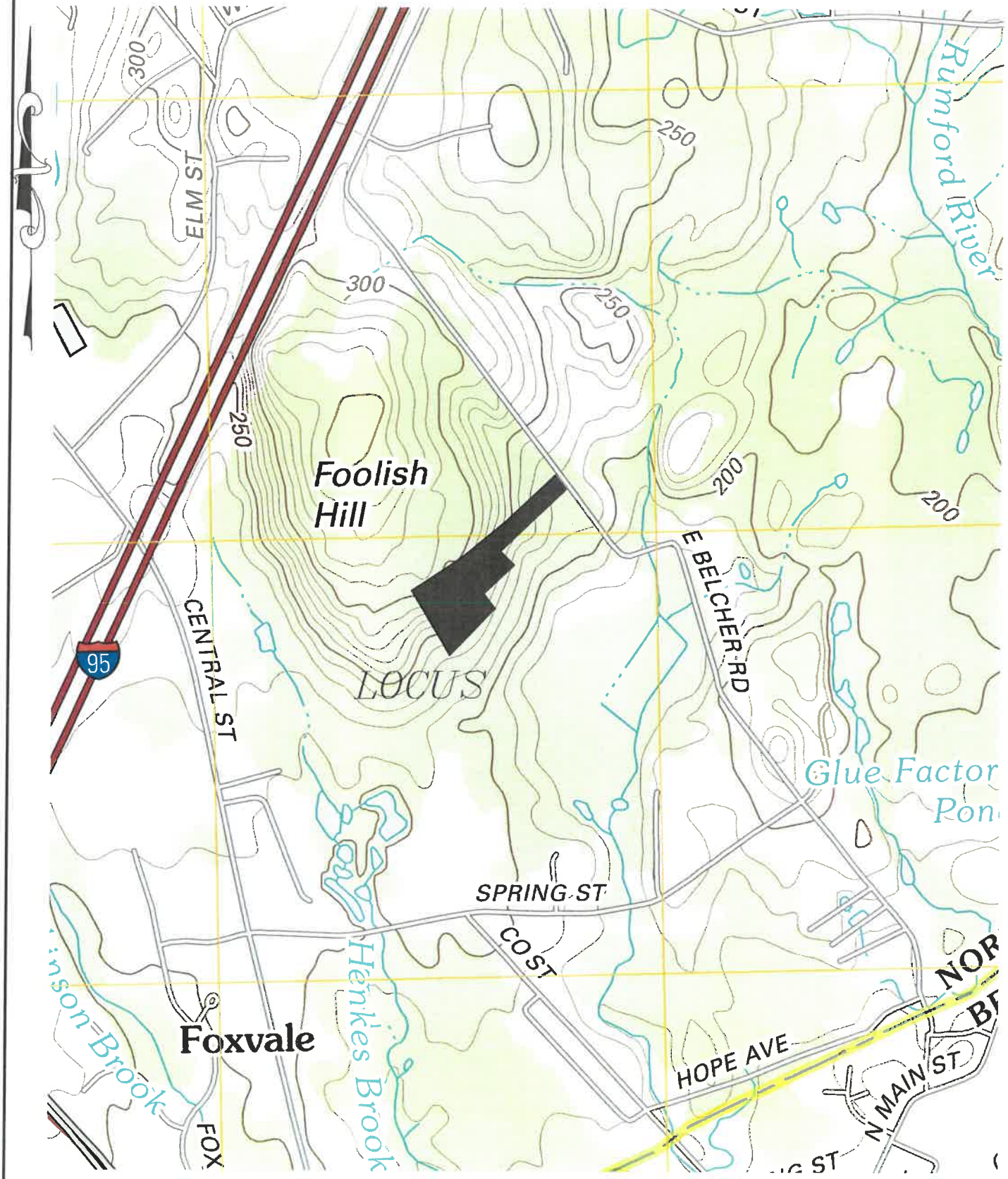
"The applicant is solely responsible for requesting the appropriate abutters list required by the applicable Mass General Law."

Abutting Properties for
61 EAST BELCHER RD
FOXBOROUGH, MA 02035
122-006-000-000-0000
(100 Feet)
11/15/2022

Parcel Number	Property Address	Owner Name	Owner Address	Owner City	Owner State	Owner Zip
108-006-000	BELCHER ROAD	TOWN OF FOXBOROUGH	40 SOUTH ST	FOXBOROUGH	MA	02035-0000
108-007-000	39 EAST BELCHER ROAD	MANSFIELD WATER SUPPLY DIST	6 PARK ROW	MANSFIELD	MA	02048-0000
122-001-000	BELCHER ROAD	TOWN OF FOXBOROUGH	40 SOUTH ST	FOXBOROUGH	MA	02035
122-002-000	77 EAST BELCHER ROAD	JRD REALTY LLC	77 EAST BELCHER RD	FOXBOROUGH	MA	02035
122-004-000	69 EAST BELCHER ROAD	RED MAPLE MANAGEMENT LIMITED PARTNERSHIP	215 DEDHAM STREET	CANTON	MA	02021-0000
122-005-000	65 EAST BELCHER ROAD	LIZINE & COYLE LLC	65 EAST BELCHER ROAD	FOXBOROUGH	MA	02035
122-007-000	ELM STREET	HEARN JOSEPH	7 MAIN ST	FOXBOROUGH	MA	02035-0000
122-008-000	0 EAST BELCHER ROAD	SHRINERS HOSPITAL FOR CHILDREN	2900 ROCKY POINT DRIVE	TAMPA	FL	33607-0000
135-002-000	EAST BELCHER ROAD	BLUE DIAMOND REALTY III LLC	73 EAST BELCHER RD	FOXBOROUGH	MA	02035

APPENDIX A

*USGS Quadrangle Map
*FEMA Flood Insurance Rate Map
* Priority Habitat Map



BAY COLONY GROUP, INC.
FOUR SCHOOL STREET
FOXBOROUGH, MA 02035
(508) 543-3939

USGS QUADRANGLE EXTRACT
61 EAST BELCHER ROAD
FOXBOROUGH, MA
MANSFIELD QUADRANGLE
SCALE: 1"= 1000'

National Flood Hazard Layer FIRMette

FEMA

71°14'1"W 42°3'19"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

71°13'24"W 42°2'52"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

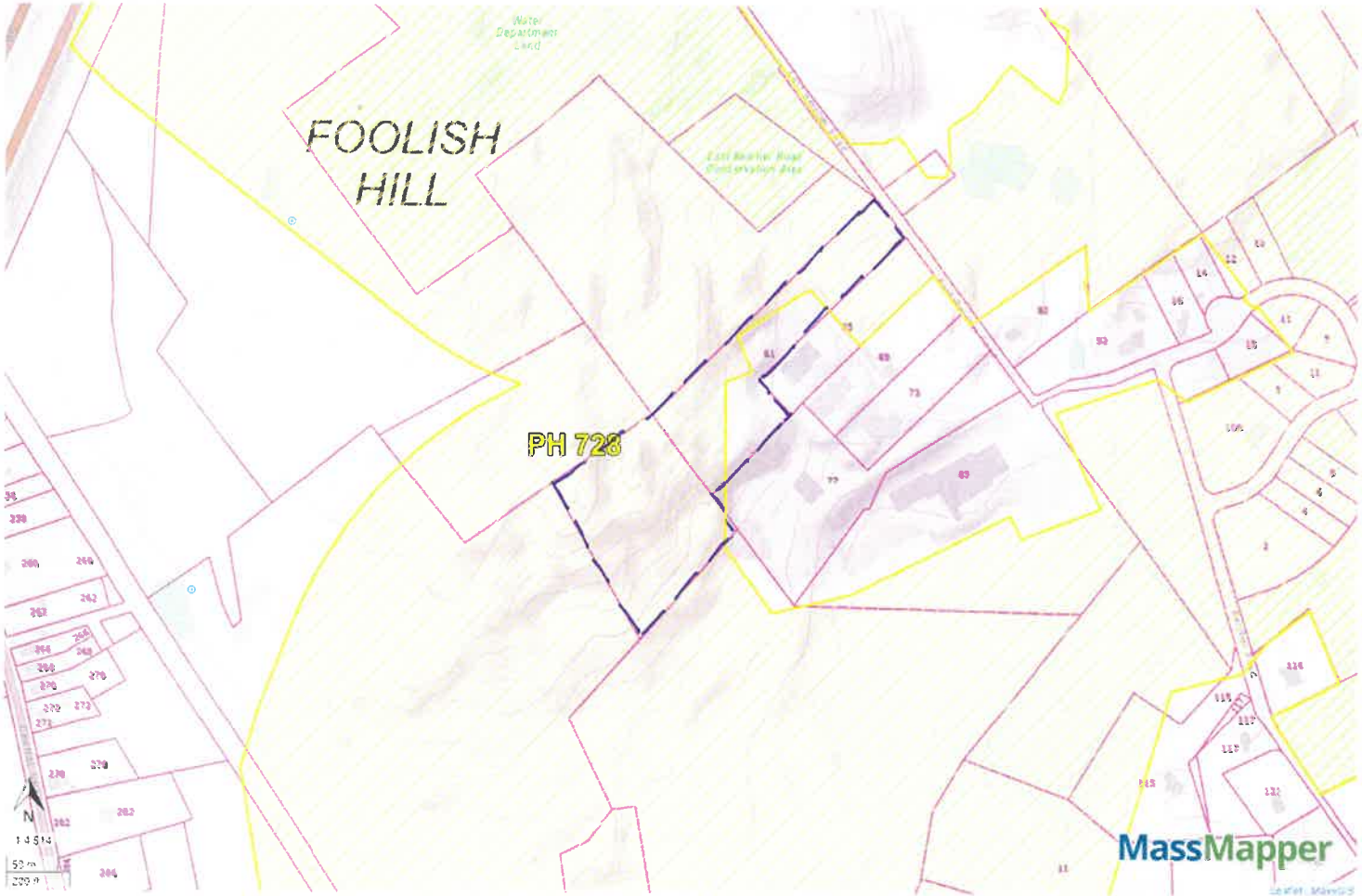
The pin displayed on the map is an approximate point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/18/2022 at 12:40 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

61 East Belcher Road



NHESP Priority Habitats of Rare Species

NHESP Estimated Habitats of Rare Wildlife

Potential Vernal Pools

NHESP Certified Vernal Pools

Property Tax Parcels

APPENDIX B

*Pare Corporation Wetland Field Report

Engineers | Scientists | Planners

PARECORP.COM

PARE CORPORATION

October 13, 2021

Mr. William Buckley, P.E.
Bay Colony Group, Inc.
4 School Street
Foxborough, MA 02035

Re: Wetland Delineation
61 E Belcher Road
Foxborough, MA
Pare Project No. 18170.31

Dear Mr. Buckley,

Pare Corporation (Pare) delineated the wetland resource areas on the parcel of land located at 61 E Belcher Road in Foxborough. The subject property consists of a 4.27 acre parcel designated as Lot 006 on Foxborough Assessor's Map 122. Most of the property consists of cleared land used for storage of trucks and other machinery by Blue Diamond Equipment. The northeast portion of the site bordering E Belcher Road is wooded and is bisected by a freshwater wetland area. The delineation was completed to establish the limits of wetlands, 25-foot No Activity Zones, and 100-foot Buffer Zones that may impact future development on the property. Pare's investigation and delineation of wetlands was completed on September 28 and September 30, 2021.

The following report describes the delineated wetlands, discusses the delineation methodology, and summarizes review of available published mapping for the site. Attached to this report are the following materials: a Site Location Map, an Annotated Aerial Photograph, an excerpt from the FEMA Flood Insurance Rate Map for the area, annotated photographs of the site wetlands, and completed BVW Data Forms.

METHODOLOGY

Wetland edges were delineated in accordance with the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.55, referred to as the WPA Regulations), and the methodology specified in the publication entitled Delineating Bordering Vegetated Wetlands under the Massachusetts Wetlands Protection Act (Jackson, 1995) and The Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North Central and Northeast Region, Version 2.0 (U.S. Army Corps of Engineers, January 2012).

Pink field flags were placed at appropriate intervals along the wetland/upland borders affecting the proposed development. Primary parameters evaluated in wetland delineation included vegetation, hydric soil indicators, and visual indicators of wetland hydrology such as water-stained leaves, mound-and-pool microrelief, saturated soils, and surface water. During the delineation, BVW Data Forms were completed for representative plots along the wetland/upland borders.

WETLAND DESCRIPTIONS

Bordering Vegetated Wetland (Series A)

Pare delineated the edges of a forested wetland bisecting the northeast side of the site adjacent to E Belcher Road. The wetland interior contains a narrow intermittent stream channel that flows in a southeasterly direction and therefore, the wetland is classified as a **Bordering Vegetated Wetland (BVW)** under 310 CMR 10.55(2). The wetland edge has an associated **100-foot Buffer Zone** in addition to a **25-foot No Activity Zone** under the Foxborough Wetlands Protection Bylaw. The stream channel within the wetland interior is not shown on the USGS Topographic Quadrangle for the area, nor is it digitized on the USGS StreamStats Application; therefore, it is presumed to be intermittent under 310 CMR 10.58(2) and was not flagged separately as part of Pare's delineation.

Flag series A-1 to A-14 defines the south edge of the wetland, beginning at a stone wall along the northwest property boundary and extending southeast along the toe of a moderate forested slope, ending a short distance beyond the northeast property boundary. Flag series A-100 to A-105 defines a finger-like projection of the wetland located offsite to the east, which extends upslope from the main body of the wetland and was flagged to establish the limits of buffer zones that may encroach onto the subject property. Most of the wetland consists of a seasonally flooded forested area dominated by Red Maple (*Acer rubrum*) and a dense understory of shrubs. At the time of delineation, pockets of shallow standing water were observed within the wetland interior and a small amount of flow was observed within the stream. BVW data forms completed for representative plots along the wetland/upland border are attached. Vegetation observed in the BVW edge included, but was not limited to, the following species:

Common Name	Scientific Name	Indicator Status
Red Maple	*Acer rubrum*	FAC
White Ash	*Fraxinus americana*	FACU
White Pine	*Pinus strobus*	FACU
Red Oak	*Quercus rubra*	FACU
Spicebush	*Lindera benzoin*	FACW
Arrowwood	*Viburnum dentatum*	FAC
Highbush Blueberry	*Vaccinium corymbosum*	FACW
Greenbriar	*Smilax rotundifolia*	FAC
New York Fern	*Thelypteris noveboracensis*	FAC
Poison Ivy	*Toxicodendron radicans*	FAC

Offsite Wetland (Series B)

A wetland area was identified and delineated within a relatively flat wooded area to the west of the site. The area extends downslope to the north in a shallow depression on the slope. Review of aerial photographs and topographic mapping indicates that the area may connect with mapped BVW areas bordering E Belcher Road north of Pare's offsite investigation limits. Therefore, the wetland is presumed to be a **Bordering Vegetated Wetland (BVW)** under 310 CMR 10.55(2). The wetland edge has an associated **100-foot Buffer Zone** in addition to a **25-foot No Activity Zone** under the Foxborough Wetlands Protection Bylaw.

Flag series B-1 to B-10 defines the south edge of the wetland bordering the site. The wetland consists of a seasonally flooded forested area dominated by Red Maple and Red Oak, with a dense understory of shrubs and a ground cover dominated by ferns. At the time of delineation, water staining was observed throughout the wetland interior. BVW data forms completed for a representative plot along the wetland/upland border are attached. Vegetation observed in the BVW edge included, but was not limited to, the following species:

Common Name	Scientific Name	Indicator Status
Red Maple	*Acer rubrum*	FAC
Red Oak	*Quercus rubra*	FACU
Tupelo	*Nyssa sylvatica*	FAC
Red Oak	*Quercus rubra*	FACU
Witch Hazel	*Hamamelis virginiana*	FAC
Black Huckleberry	*Gaylusaccia baccata*	FACU
Highbush Blueberry	*Vaccinium corymbosum*	FACW
Cinnamon Fern	*Osmunda cinnamomea*	FACW
Princess Pine	*Lycopodium obscurum*	FACU

REVIEW OF PUBLISHED MAPPING

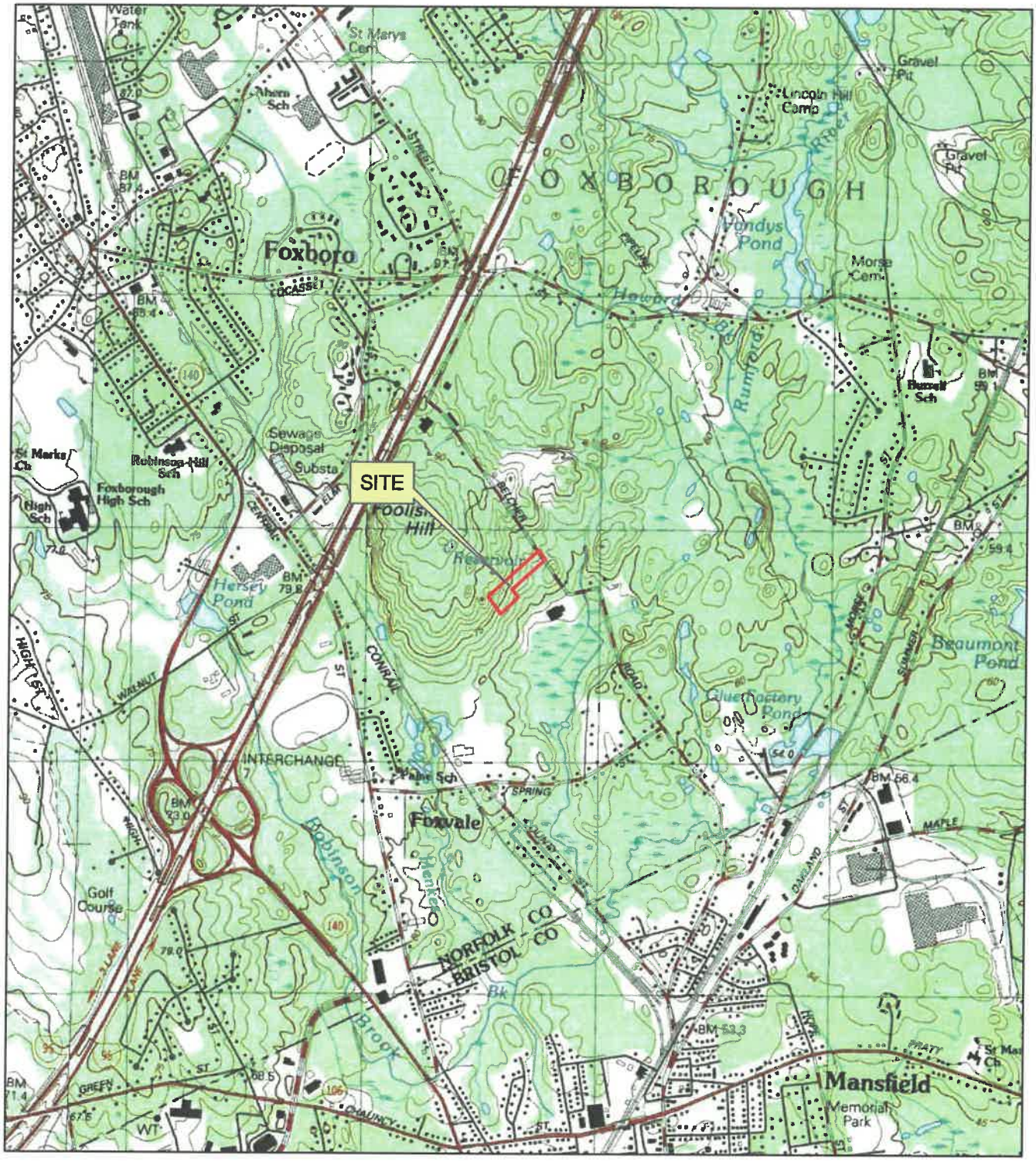
Review of published mapping and the relevant MassGIS data layers on October 7, 2021 revealed the following:

- NHESP Priority Habitat of Rare Species and Estimated Habitat of Rare Wildlife occupies portions of the site (MassGIS data layers PRIHAB_POLY and ESTHAB_POLY, August 2021). The extent of the mapped habitat is shown on Figure 2.
- No Certified Vernal Pools (CVPs) or Potential Vernal Pools (PVPs) are located on the subject property.
- The site is not located in Outstanding Resource Waters.
- The site is not located within an Area of Critical Environmental Concern.
- According to the FEMA Flood Insurance Rate Map (FIRM) for the Town of Foxborough (Map No. 25021C0361E, revised July 17, 2012, there is no mapped floodplain on the property and the entire site is located within Areas of Minimal Flood Hazard (Zone X).

Thank you very much for the opportunity to assist you with this project. If you have any questions regarding project permitting or other issues, or require further assistance, please do not hesitate to call.

Sincerely,

Lauren H. Gluck, P.W.S.
Senior Environmental Scientist



MASS GIS

SITE LOCATION MAP

SCALE: 1 " = 2,000 '

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

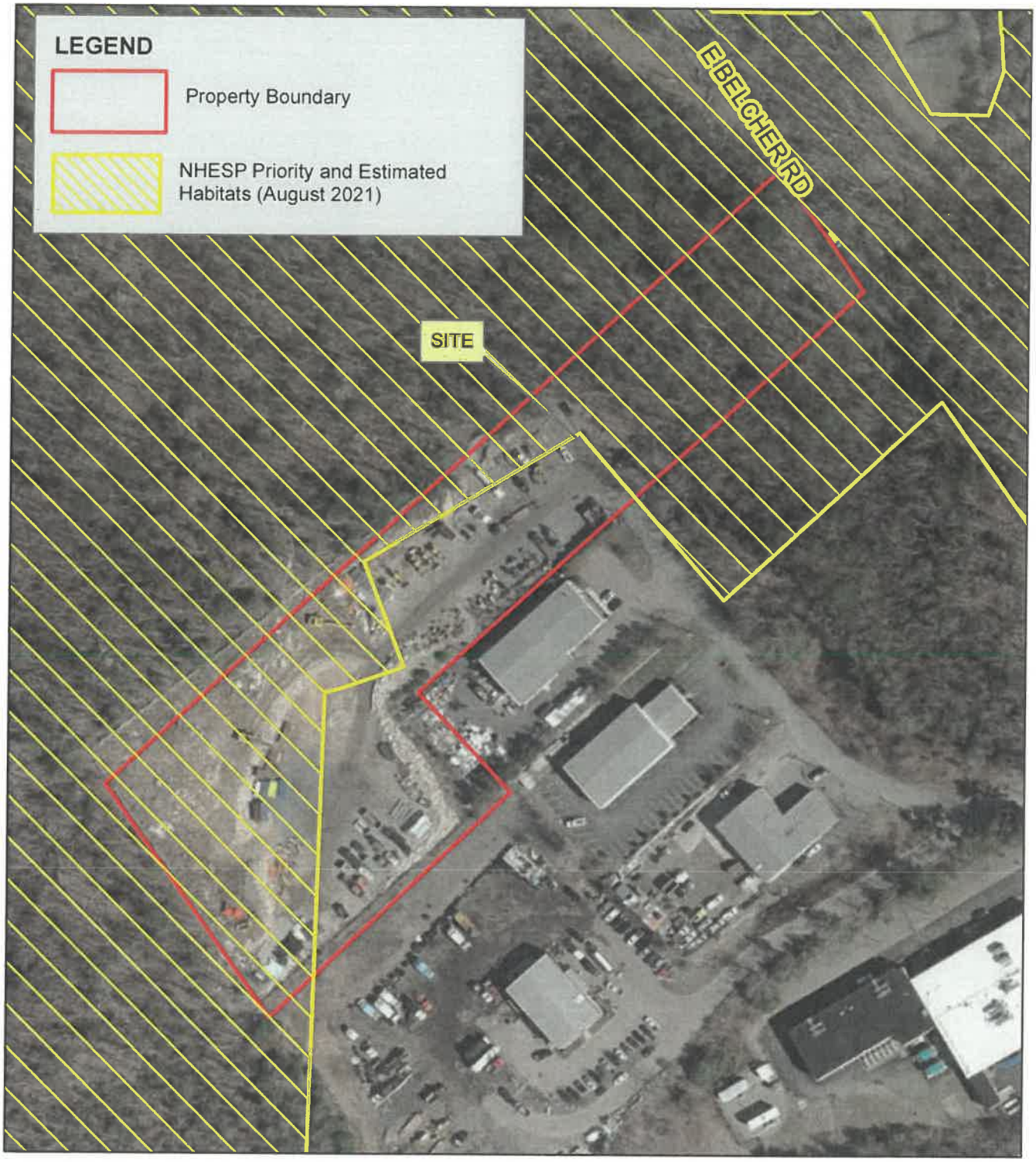
10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No. 18170.31 SEPTEMBER 2021

FIGURE 1

61 E BELCHER RD.
FOXBORO, MA

WETLAND DELINEATION REPORT



MASS GIS

ANNOTATED AERIAL PHOTOGRAPH

SCALE: 1 " = 150 '

N
W E
S

8 BLACKSTONE VALLEY PLACE
LINCOLN, RI 02865
(401) 334-4100

10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
(508) 543-1755

PARE PROJECT No. 18170.31 SEPTEMBER 2021

FIGURE 2

61 E BELCHER RD.
FOXBORO, MA

WETLAND DELINEATION REPORT

FIGURE 3

National Flood Hazard Layer FIRMette

FEMA

71°14'W 42°3'20"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/28/2021 at 1:34 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Photo 1: Typical view of wetland edge at northeast side of site near flag A-4.

Photo 2: standing water observed at east side of wetland interior, downslope of flag A-8.

Photo 3: Projection of wetland located offsite to the east, defined by flag series A-100 to A-105.

Photo 4: B-series wetland located offsite to the northwest, upslope of site.

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ **Prepared by:** Pare Corporation **Project location:** 61 E Belcher Rd, Foxboro **DEP File #:** None
L. Gluck

Check all that apply:

__ Vegetation alone presumed adequate to delineate BVW boundary: fill out section I only.
X Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II.
__ Method other than dominance test used (attach additional information).

Section I. Observation Plot Number: 1 Transect Number: A (Wetland Station) 5'± D/G WF A-4 Date of Delineation: September 28, 2021

A. Sample Layer and Plant Species (by common/ scientific name)		B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (Yes or No)	E. Wetland Indicator Category *
Tree	White Pine (*Pinus strobus*)	16-25 (20.5)	33	Y	FACU
	Red Oak (*Quercus rubra*)	6-15 (10.5)	17	N	
	Red Maple (*Acer rubrum*)	16-25 (20.5)	33	Y	FAC*
	White Ash (*Fraxinus americana*)	6-15 (10.5)	17	N	
	Total	62.0	100		
Sapling	White Ash (*Fraxinus americana*)	6-15 (10.5)	50	Y	FACU
	Red Maple (*Acer rubrum*)	6-15 (10.5)	50	Y	FAC*
	Total	20.5	100		
Shrub	Witch Hazel (*Hamamelis virginiana*)	16-25 (20.5)	26	Y	FAC*
	American Hazel (*Corylus americana*)	6-15 (10.5)	13	N	
	Spicebush (*Lindera benzoin*)	26-50 (38.0)	48	Y	FACW*
	Highbush Blueberry (*Vaccinium corymbosum*)	6-15 (10.5)	13	N	
	Total	79.5	100		
Herb	Poison Ivy (*Toxicodendron radicans*)	6-15 (10.5)	44	Y	FAC*
	New York Fern (*Thelypteris noveboracensis*)	0-5 (3.0)	44	Y	FAC*
	Red Oak (*Quercus rubra*)	6-15 (10.5)	13	N	
	Total	24.0	101**		

**Total does not equal 100 due to rounding

*Use an asterisk to mark wetland indicator plants species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological adaptations, describe the adaptation next to the asterisk.

Vegetation Conclusion:

Number of dominant wetland indicator plants: 6 Number of dominant non-wetland indicator plants: 2

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? YES NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation
1. Soil Survey

Is there a published soil survey for this site? [Yes] No
Title/Date: Soil Survey of Norfolk and Suffolk Counties, Massachusetts, 2020

Map Number: Accessed via Web Soil Survey
http://websoilsurvey.nrcs.usda.gov/

Soil type mapped: 71B – Ridgebury fine sandy loam, 3-8% slopes, extremely stony

Hydric Soil Inclusions: Whitman

Are field observations consistent with soil survey? [Yes] No

Remarks:

2. Soil Description

Horizon	Depth (in)	Matrix Color	Mottles Color
O	1/2-0"	10YR 2/2	
A	0-6"	10YR 2/1	
B	6-12+"	10YR 4/1	10YR 2/1 7.5YR 4/6

Remarks: strong redox in B horizon

3. Other:

Conclusion: Is soil hydric? [Yes] No

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated:

☐ Depth to free water in observation hole:

☒ Depth to soil saturation in observation hole: 8"

☐ Water Marks:

☐ Drift lines:

☐ Sediment deposits:

☐ Drainage patterns in BVW: channel

☐ Oxidized rhizospheres:

☒ Water-stained leaves:

☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):

☒ Other: mound and pool microrelief

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ **Prepared by:** Pare Corporation **Project location:** 61 E Belcher Rd, Foxboro **DEP File #:** None
L. Gluck

Check all that apply:
__ Vegetation alone presumed adequate to delineate BVW boundary: fill out section I only.
X Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II.
__ Method other than dominance test used (attach additional information).

Section I. Observation Plot Number: 2 Transect Number: A (Upland Station) 5'± U/G WF A-4 Date of Delineation: September 28, 2021

A. Sample Layer and Plant Species (by common/ scientific name)		B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (Yes or No)	E. Wetland Indicator Category *
Tree	White Pine (*Pinus strobus*)	26-50 (38.0)	55	Y	FACU
	Red Oak (*Quercus rubra*)	16-25 (20.5)	30	Y	FACU
	Red Maple (*Acer rubrum*)	6-15 (10.5)	15	N	
	Total	69.0	100		
Sapling	White Pine (*Pinus strobus*)	6-15 (10.5)	100	Y	FACU
	Total	10.5	100		
Shrub	Witch Hazel (*Hamamelis virginiana*)	16-25 (20.5)	49	Y	FAC*
	American Hazel (*Corylus americana*)	6-15 (10.5)	25	Y	FACU
	Spicebush (*Lindera benzoin*)	6-15 (10.5)	25	Y	FACW*
	Total	41.5	99**		
Herb	Wild Sarsaparilla (*Aralia nudicaulis*)	6-15 (10.5)	33	Y	FACU
	New York Fern (*Thelypteris noveboracensis*)	6-15 (10.5)	33	Y	FAC*
	Red Oak (*Quercus rubra*)	6-15 (10.5)	33	Y	FACU
	Total	31.5	99**		

**Total does not equal 100 due to rounding
*Use an asterisk to mark wetland indicator plants species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological adaptations, describe the adaptation next to the asterisk.

Vegetation Conclusion:

Number of dominant wetland indicator plants: 3 Number of dominant non-wetland indicator plants: 6
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? YES NO
If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation
1. Soil Survey

Is there a published soil survey for this site? [Yes] No
Title/Date: Soil Survey of Norfolk and Suffolk Counties, Massachusetts, 2020

Map Number: Accessed via Web Soil Survey http://websoilsurvey.nrcs.usda.gov/

Soil type mapped: 104D – Hollis-Rock outcrop-Charlton complex, 15-35% slopes

Hydric Soil Inclusions: None

Are field observations consistent with soil survey? [Yes] No

Remarks:

2. Soil Description

Horizon	Depth (in)	Matrix Color	Mottles Color
O	1/2-0"	10YR 2/2	
A	0-3"	10YR 2/2	
B	3-12+"	10YR 4/3	

Remarks: Rocky B horizon

3. Other:

Conclusion: Is soil hydric? Yes [No]

Other Indicators of Hydrology: (check all that apply and describe)
- ☐ Site inundated:
- ☐ Depth to free water in observation hole:
- ☐ Depth to soil saturation in observation hole:
- ☐ Water Marks:
- ☐ Drift lines:
- ☐ Sediment deposits:
- ☐ Drainage patterns in BVW:
- ☐ Oxidized rhizospheres:
- ☐ Water-stained leaves:
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- ☐ Other:

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☐	☒
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ **Prepared by:** Pare Corporation **Project location:** 61 E Belcher Rd, Foxboro **DEP File #:** None
L. Gluck

Check all that apply:

__ Vegetation alone presumed adequate to delineate BVW boundary: fill out section I only.
X Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II.
__ Method other than dominance test used (attach additional information).

Section I. Observation Plot Number: 3 Transect Number: A (Wetland Station) 5'± D/G WF A-103 Date of Delineation: September 28, 2021

	A. Sample Layer and Plant Species (by common/ scientific name)	B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (Yes or No)	E. Wetland Indicator Category *
Tree	White Pine (*Pinus strobus*)	16-25 (20.5)	28	Y	FACU
	Red Oak (*Quercus rubra*)	16-25 (20.5)	28	Y	FACU
	Red Maple (*Acer rubrum*)	16-25 (20.5)	28	Y	FAC*
	White Ash (*Fraxinus americana*)	6-15 (10.5)	15	N	
	Total	72.0	99**		
Sapling	White Pine (*Pinus strobus*)	6-15 (10.5)	50	Y	FACU
	Red Maple (*Acer rubrum*)	6-15 (10.5)	50	Y	FAC*
	Total	20.5	100		
Shrub	Northern Arrowwood (*Viburnum dentatum*)	16-25 (20.5)	49	Y	FAC*
	Greenbriar (*Smilax rotundifolia*)	6-15 (10.5)	25	Y	FAC*
	Highbush Blueberry (*Vaccinium corymbosum*)	6-15 (10.5)	25	Y	FACW*
	Total	41.5	99**		
Herb	Poison Ivy (*Toxicodendron radicans*)	16-25 (20.5)	50	Y	FAC*
	Virginia Creeper (*Parthenocissus quinquefolia*)	16-25 (20.5)	50	Y	FACU
	Total	41.0	100		

**Total does not equal 100 due to rounding

*Use an asterisk to mark wetland indicator plants species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological adaptations, describe the adaptation next to the asterisk.

Vegetation Conclusion:

Number of dominant wetland indicator plants: 6 Number of dominant non-wetland indicator plants: 4

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? YES NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation
1. Soil Survey

Is there a published soil survey for this site? [Yes] No
Title/Date: Soil Survey of Norfolk and Suffolk Counties, Massachusetts, 2020

Map Number: Accessed via Web Soil Survey http://websoilsurvey.nrcs.usda.gov/

Soil type mapped: 71B – Ridgebury fine sandy loam, 3-8% slopes, extremely stony

Hydric Soil Inclusions: Whitman

Are field observations consistent with soil survey? [Yes] No

Remarks:

2. Soil Description

Horizon	Depth (in)	Matrix Color	Mottles Color
O	1/2-0"	10YR 2/2	
A	0-4"	10YR 2/1	
B	4-8+"	10YR 4/2	7.5YR 4/6

Remarks: strong redox in B horizon; hit rock around 8"

3. Other:

Conclusion: Is soil hydric? [Yes] No

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated:

☐ Depth to free water in observation hole:

☐ Depth to soil saturation in observation hole:

☐ Water Marks:

☐ Drift lines:

☐ Sediment deposits:

☒ Drainage patterns in BVW:

☐ Oxidized rhizospheres:

☒ Water-stained leaves:

☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):

☒ Other: shallow roots on trees

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ **Prepared by:** Pare Corporation **Project location:** 61 E Belcher Rd, Foxboro **DEP File #:** None
L. Gluck

Check all that apply:
__ Vegetation alone presumed adequate to delineate BVW boundary: fill out section I only.
X Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II.
__ Method other than dominance test used (attach additional information).

Section I. Observation Plot Number: 4 Transect Number: A (Upland Station) 5'± U/G WF A-103 Date of Delineation: September 28, 2021

A. Sample Layer and Plant Species (by common/ scientific name)		B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (Yes or No)	E. Wetland Indicator Category *
Tree	White Pine (*Pinus strobus*)	6-15 (10.5)	17	N	
	Red Oak (*Quercus rubra*)	16-25 (20.5)	33	Y	FACU
	Red Maple (*Acer rubrum*)	16-25 (20.5)	33	Y	FAC*
	White Ash (*Fraxinus americana*)	6-15 (10.5)	17	N	
	Total	62.0	100		
Sapling	White Pine (*Pinus strobus*)	6-15 (10.5)	50	Y	FACU
	Red Oak (*Quercus rubra*)	6-15 (10.5)	50	Y	FACU
	Total	20.5	100		
Shrub	Northern Arrowwood (*Viburnum dentatum*)	6-15 (10.5)	30	Y	FAC*
	Highbush Blueberry (*Vaccinium corymbosum*)	0-5 (3.0)	9	N	
	Greenbriar (*Smilax rotundifolia*)	6-15 (10.5)	30	Y	FAC*
	Black Huckleberry (*Gaylussacia baccata*)	6-15 (10.5)	30	Y	FACU
	Total	34.5	99**		
Herb	Aster (*Aster sp.*)	16-25 (20.5)	66	Y	Assume FACU
	Virginia Creeper (*Parthenocissus quinquefolia*)	6-15 (10.5)	34	Y	FACU
	Total	31.0	100		

**Total does not equal 100 due to rounding
*Use an asterisk to mark wetland indicator plants species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological adaptations, describe the adaptation next to the asterisk.

Vegetation Conclusion:

Number of dominant wetland indicator plants: 3 Number of dominant non-wetland indicator plants: 6
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? YES NO
If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation
1. Soil Survey

Is there a published soil survey for this site? [Yes] No
Title/Date: Soil Survey of Norfolk and Suffolk Counties, Massachusetts, 2020

Map Number: Accessed via Web Soil Survey http://websoilsurvey.nrcs.usda.gov/

Soil type mapped: 424C – Canton fine sandy loam, 8-15% slopes, extremely bouldery

Hydric Soil Inclusions: None

Are field observations consistent with soil survey? [Yes] No

Remarks:

2. Soil Description

Horizon	Depth (in)	Matrix Color	Mottles Color
A	0-4"	10YR 2/2	
Rock	4+"		

Remarks: Hit rock at 4"

3. Other:

Conclusion: Is soil hydric? Yes [No]

Other Indicators of Hydrology: (check all that apply and describe)
☐ Site inundated:

☐ Depth to free water in observation hole:

☐ Depth to soil saturation in observation hole:

☐ Water Marks:

☐ Drift lines:

☐ Sediment deposits:

☐ Drainage patterns in BVW:

☐ Oxidized rhizospheres:

☐ Water-stained leaves:

☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):

☐ Other:

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☐	☒
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ **Prepared by:** Pare Corporation **Project location:** 61 E Belcher Rd, Foxboro **DEP File #:** None
L. Gluck

Check all that apply:

__ Vegetation alone presumed adequate to delineate BVW boundary: fill out section I only.
X Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II.
__ Method other than dominance test used (attach additional information).

Section I. Observation Plot Number: 1 Transect Number: B (Wetland Station) 5'± D/G WF B-6 Date of Delineation: September 30, 2021

A. Sample Layer and Plant Species (by common/ scientific name)		B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (Yes or No)	E. Wetland Indicator Category *
Tree	Tupelo (*Nyssa sylvatica*)	6-15 (10.5)	15	N	
	Red Oak (*Quercus rubra*)	16-25 (20.5)	30	Y	FACU
	Red Maple (*Acer rubrum*)	26-50 (38.0	55	Y	FAC*
	Total	62.0	100		
Sapling	White Pine (*Pinus strobus*)	6-15 (10.5)	44	Y	FACU
	Sassafras (*Sassafras albidum*)	0-5 (3.0)	13	N	
	Red Maple (*Acer rubrum*)	6-15 (10.5)	44	Y	FAC*
	Total	24.0	101**		
Shrub	Witch Hazel (*Hamamelis virginiana*)	16-25 (20.5)	30	Y	FAC*
	Highbush Blueberry (*Vaccinium corymbosum*)	26-50 (38.0)	55	Y	FACW*
	Black Huckleberry (*Gaylusaccia baccata*)	6-15 (10.5)	15	N	
	Total	79.5	100		
Herb	Cinnamon Fern (*Osmunda cinnamomea*)	16-25 (20.5)	66	Y	FAC*
	Princess Pine (*Lycopodium obscurum*)	6-15 (10.5)	34	Y	FACU
	Total	31.0	100		

**Total does not equal 100 due to rounding

*Use an asterisk to mark wetland indicator plants species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological adaptations, describe the adaptation next to the asterisk.

Vegetation Conclusion:

Number of dominant wetland indicator plants: 5 Number of dominant non-wetland indicator plants: 3

Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? YES NO

If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation
1. Soil Survey

Is there a published soil survey for this site? [Yes] No
Title/Date: Soil Survey of Norfolk and Suffolk Counties, Massachusetts, 2020

Map Number: Accessed via Web Soil Survey
http://websoilsurvey.nrcs.usda.gov/

Soil type mapped: 104C – Hollis-Rock outcrop-Charlton complex, 0-15% slopes

Hydric Soil Inclusions: none

Are field observations consistent with soil survey? [Yes] No

Remarks:

2. Soil Description

Horizon	Depth (in)	Matrix Color	Mottles Color
O	1-0"	10YR 2/2	
A	0-8"	10YR 2/1	
B	8-12+"	10YR 4/1	

Remarks: rocky soils, gleyed B horizon

3. Other:

Conclusion: Is soil hydric? [Yes] No

Other Indicators of Hydrology: (check all that apply and describe)

☐ Site inundated:

☐ Depth to free water in observation hole:

☐ Depth to soil saturation in observation hole:

☐ Water Marks:

☐ Drift lines:

☐ Sediment deposits:

☐ Drainage patterns in BVW: channel

☐ Oxidized rhizospheres:

☒ Water-stained leaves:

☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):

☒ Other: mound and pool microrelief

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☒	☐
Wetland hydrology present: hydric soil present	☒	☐
other indicators of hydrology present	☒	☐
Sample location is in a BVW	☒	☐

Submit this form with the Request for Determination of Applicability or Notice of Intent

DEP Bordering Vegetated Wetland (310 CMR 10.55) Delineation Field Data Form

Applicant: _____ **Prepared by:** Pare Corporation **Project location:** 61 E Belcher Rd, Foxboro **DEP File #:** None
L. Gluck

Check all that apply:
__ Vegetation alone presumed adequate to delineate BVW boundary: fill out section I only.
X Vegetation and other indicators of hydrology used to delineate BVW boundary: fill out Sections I and II.
__ Method other than dominance test used (attach additional information).

Section I. Observation Plot Number: 2 Transect Number: B (Upland Station) 5'± U/G WF B-6 Date of Delineation: September 30, 2021

A. Sample Layer and Plant Species (by common/ scientific name)		B. Percent Cover (or basal area)	C. Percent Dominance	D. Dominant Plant (Yes or No)	E. Wetland Indicator Category *
Tree	Tupelo (*Nyssa sylvatica*)	6-15 (10.5)	15	N	
	Red Oak (*Quercus rubra*)	26-50 (38.0)	55	Y	FACU
	Red Maple (*Acer rubrum*)	16-25 (20.5)	30	Y	FAC*
	Total	69.0	100		
Sapling	White Pine (*Pinus strobus*)	16-25 (20.5)	66	Y	FACU
	Sassafras (*Sassafras albidum*)	6-15 (10.5)	34	Y	FACU
	Total	31.0	100		
Shrub	Witch Hazel (*Hamamelis virginiana*)	16-25 (20.5)	30	Y	FAC*
	Black Huckleberry (*Gaylusaccia baccata*)	26-50 (38.0)	55	Y	FACU
	Highbush Blueberry (*Vaccinium corymbosum*)	6-15 (10.5)	15	N	
	Total	69.0	100		
Herb	Princess Pine (*Lycopodium obscurum*)	16-25 (20:5)	77	Y	FACU
	Massachusetts Fern (*Thelypteris simulata*)	0-5 (3.0)	11	N	
	Red Oak (*Quercus rubra*)	0-5 (3.0)	11	N	
	Total	26.5	99**		

**Total does not equal 100 due to rounding
*Use an asterisk to mark wetland indicator plants species listed in the Wetlands Protection Act (MGL c. 131, s. 40); plants in the genus Sphagnum; plants listed as FAC, FAC+, FACW-, FACW+, or OBL; or plants with physiological or morphological adaptations. If any plants are identified as wetland indicator plants due to physiological adaptations, describe the adaptation next to the asterisk.

Vegetation Conclusion:

Number of dominant wetland indicator plants: 2 Number of dominant non-wetland indicator plants: 5
Is the number of dominant wetland plants equal to or greater than the number of dominant non-wetland plants? YES NO
If vegetation alone is presumed adequate to delineate the BVW boundary, submit this form with the Request for Determination of Applicability or Notice of Intent.

Section II. Indicators of Hydrology

Hydric Soil Interpretation
1. Soil Survey

Is there a published soil survey for this site? [Yes] No
Title/Date: Soil Survey of Norfolk and Suffolk Counties, Massachusetts, 2020

Map Number: Accessed via Web Soil Survey http://websoilsurvey.nrcs.usda.gov/

Soil type mapped: 104C – Hollis-Rock outcrop-Charlton complex, 0-15% slopes

Hydric Soil Inclusions: None

Are field observations consistent with soil survey? [Yes] No

Remarks:

2. Soil Description

Horizon	Depth (in)	Matrix Color	Mottles Color
O	1/2-0"	10YR 2/2	
A	0-4"	10YR 2/2	
B	4-12+"	10YR 4/4	

Remarks: Rocky B horizon

3. Other:

Conclusion: Is soil hydric? Yes [No]

Other Indicators of Hydrology: (check all that apply and describe)
- ☐ Site inundated:
- ☐ Depth to free water in observation hole:
- ☐ Depth to soil saturation in observation hole:
- ☐ Water Marks:
- ☐ Drift lines:
- ☐ Sediment deposits:
- ☐ Drainage patterns in BVW:
- ☐ Oxidized rhizospheres:
- ☐ Water-stained leaves:
- ☐ Recorded data (stream, lake, or tidal gauge; aerial photo; other):
- ☐ Other:

Vegetation and Hydrology Conclusion

	Yes	No
Number of wetland indicator plants ≥ number of non-wetland indicator plants	☐	☒
Wetland hydrology present: hydric soil present	☐	☒
other indicators of hydrology present	☐	☒
Sample location is in a BVW	☐	☒

Submit this form with the Request for Determination of Applicability or Notice of Intent

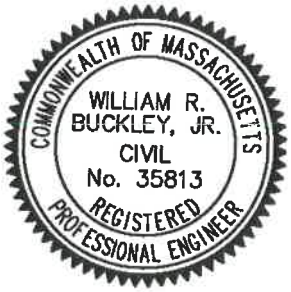
APPENDIX C

*Stormwater Management Report
(not included in all copies)

Bay Colony Group, Inc.
Professional Civil Engineers & Land Surveyors

4 School Street, PO Box 9136
Foxborough, Massachusetts 02035
Telephone (508) 543-3939 • Fax (508) 543-8866
E-mail: mailbox@baycolonygroup.com

Storm Water Management Report
61 East Belcher Road
Foxborough, MA



November, 2022

Prepared for:

Blue Diamond Realty Trust
73 East Belcher Road
Foxborough, MA 02035

Table of Contents:

1.0 Introduction

The project involves the construction of a 6,250 square foot warehouse on the northeastern portion of 9.57+/- acres of land located on the southwestern side of East Belcher Road about 1,500' west of the intersection with Souza Avenue. The property is bordered by commercial properties to the south, town-owned land to the west and undeveloped land to the north and east. The property is located within the Limited Industrial – LI zoning district. **Figure 1** is an extract from the USGS Mansfield quadrangle and shows the site locus.

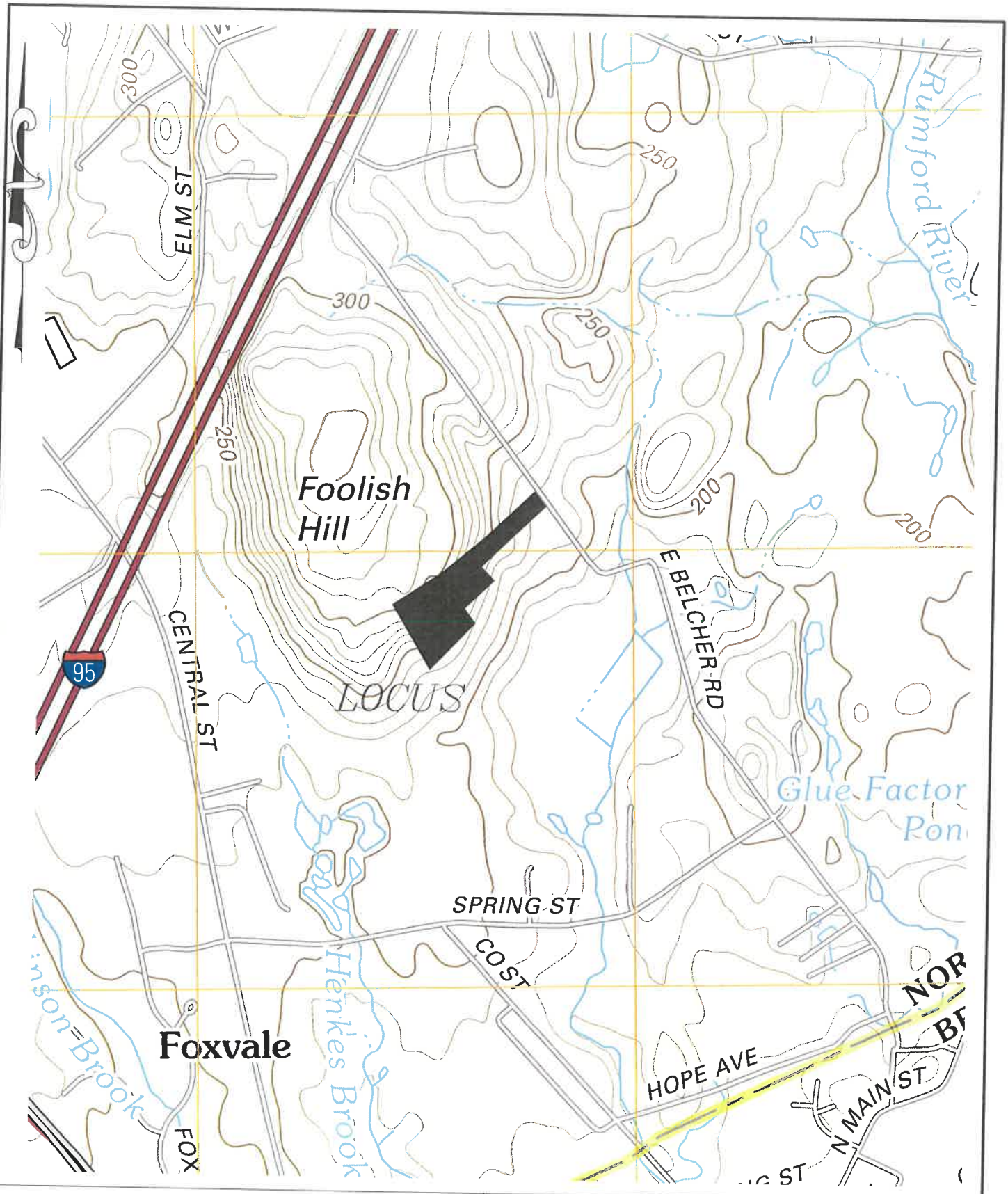
Bay Colony Group, Inc. conducted a storm water management study to ensure that the proposed project meets the ten MA DEP Storm Water Management Standards, the storm water standards outlined in the Town of Foxborough Stormwater Management Bylaws, and standard engineering practice. The scope of this study includes:

- Determining existing flood conditions and storm water quality calculations and analysis;
- Developing proposed flood conditions and storm water quality calculations and analysis;
- Designing a storm water management system.

2.0 Existing Conditions

The site is located on East Belcher Road on two existing parcels of land totaling 9.57+/- acres listed as Assessors' Map 122, Parcel 006 and as Assessors' Map 135, Parcel 002. The property is located on a hillside that generally slopes northwest to southeast. The high point of the site is at elevation 310' in the western portion of the property, it then slopes significantly to the east to elevation 218' to the bordering vegetated wetlands located in the northeastern portion of the property and to elevation 238' at the southeast property line. A portion of the property is currently undeveloped and consists of wooded area while the remainder of the property consists of a gravel area.

The NRCS has logged the soils on the site as Hollis-Rock outcrop-Charlton complex, Rock outcrop-Hollis complex, Canton fine sandy loam and Ridgebury fine sandy loam **Appendix D**. The Hollis-Rock Outcrop-Charlton soils are a mixture of B, C and D soils. For the purposes of this report, we have assumed a mixture of 40% B soil, 30% C soil, and 30% D soil. The Rock outcrop-Hollis soils are a mixture of C and D soils. For the purposes of this report, we have assumed a mixture of 50% C soil, and 50% D soil. The wooded area on the site consists of a mixture of primary and secondary growth consisting of deciduous and coniferous trees. BCG has conducted soil evaluations throughout the site to determine the general soil condition, depth to ground water and depth to refusal in order to design a storm water system in accordance with the DEP Stormwater Standards and a septic system in accordance with the State Sanitary Code, Title 5. We also conducted a laboratory textural analysis in accordance with Standard 3 of the DEP Stormwater Standards. A laboratory sieve analysis was run on the samples under the subsurface infiltration basins and the textural analysis determined that the soils are Sandy Loam for both Basin #1 and Basin #2. The RAWLS table found in the DEP Stormwater Management Standards, Volume 3, Chapter 1 yields an infiltration rate of 1.02 inches per hour for Sandy Loam. Copies of the basin soil logs and laboratory textural analyses are included in **Appendix D** and the locations of the test pits are shown on the existing conditions plan **Sheet 2**.



BAY COLONY GROUP, INC.
FOUR SCHOOL STREET
FOXBOROUGH, MA 02035
(508) 543-3939

USGS QUADRANGLE EXTRACT
61 EAST BELCHER ROAD
FOXBOROUGH, MA
MANSFIELD QUADRANGLE
SCALE: 1"= 1000'

3.0 Flood Condition Analyses and Flood Control

The storm water management system will consist of roof drainage, parking area drainage (runoff collection, pretreatment, and conveyance) and flood control and treatment. This report will concentrate on the storm water basin designs, the ten DEP storm water management standards and the Town of Foxborough performance standards. It shall comply with all other requirements and improve existing conditions.

The proposed design will achieve runoff control through a multi-phase system that includes two storm water basins located in the southeast and northeast portion of the property. The storm water basins will capture, treat, infiltrate and control the runoff from the roof, parking lot and gravel area. All of the runoff from the pavement will be pretreated by deep sump catch basins with oil traps, before discharging to the basin. The basins have been designed to accommodate up to and including the 100-year storm event. The system will ensure that the post-development rate of runoff is less than the pre-development condition.

The current land uses are woodland and gravel areas. The proposed land uses include a commercial building, parking areas, lawn, landscape, gravel and woods. The land uses for existing and proposed conditions are summarized in **Tables 1a** and **1b**. As previously discussed, the site lies on a hillside and drains to the east. We have chosen 3 study lines to develop the existing and proposed condition models. Subarea EA is the located in the southwesterly portion of the property and drains to the southeastern property line. Subarea EB is located in the central area of the site and drains to the southeast towards Lot 5B. Subarea EC is located in the northeasterly portion of the property and drain towards the wetland along the northeastern side of the project. Subarea EB and EC do not include the land upgradient from the site due to the existing wall along the property line which we observed acts as a natural barrier to prevent runoff from entering the site. The land upgradient from Subarea EC has been accounted for based off the existing topography. See the plan in **Appendix A – Existing Subareas**

Table 1a – Summary of Existing Land Uses

Subarea	Total Area (acre)	Land use	Area (acre)
EA	6.710	Woods, Fair, HSG B	2.244
		Woods, Fair, HSG C	2.233
		Woods, Fair, HSG D	2.233
EB	1.950	Gravel surface, HSG B	0.780
		Gravel surface, HSG C	0.585
		Gravel surface, HSG D	0.585
EC	1.694	Woods, Fair, HSG B	0.082
		Woods, Fair, HSG C	0.131
		Woods, Fair, HSG D	0.061
		Gravel surface, HSG B	0.568
		Gravel surface, HSG C	0.426
		Gravel surface, HSG D	0.426
Total:	10.354	Total:	10.354

For the proposed conditions the watershed is divided in to four separate subareas. Subarea PA-1 is located in the northwest portion of the site. It contains the wooded area upgradient from the site and the proposed gravel area on site and drains to storm water basin #2. Subarea PA-2 is located in the southeastern portion of the site and sheet flows toward the southeastern property line. Subarea PB is in the central area of the site and sheet flows to the southeast toward Lot 5B. Subarea PC is located in the northeasterly portion of the property and includes the building, parking area and gravel area. Subarea PC discharges to the catch basins located at the entrance of the property before it is conveyed to storm water basin #1. See the plan in **Appendix A – Developed Subareas**

Table 1b – Summary of Proposed Land Uses

Subarea	Total Area (acre)	Land use	Area (acre)
PA-1	4.863	Gravel surface, HSG B	0.647
		Gravel surface, HSG C	1.497
		Gravel surface, HSG D	1.497
		Woods, Fair, HSG B	0.276
		Woods, Fair, HSG C	0.207
		Woods, Fair, HSG D	0.207
		Water Surface, HSG B	0.194
		Water Surface, HSG C	0.169
		Water Surface, HSG D	0.169
PA-2	1.847	Gravel surface, HSG B	1.065
		Gravel surface, HSG C	0.321
		Gravel surface, HSG D	0.321
		Woods, Fair, HSG B	0.045
		Woods, Fair, HSG C	0.031
		Woods, Fair, HSG D	0.031
		>75% Grass cover, Good, HSG B	0.017
		>75% Grass cover, Good, HSG C	0.008
		>75% Grass cover, Good, HSG D	0.008
PB	1.990	>75% Grass cover, Good, HSG B	0.070
		>75% Grass cover, Good, HSG C	0.052
		>75% Grass cover, Good, HSG D	0.052
		Gravel surface, HSG B	0.726
		Gravel surface, HSG C	0.545
		Gravel surface, HSG D	0.545
PC	1.654	Gravel surface, HSG B	0.314
		Gravel surface, HSG C	0.235
		Gravel surface, HSG D	0.235
		Paved Parking, HSG B	0.113
		Paved Parking, HSG C	0.085
		Paved Parking, HSG D	0.085
		Roofs, HSG B	0.057
		Roofs, HSG C	0.043
		Roofs, HSG D	0.043

		>75% Grass cover, Good, HSG B	0.080
		>75% Grass cover, Good, HSG C	0.088
		>75% Grass cover, Good, HSG D	0.060
		Woods, Fair, HSG B	0.021
		Woods, Fair, HSG C	0.054
		Woods, Fair, HSG D	0.015
		Water Surface, HSG B	0.049
		Water Surface, HSG C	0.040
		Water Surface, HSG D	0.037
Total:	10.354	Total:	10.354

The runoff conditions based on the land uses in **Tables 1a** and **1b** are summarized in **Table 2** and detailed calculations can be found in **Appendix A**. Storm water control is necessary due to the change in land use.

Table 2: Summary of Peak Runoff (cfs) at the Study Lines

Condition		2-year (cfs)	10-year (cfs)	100-year (cfs)
Existing Conditions	Lot 5B	5.1	7.6	11.0
	Southeast Property Line	5.3	12.2	22.9
	Wetland	3.9	6.2	9.2
Proposed Conditions	Lot 5B	4.9	7.6	11.0
	Southeast Property Line	4.7	9.1	13.7
	Wetland	2.5	3.5	4.5

The detailed storm routing calculations are attached in **APPENDIX A**. The infiltration rates used were those outlined in the RAWLs Table in the DEP Stormwater Management Standards and were discussed in **Section 2.0 Existing Conditions**.

4.0 Stormwater Management

The site is not located in a groundwater protection district (Zone II). There are no private drinking water wells around the project site. There are no other critical areas downgradient of the project site based on 314 CMR 4.00 (Massachusetts Surface Water Quality Standards). There are no certified vernal pools near the site. The DEP Stormwater Standards apply to this proposed project and the project design is based on the latest edition of these documents.

DEP STORMWATER MANAGEMENT STANDARDS

Standard #1: NO UNTREATED DISCHARGE OR EROSION TO WETLANDS

No untreated stormwater from the proposed project area will be discharged to a resource area. Runoff from all pavement will be discharged to deep sump catch basins equipped with oil traps, then to manholes and finally to the above ground storm water basins. This treatment train will

achieve a TSS removal rate of 85%. All of the outfalls have been designed to accept the 25-year storm flow from the basin without causing erosion in the wetlands or soils **Appendix B**.

Standard #2: PEAK RATE ATTENUATION

Stormwater controls have been designed for 2, 10, and 100-year storms according to both state and local regulations. Measurement of peak discharge rates is calculated at a design point, typically the lowest point of discharge at the downgradient property line (Massachusetts Stormwater Handbook, Vol. 1, Ch. 1, P.5). The design ensures that the post-development peak rates of runoff do not exceed the pre-development condition at any of the design points chosen. Proponents must also evaluate the impact of peak discharges from the 100-year storm. If this evaluation shows that increased off-site flooding will result from peak discharge from the storm then BMPs must also attenuate that discharge (Massachusetts Stormwater Handbook, Vol. 1, Ch. 1, P.5). In this case, the post-development peak rates for the 100-year event are less than the pre-development condition everywhere **Table 2.**

Standard #3: STORMWATER RECHARGE

1) The proposed project area is located on a plot with hydrologic class B through D soils based on the NRCS soil survey. The target depth factor for an B soil is 0.35 inches, for C soils is 0.25 inches and for D soils is 0.10 inches. Soil textural analyses have been conducted in the area where recharge is proposed and it was found to be Sandy Loam under the basins. The RAWLS rate for Sandy Loam is 1.02 inches per hour and this rate will be used for the recharge calculations. **Appendix B**.

2) The infiltration BMP that will be used will be the above ground infiltration basin. **Appendix B**.

3) Using the RAWLS rates for the infiltration basins shows that the drawdown of the Required Recharge Volume will be 2.4 hours, which meets the required 72 hours dewatering standard **APPENDIX B**.

4) Capture area adjustment is not necessary since 100% of the impervious area on the site will be directed to the above ground infiltration structure, which meets the 65% standard

5) A mounding analysis is necessary under the infiltration Basin #1 per the DEP Stormwater standards since the vertical separation from the bottom of the basins and the estimated high ground water elevation is less than 4'. The local regulations state that mounding in groundwater should be considered therefore we have conducted a mounding analysis. In accordance with the "Simple Dynamic" methodology, the RAWLS rate is used as the hydraulic conductivity and the mounding analysis assumes that the Required Recharge Volume is applied during a 2-hour period during the storm. The specific yield at the basins is based on the USDA Textural Analysis and USGS Water Supply Paper 1662-D **Appendix D**. The model used is the AQTESOLV V.4.50.002 program that uses the ground water mounding solution by Hantush (1967). The analysis found that the top of the mound is below the bottom of the basin. Therefore, the mound does not breache the

bottom of the pond and will not impact the ability of the basin to drain within 72 hours as was previously discussed. **Appendix B**

Standard # 4: WATER QUALITY

1) The required water quality volume is based on 0.426 acres of impervious area and 1 inch water quality depth, which yields a water quality volume of 1,546 cubic feet or 0.0355 ac-ft. The infiltration basin can handle a water volume of 9,278 cubic feet or 0.213 ac-ft prior to discharge.

2) The BMPs used for the proposed project to enhance water quality include: deep sump catch basins and storm water basins. All of the runoff from the pavement will go through deep sump catch basins with "Snout" water quality elbows then to the above ground infiltration basin. The estimated overall TSS removal will be 85% and phosphorous removal will be 60%. **Appendix B.**

3) Because the subsurface basin is being used to fulfill the requirements of Standards 3 and 4 it must handle the larger of the water quality volumes. The basin has a Required Water Quality Volume of 0.0355 ac-ft and a storage volume 0.213 ac-ft below discharge **Appendix B**

Standard # 5: LAND USES WITH HIGHER POTENTIAL POLLUTION LOADS

The site will consist of a typical commercial building with 7 parking spaces, which is not considered to have a high potential pollutant load. The site will be compatible with the surrounding environment, which is a primarily commercial property.

Standard #6: CRITICAL AREAS

According to 314 CMR 14.400 and MASS MAPPER the project site does not contain any critical resource areas

Standard #7: REDEVELOPMENT

Th proposed activity is not a redevelopment project

Standard #8: CONSTRUCTION PERIOD CONTROLS

Silt sock barriers will be installed at the downgradient limit of work if within 100' of any wetland resource area before any excavation starts. A stone pad shall be spread at the entrance from the existing access road to the project site to prevent mud from escaping the site during construction. Silt sacks will be installed within the catch basins.

A Draft Stormwater Pollution Prevention Plan has been developed in accordance with the EPA General Permit for Construction Activities. A final SWPPP will be prepared once the

construction schedule is finalized and the contractors are chosen. A copy of the Draft SWPPP is included in **Sheet 7 & Appendix C**

Standard #9: OPERATION AND MAINTENANCE PLAN

Pre- and Post-Development Operation and Maintenance Plans have been developed for the project **Appendix C**.

Standard # 10: ILLICIT DISCHARGES TO DRAINAGE SYSTEM

I certify to the best of my professional knowledge, information and belief that there are no illicit discharges to the stormwater management system, including wastewater discharges and discharges of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease. The proposed systems as shown on the referenced plans do not allow entry of any illicit discharges into the system and there are no connections between the stormwater and wastewater management systems.

To be signed prior to construction
Owner

Date

APPENDIX A – Pre- and Post-DEVELOPMENT ANALYSIS AND STORM WATER POND DESIGNS

PROJECT:
61 East Belcher Road
Foxborough, MA

OWNER:
Francis Mahoney
695 Winter Street
Walpole, MA

Professional Civil Engineers & Professional Land Surveyors
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

STAMP

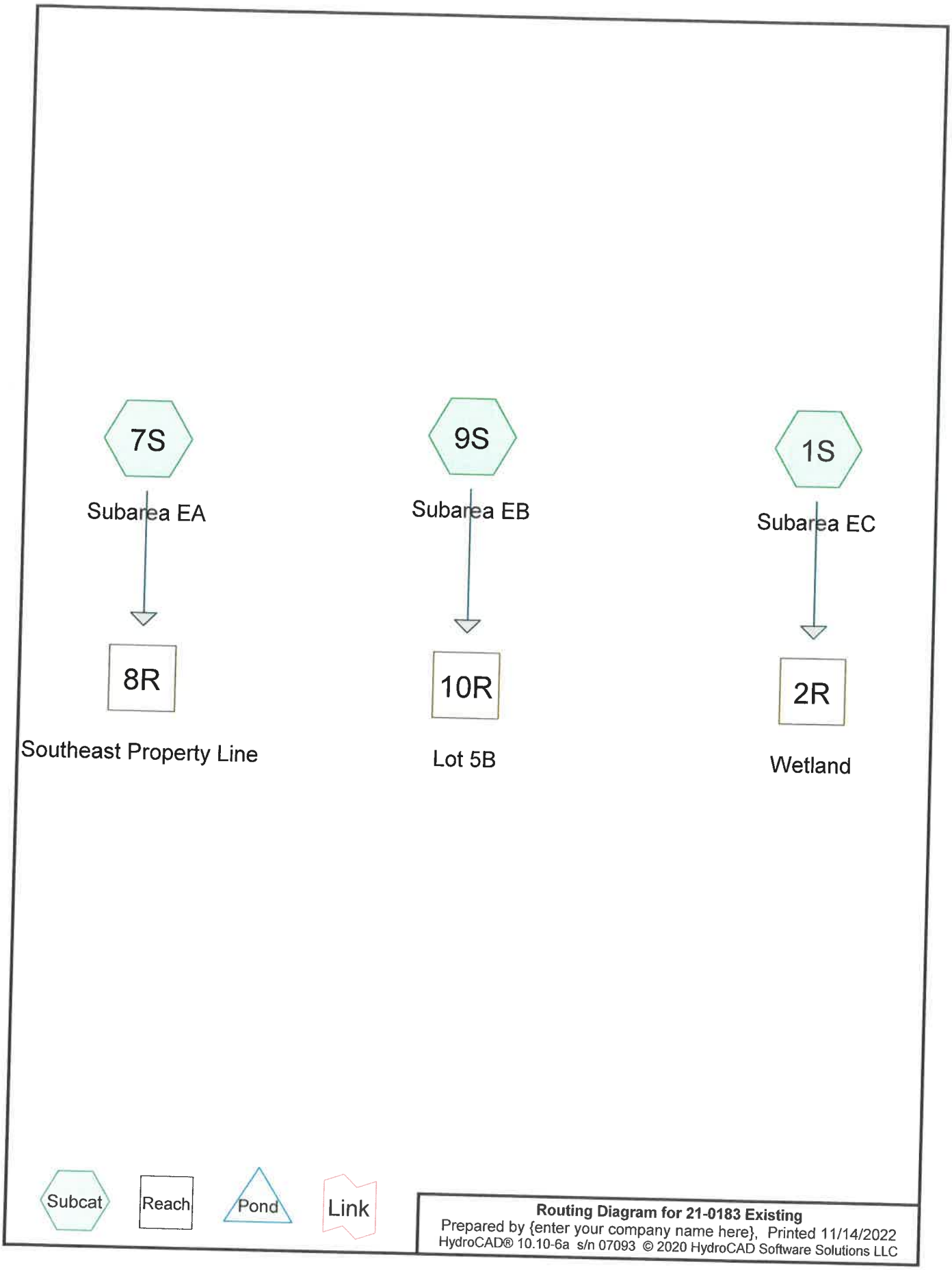
DRAWING TITLE

EX-Subareas

SCALE: 1" = 50'

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	EX

TABLE OF CONTENTS


7S
Subarea EA
8R
Southeast Property Line
9S
Subarea EB
10R
Lot 5B
1S
Subarea EC
2R
Wetland
Subcat
Reach
Pond
Link
Routing Diagram for 21-0183 Existing
Prepared by {enter your company name here}, Printed 11/14/2022
HydroCAD® 10.10-6a s/n 07093 © 2020 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.348	96	Gravel surface, HSG B (1S, 9S)
1.011	96	Gravel surface, HSG C (1S, 9S)
1.011	96	Gravel surface, HSG D (1S, 9S)
2.326	60	Woods, Fair, HSG B (1S, 7S)
2.364	73	Woods, Fair, HSG C (1S, 7S)
2.294	79	Woods, Fair, HSG D (1S, 7S)

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.674	HSG B	1S, 7S, 9S
3.375	HSG C	1S, 7S, 9S
3.305	HSG D	1S, 7S, 9S
0.000	Other	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea EC
Runoff Area=1.694 ac 0.00% Impervious Runoff Depth>2.21"
Flow Length=378' Tc=10.0 min CN=92 Runoff=3.9 cfs 0.313 af

Subcatchment 7S: Subarea EA
Runoff Area=6.710 ac 0.00% Impervious Runoff Depth>0.79"
Flow Length=718' Tc=11.0 min CN=71 Runoff=5.3 cfs 0.443 af

Subcatchment 9S: Subarea EB
Runoff Area=1.950 ac 0.00% Impervious Runoff Depth>2.59"
Flow Length=362' Tc=10.0 min CN=96 Runoff=5.1 cfs 0.421 af

Reach 2R: Wetland
Inflow=3.9 cfs 0.313 af
Outflow=3.9 cfs 0.313 af

Reach 8R: Southeast Property Line
Inflow=5.3 cfs 0.443 af
Outflow=5.3 cfs 0.443 af

Reach 10R: Lot 5B
Inflow=5.1 cfs 0.421 af
Outflow=5.1 cfs 0.421 af

Summary for Subcatchment 1S: Subarea EC

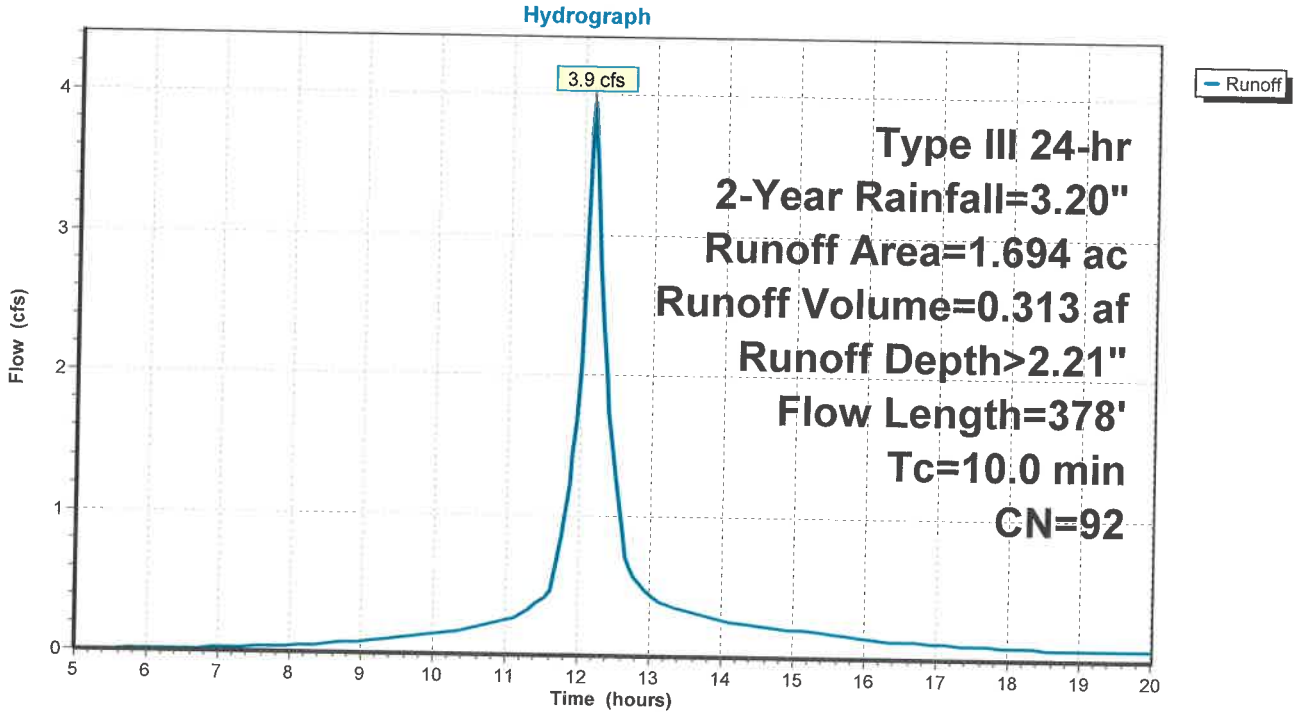
Runoff = 3.9 cfs @ 12.14 hrs, Volume= 0.313 af, Depth> 2.21"
Routed to Reach 2R : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.082	60	Woods, Fair, HSG B
0.131	73	Woods, Fair, HSG C
0.061	79	Woods, Fair, HSG D
0.568	96	Gravel surface, HSG B
0.426	96	Gravel surface, HSG C
0.426	96	Gravel surface, HSG D
1.694	92	Weighted Average
1.694		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	50	0.0560	0.54		**Sheet Flow,** Fallow n= 0.050 P2= 3.20"
1.3	328	0.0650	4.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.8	378	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 1S: Subarea EC



Summary for Subcatchment 7S: Subarea EA

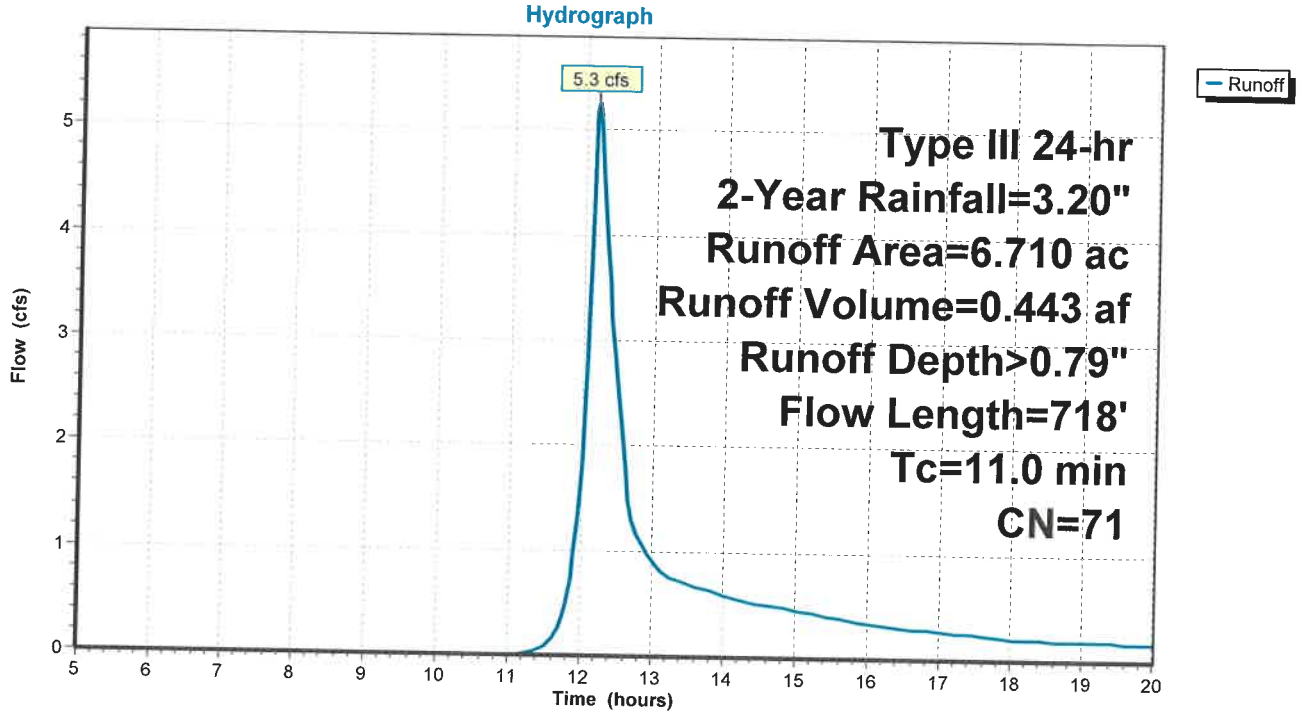
Runoff = 5.3 cfs @ 12.17 hrs, Volume= 0.443 af, Depth> 0.79"
Routed to Reach 8R : Southeast Property Line

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
2.244	60	Woods, Fair, HSG B
2.233	73	Woods, Fair, HSG C
2.233	79	Woods, Fair, HSG D
6.710	71	Weighted Average
6.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.3200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
6.9	668	0.1040	1.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	718	Total			

Subcatchment 7S: Subarea EA



Summary for Subcatchment 9S: Subarea EB

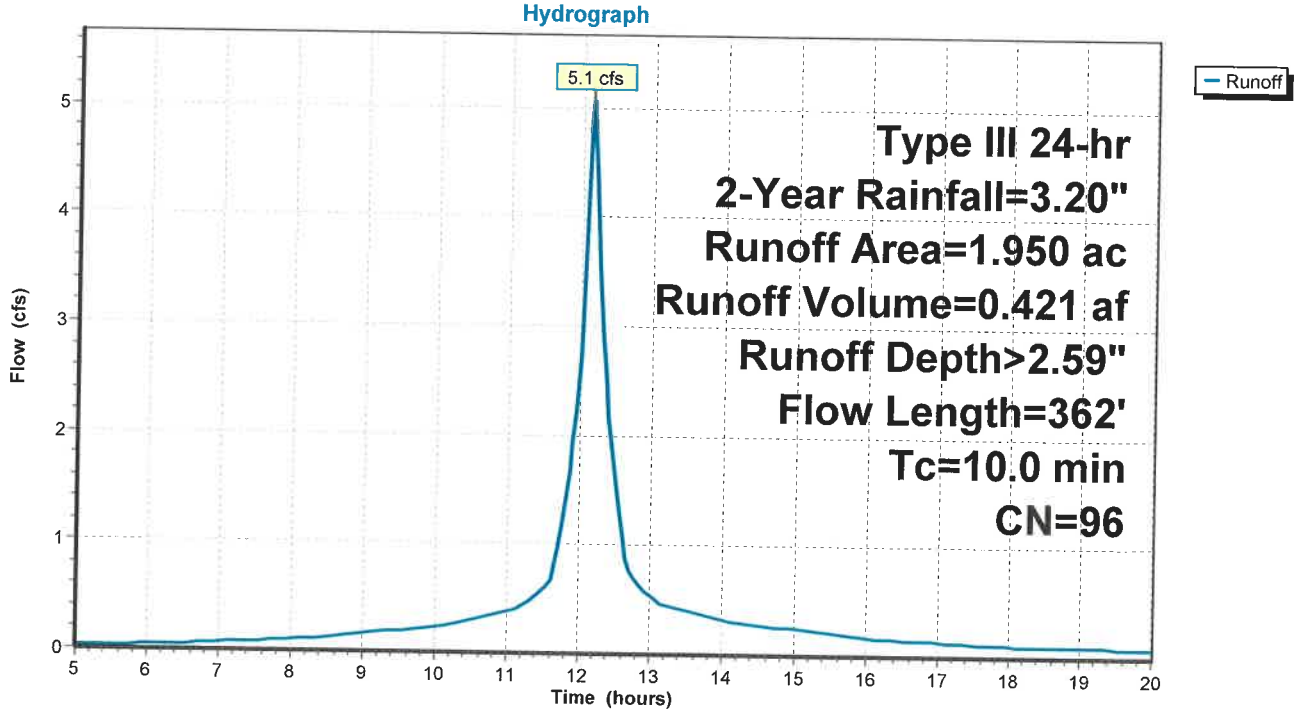
Runoff = 5.1 cfs @ 12.14 hrs, Volume= 0.421 af, Depth> 2.59"
Routed to Reach 10R : Lot 5B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.780	96	Gravel surface, HSG B
0.585	96	Gravel surface, HSG C
0.585	96	Gravel surface, HSG D
1.950	96	Weighted Average
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1200	2.45		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	312	0.1550	6.34		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	362	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 9S: Subarea EB

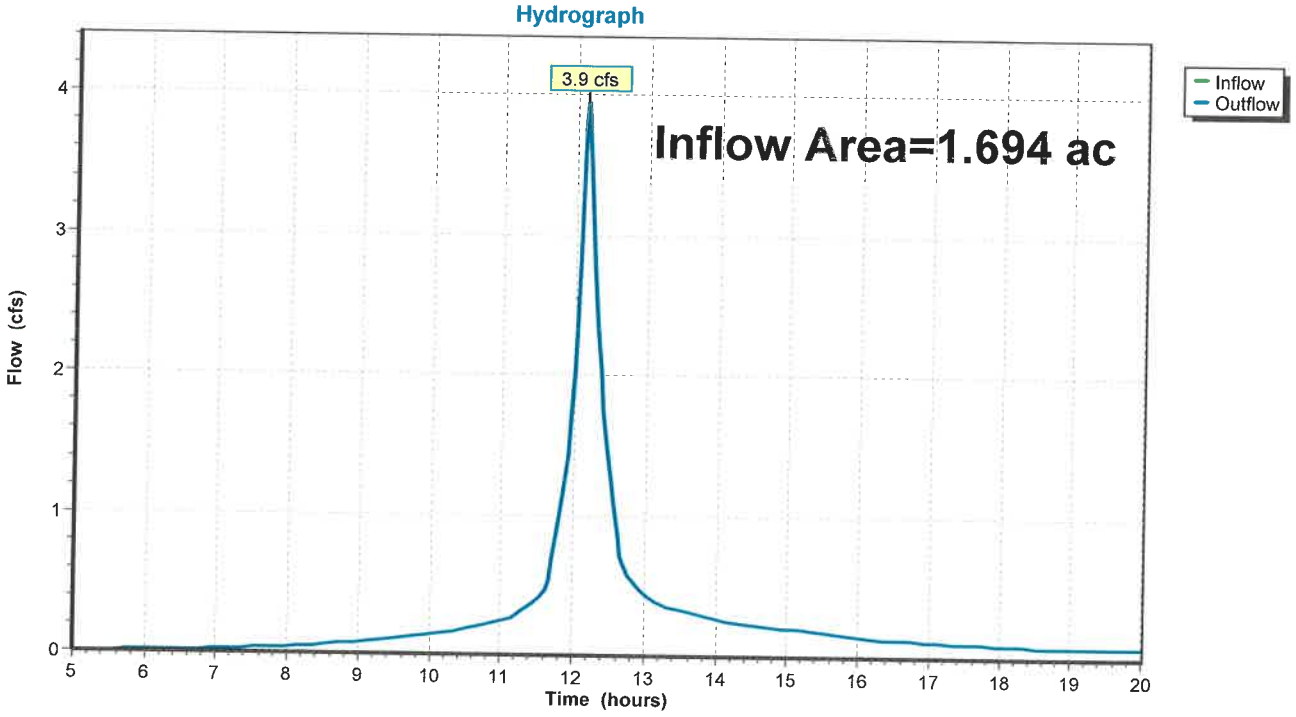


Summary for Reach 2R: Wetland

Inflow Area = 1.694 ac, 0.00% Impervious, Inflow Depth > 2.21" for 2-Year event
Inflow = 3.9 cfs @ 12.14 hrs, Volume= 0.313 af
Outflow = 3.9 cfs @ 12.14 hrs, Volume= 0.313 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Wetland

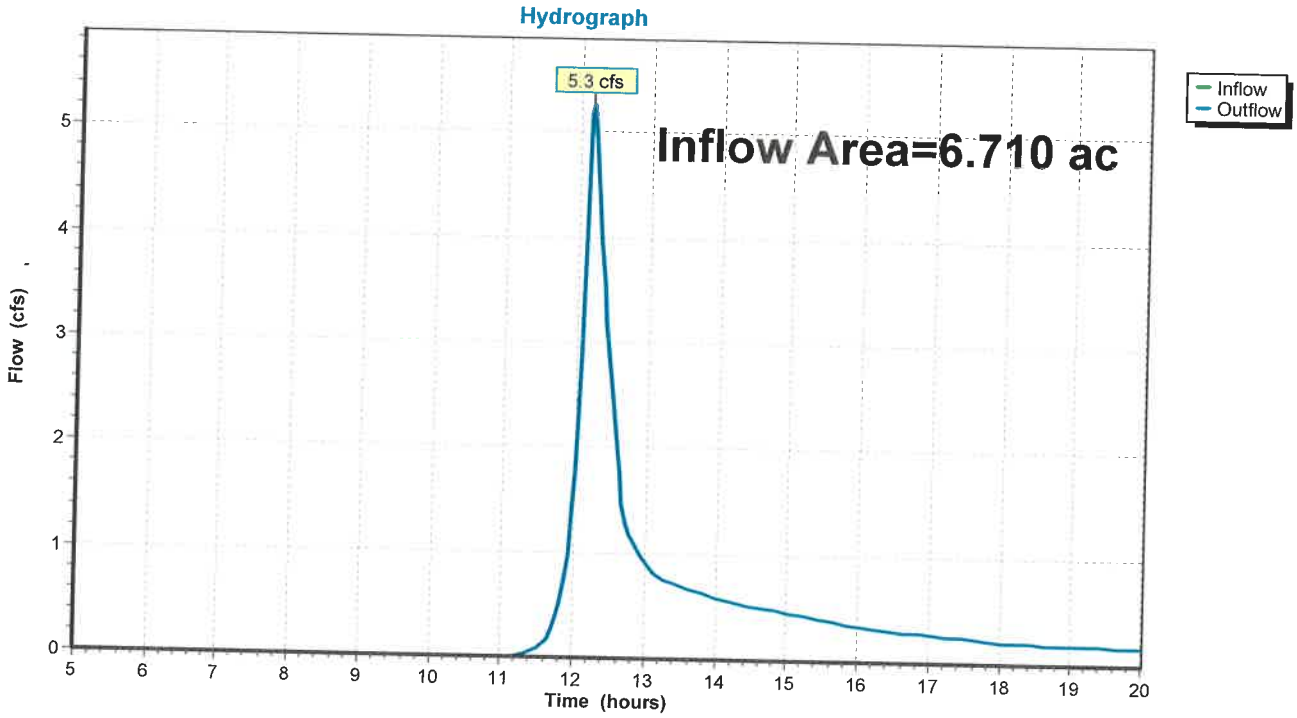


Summary for Reach 8R: Southeast Property Line

Inflow Area = 6.710 ac, 0.00% Impervious, Inflow Depth > 0.79" for 2-Year event
Inflow = 5.3 cfs @ 12.17 hrs, Volume= 0.443 af
Outflow = 5.3 cfs @ 12.17 hrs, Volume= 0.443 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Southeast Property Line



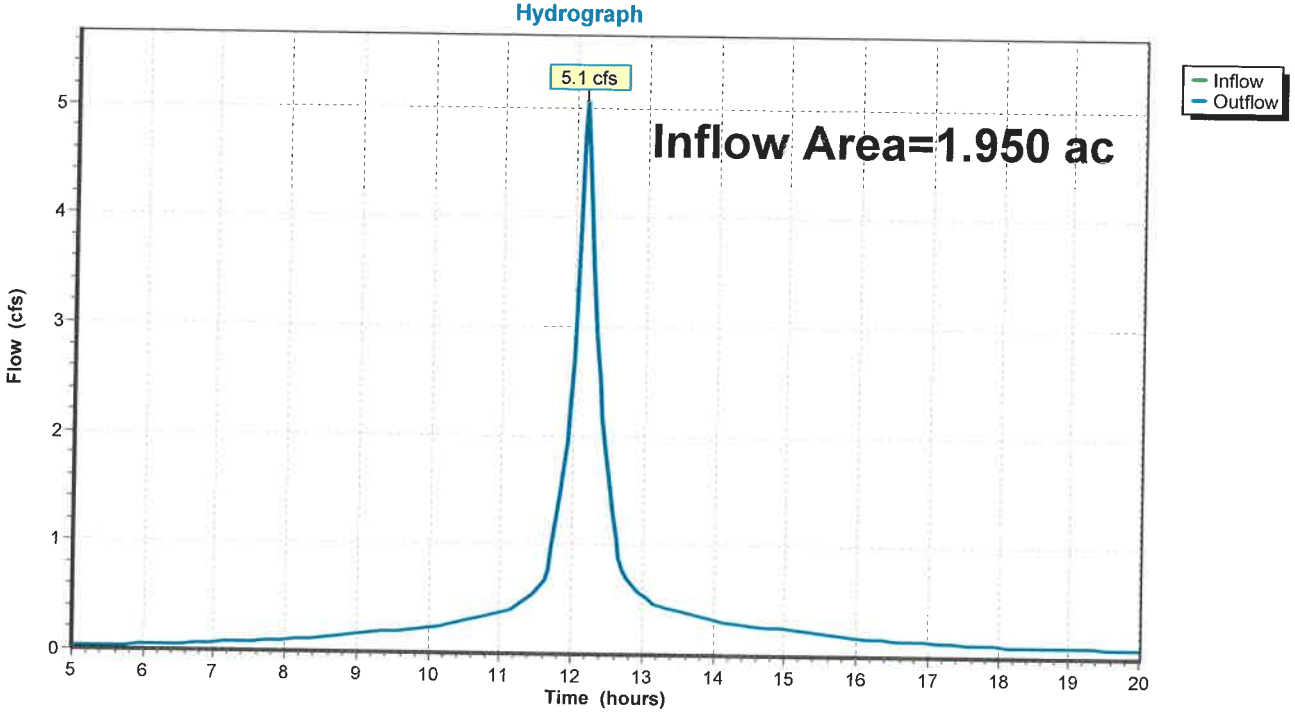
Summary for Reach 10R: Lot 5B

Inflow Area = 1.950 ac, 0.00% Impervious, Inflow Depth > 2.59" for 2-Year event
Inflow = 5.1 cfs @ 12.14 hrs, Volume= 0.421 af
Outflow = 5.1 cfs @ 12.14 hrs, Volume= 0.421 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 10R: Lot 5B

Hydrograph



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea EC
Runoff Area=1.694 ac 0.00% Impervious Runoff Depth>3.59"
Flow Length=378' Tc=10.0 min CN=92 Runoff=6.2 cfs 0.506 af

Subcatchment 7S: Subarea EA
Runoff Area=6.710 ac 0.00% Impervious Runoff Depth>1.74"
Flow Length=718' Tc=11.0 min CN=71 Runoff=12.2 cfs 0.972 af

Subcatchment 9S: Subarea EB
Runoff Area=1.950 ac 0.00% Impervious Runoff Depth>3.98"
Flow Length=362' Tc=10.0 min CN=96 Runoff=7.6 cfs 0.646 af

Reach 2R: Wetland
Inflow=6.2 cfs 0.506 af
Outflow=6.2 cfs 0.506 af

Reach 8R: Southeast Property Line
Inflow=12.2 cfs 0.972 af
Outflow=12.2 cfs 0.972 af

Reach 10R: Lot 5B
Inflow=7.6 cfs 0.646 af
Outflow=7.6 cfs 0.646 af

Summary for Subcatchment 1S: Subarea EC

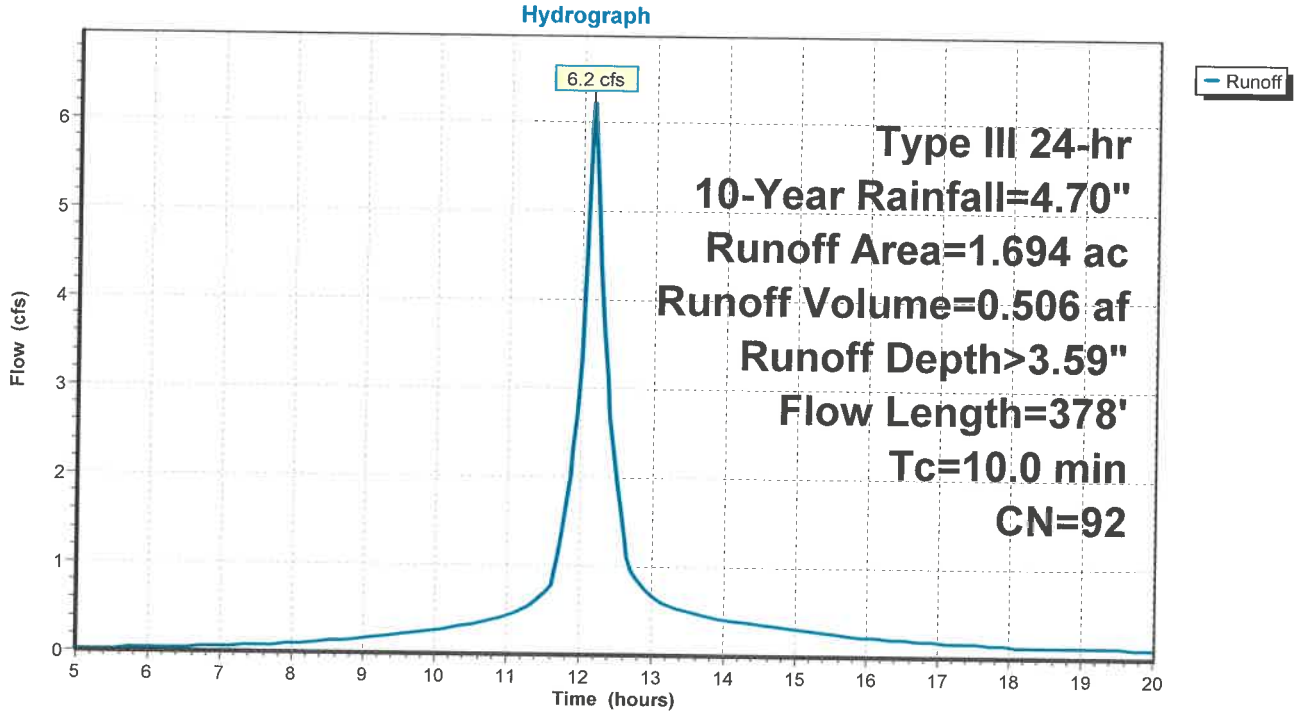
Runoff = 6.2 cfs @ 12.14 hrs, Volume= 0.506 af, Depth> 3.59"
Routed to Reach 2R : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.082	60	Woods, Fair, HSG B
0.131	73	Woods, Fair, HSG C
0.061	79	Woods, Fair, HSG D
0.568	96	Gravel surface, HSG B
0.426	96	Gravel surface, HSG C
0.426	96	Gravel surface, HSG D
1.694	92	Weighted Average
1.694		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	50	0.0560	0.54		**Sheet Flow,** Fallow n= 0.050 P2= 3.20"
1.3	328	0.0650	4.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.8	378	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 1S: Subarea EC



Summary for Subcatchment 7S: Subarea EA

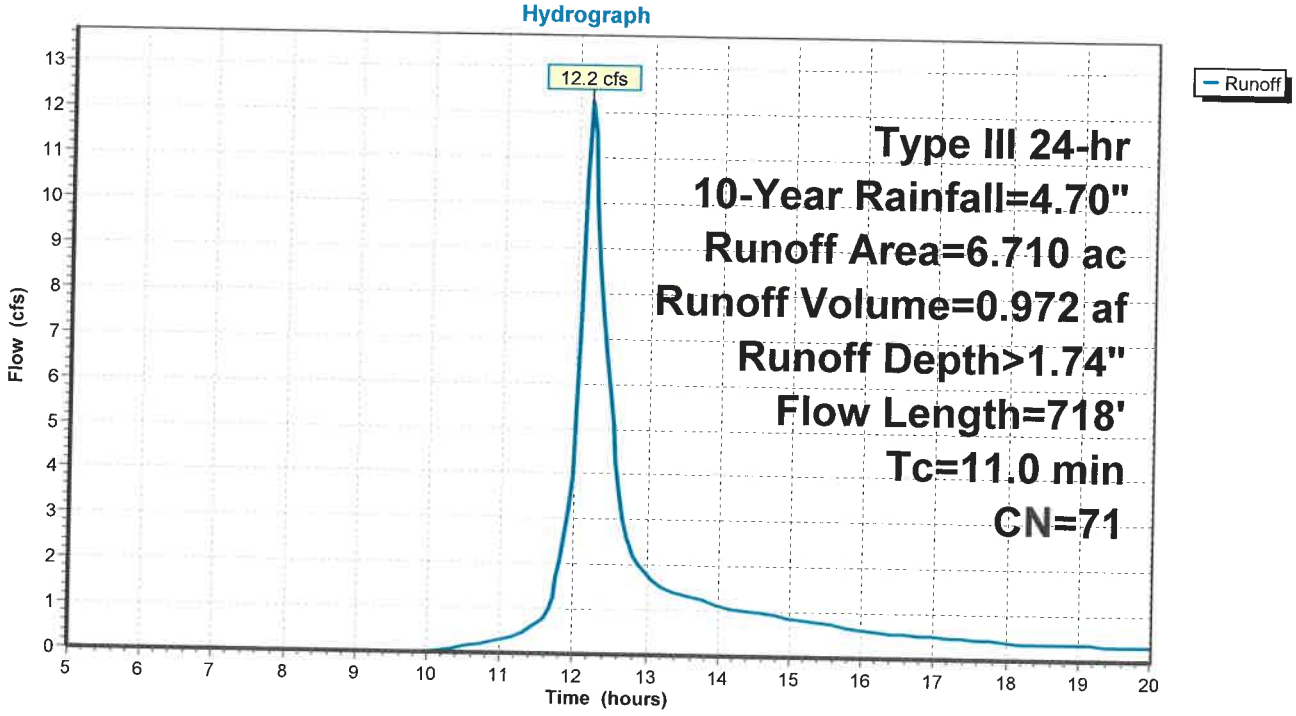
Runoff = 12.2 cfs @ 12.16 hrs, Volume= 0.972 af, Depth> 1.74"
Routed to Reach 8R : Southeast Property Line

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
2.244	60	Woods, Fair, HSG B
2.233	73	Woods, Fair, HSG C
2.233	79	Woods, Fair, HSG D
6.710	71	Weighted Average
6.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.3200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
6.9	668	0.1040	1.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	718	Total			

Subcatchment 7S: Subarea EA



Summary for Subcatchment 9S: Subarea EB

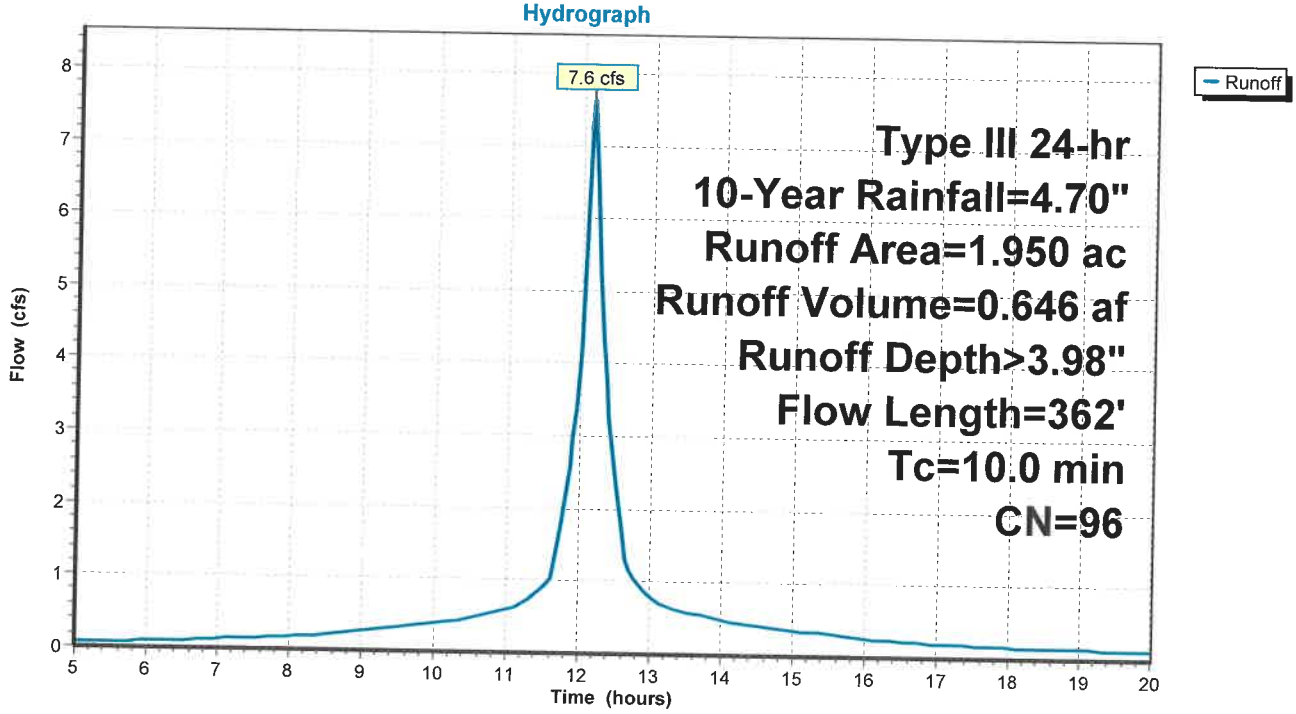
Runoff = 7.6 cfs @ 12.14 hrs, Volume= 0.646 af, Depth> 3.98"
Routed to Reach 10R : Lot 5B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.780	96	Gravel surface, HSG B
0.585	96	Gravel surface, HSG C
0.585	96	Gravel surface, HSG D
1.950	96	Weighted Average
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1200	2.45		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	312	0.1550	6.34		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	362	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 9S: Subarea EB

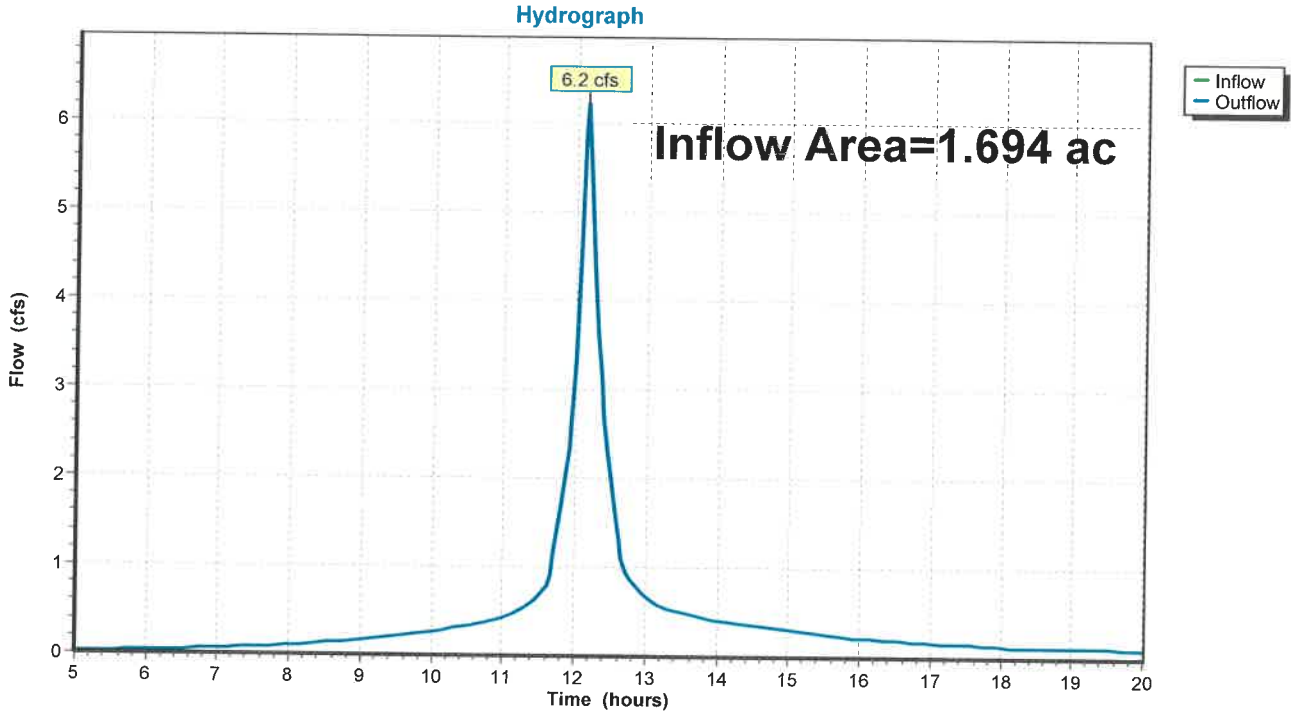


Summary for Reach 2R: Wetland

Inflow Area = 1.694 ac, 0.00% Impervious, Inflow Depth > 3.59" for 10-Year event
Inflow = 6.2 cfs @ 12.14 hrs, Volume= 0.506 af
Outflow = 6.2 cfs @ 12.14 hrs, Volume= 0.506 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Wetland

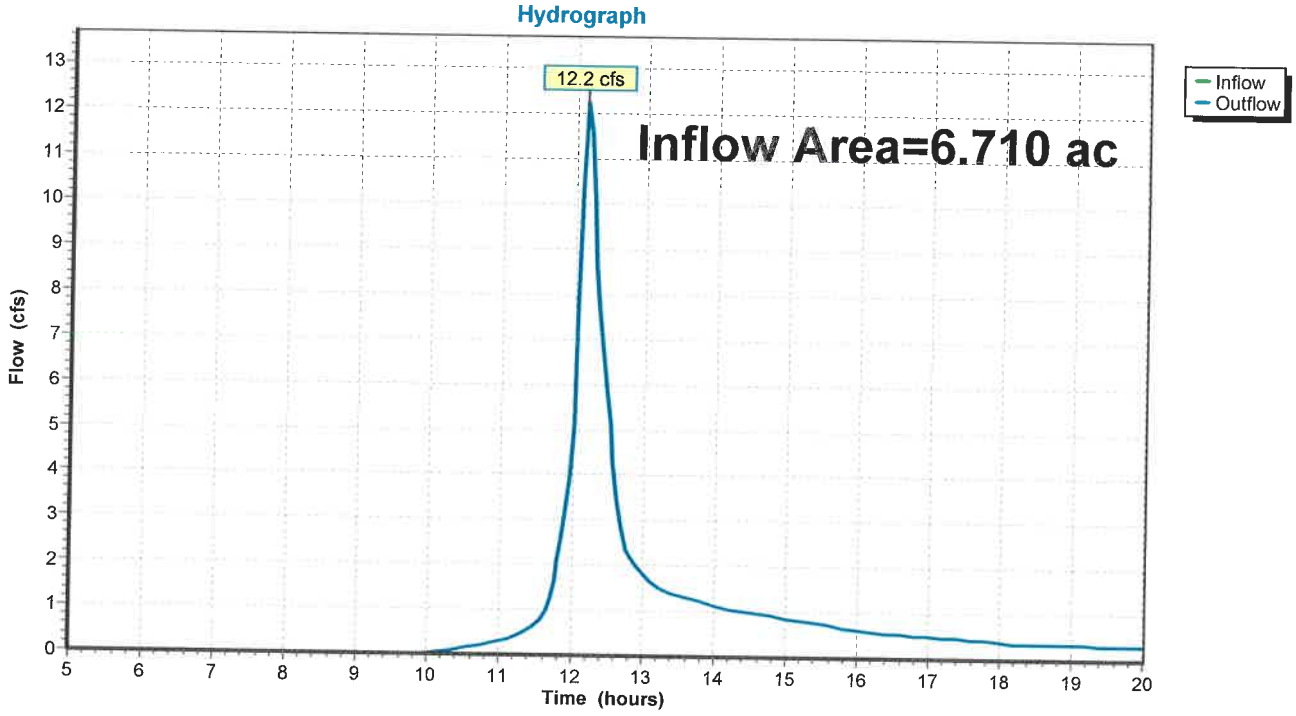


Summary for Reach 8R: Southeast Property Line

Inflow Area = 6.710 ac, 0.00% Impervious, Inflow Depth > 1.74" for 10-Year event
Inflow = 12.2 cfs @ 12.16 hrs, Volume= 0.972 af
Outflow = 12.2 cfs @ 12.16 hrs, Volume= 0.972 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Southeast Property Line

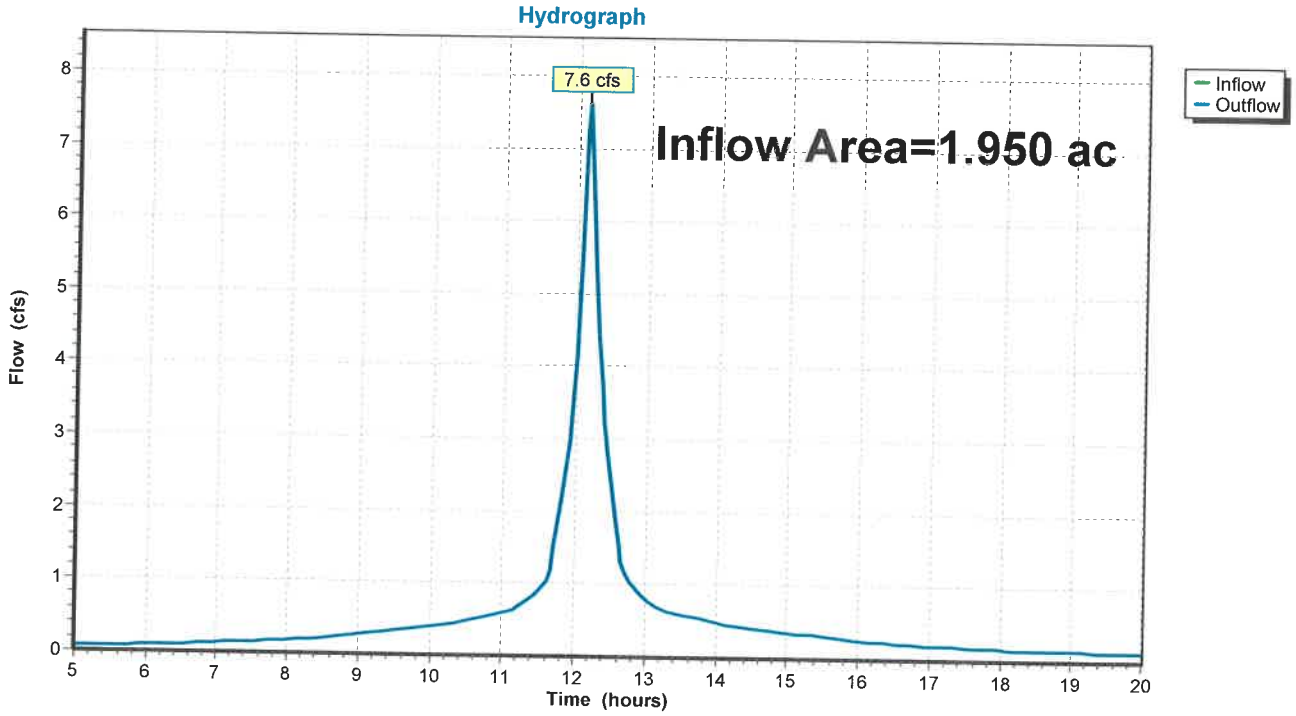


Summary for Reach 10R: Lot 5B

Inflow Area = 1.950 ac, 0.00% Impervious, Inflow Depth > 3.98" for 10-Year event
Inflow = 7.6 cfs @ 12.14 hrs, Volume= 0.646 af
Outflow = 7.6 cfs @ 12.14 hrs, Volume= 0.646 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 10R: Lot 5B



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Subarea EC
Runoff Area=1.694 ac 0.00% Impervious Runoff Depth>5.43"
Flow Length=378' Tc=10.0 min CN=92 Runoff=9.2 cfs 0.767 af

Subcatchment 7S: Subarea EA
Runoff Area=6.710 ac 0.00% Impervious Runoff Depth>3.22"
Flow Length=718' Tc=11.0 min CN=71 Runoff=22.9 cfs 1.803 af

Subcatchment 9S: Subarea EB
Runoff Area=1.950 ac 0.00% Impervious Runoff Depth>5.81"
Flow Length=362' Tc=10.0 min CN=96 Runoff=11.0 cfs 0.945 af

Reach 2R: Wetland
Inflow=9.2 cfs 0.767 af
Outflow=9.2 cfs 0.767 af

Reach 8R: Southeast Property Line
Inflow=22.9 cfs 1.803 af
Outflow=22.9 cfs 1.803 af

Reach 10R: Lot 5B
Inflow=11.0 cfs 0.945 af
Outflow=11.0 cfs 0.945 af

Summary for Subcatchment 1S: Subarea EC

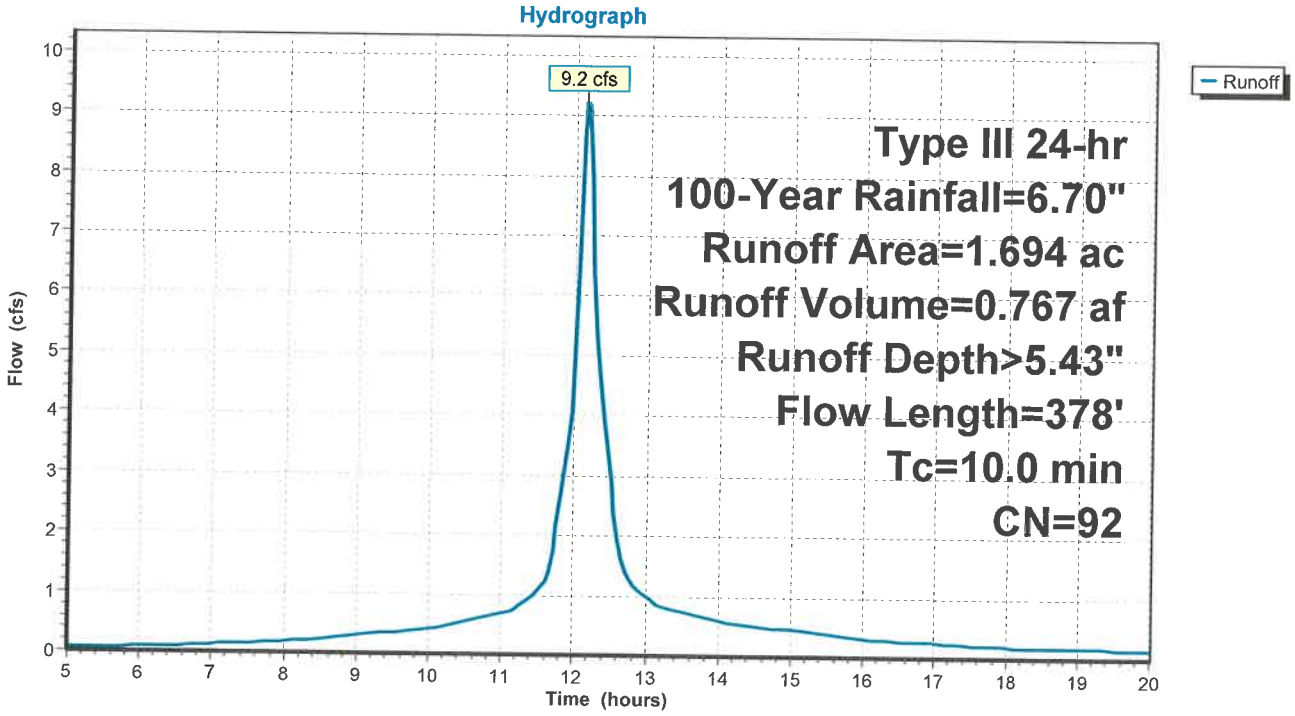
Runoff = 9.2 cfs @ 12.14 hrs, Volume= 0.767 af, Depth> 5.43"
Routed to Reach 2R : Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
0.082	60	Woods, Fair, HSG B
0.131	73	Woods, Fair, HSG C
0.061	79	Woods, Fair, HSG D
0.568	96	Gravel surface, HSG B
0.426	96	Gravel surface, HSG C
0.426	96	Gravel surface, HSG D
1.694	92	Weighted Average
1.694		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.5	50	0.0560	0.54		**Sheet Flow,** Fallow n= 0.050 P2= 3.20"
1.3	328	0.0650	4.10		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.8	378	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 1S: Subarea EC



Summary for Subcatchment 7S: Subarea EA

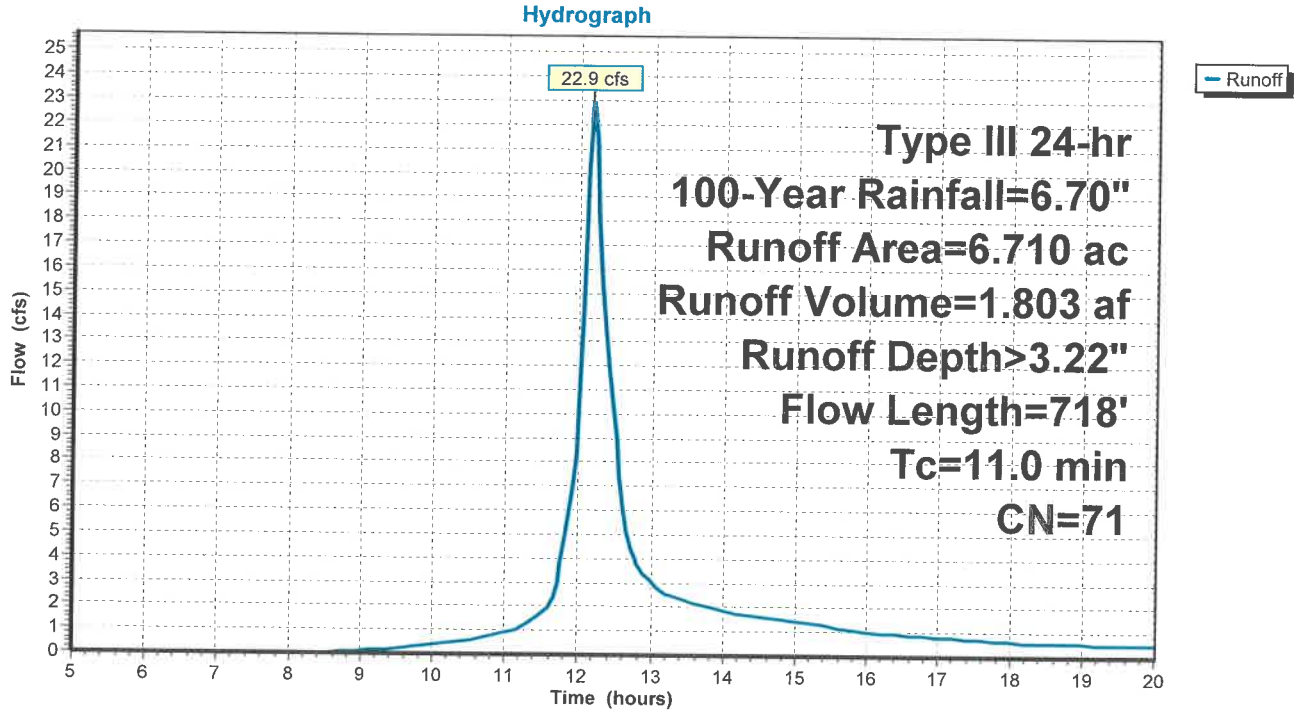
Runoff = 22.9 cfs @ 12.16 hrs, Volume= 1.803 af, Depth> 3.22"
Routed to Reach 8R : Southeast Property Line

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
2.244	60	Woods, Fair, HSG B
2.233	73	Woods, Fair, HSG C
2.233	79	Woods, Fair, HSG D
6.710	71	Weighted Average
6.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.3200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
6.9	668	0.1040	1.61		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
11.0	718	Total			

Subcatchment 7S: Subarea EA



Summary for Subcatchment 9S: Subarea EB

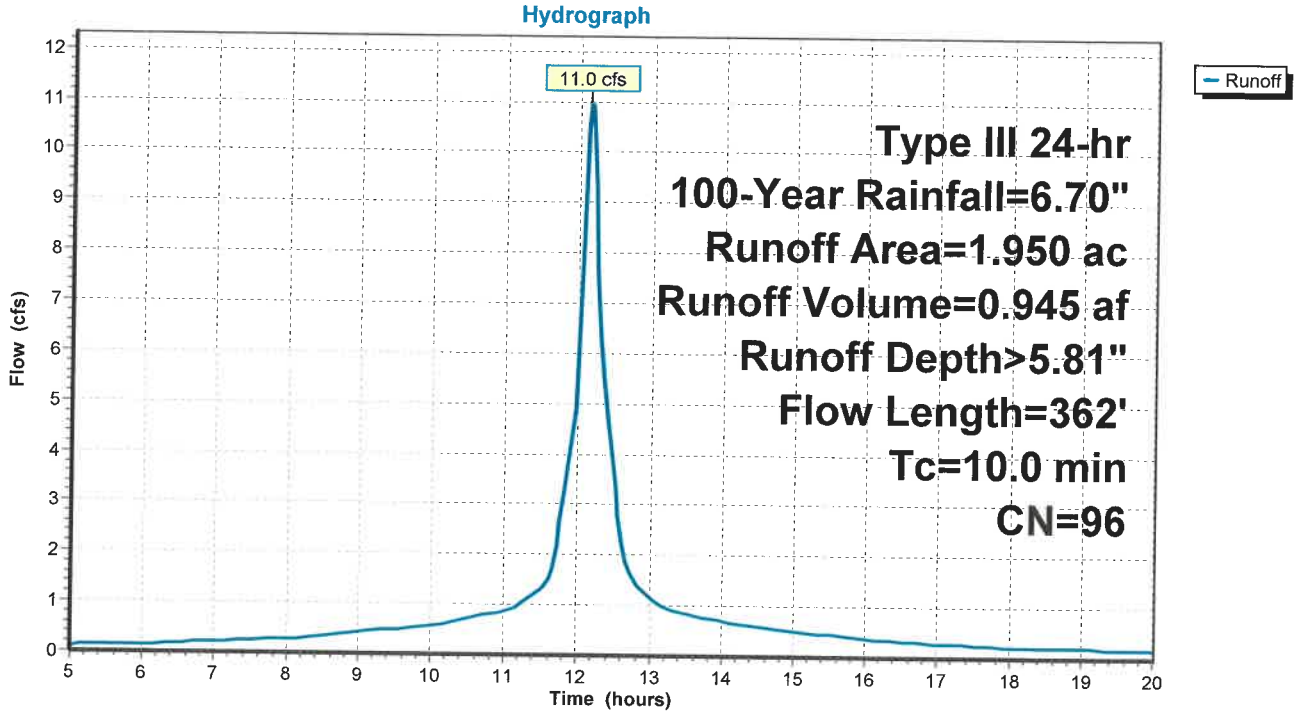
Runoff = 11.0 cfs @ 12.14 hrs, Volume= 0.945 af, Depth> 5.81"
Routed to Reach 10R : Lot 5B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
0.780	96	Gravel surface, HSG B
0.585	96	Gravel surface, HSG C
0.585	96	Gravel surface, HSG D
1.950	96	Weighted Average
1.950		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	50	0.1200	2.45		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	312	0.1550	6.34		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	362	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 9S: Subarea EB

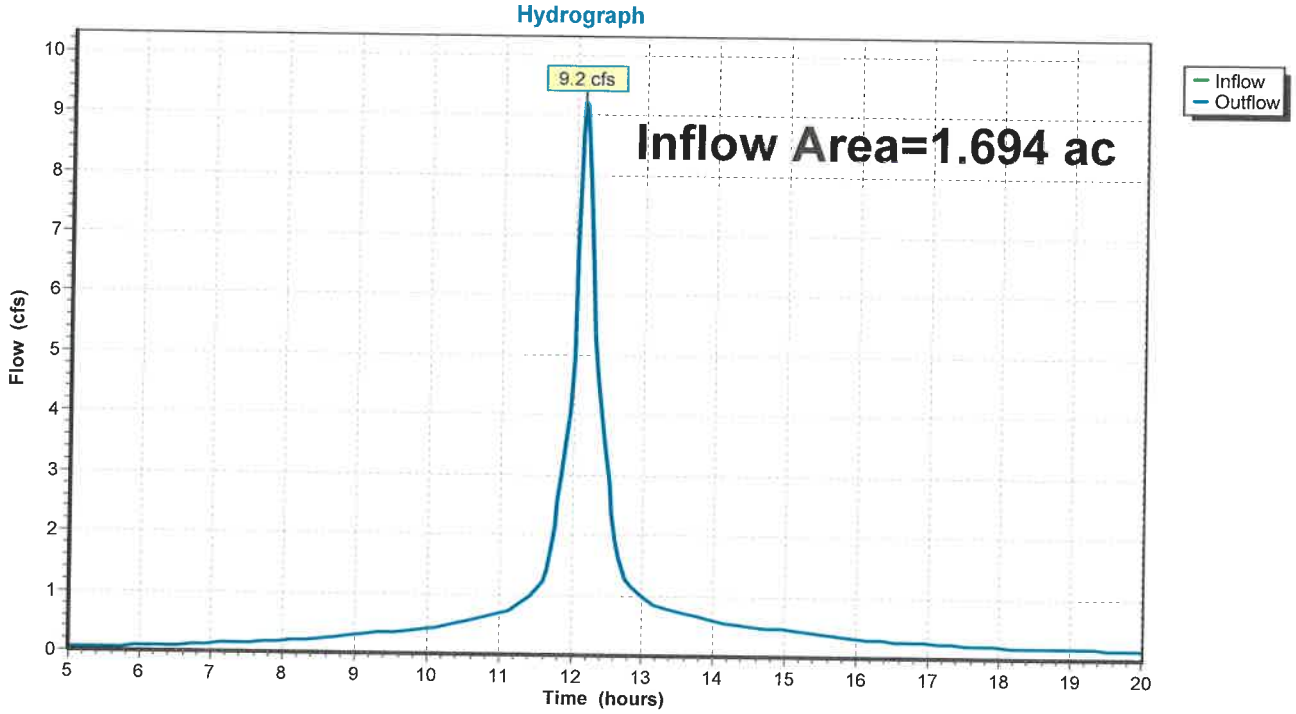


Summary for Reach 2R: Wetland

Inflow Area = 1.694 ac, 0.00% Impervious, Inflow Depth > 5.43" for 100-Year event
Inflow = 9.2 cfs @ 12.14 hrs, Volume= 0.767 af
Outflow = 9.2 cfs @ 12.14 hrs, Volume= 0.767 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Wetland

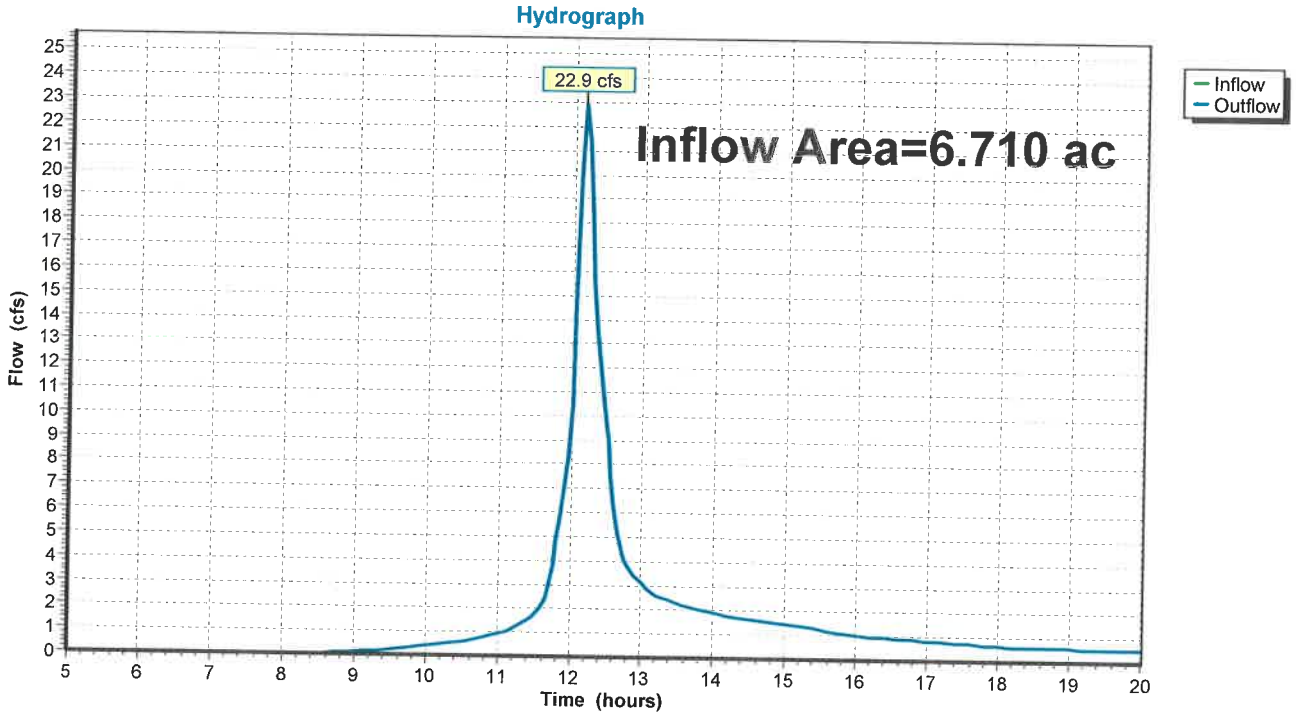


Summary for Reach 8R: Southeast Property Line

Inflow Area = 6.710 ac, 0.00% Impervious, Inflow Depth > 3.22" for 100-Year event
Inflow = 22.9 cfs @ 12.16 hrs, Volume= 1.803 af
Outflow = 22.9 cfs @ 12.16 hrs, Volume= 1.803 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 8R: Southeast Property Line

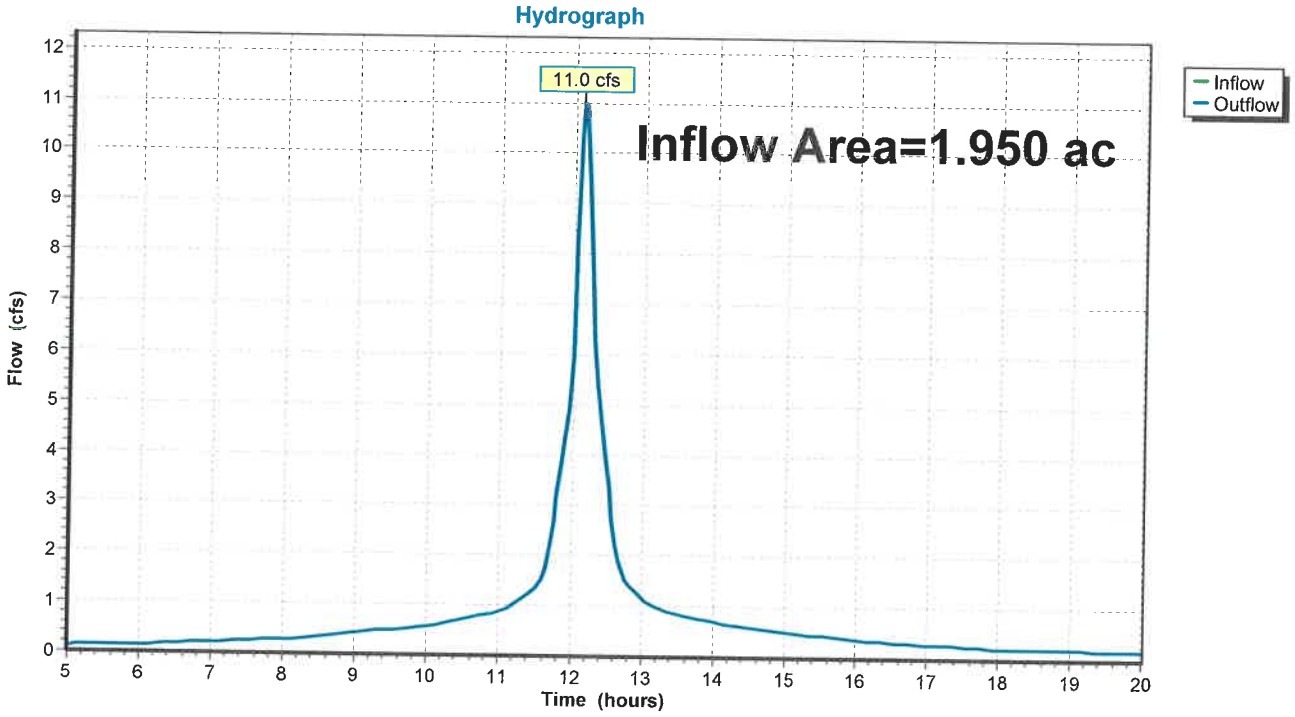


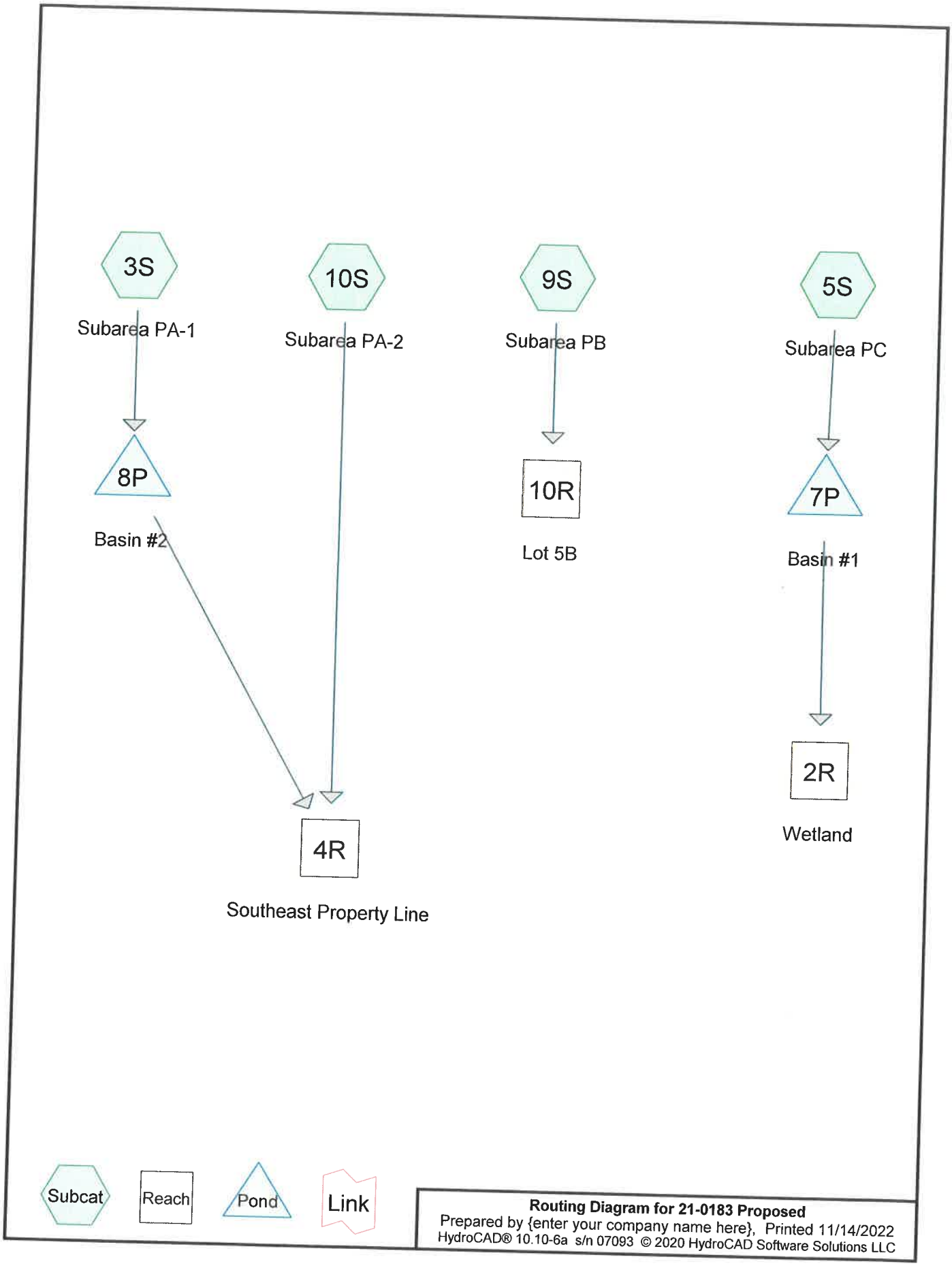
Summary for Reach 10R: Lot 5B

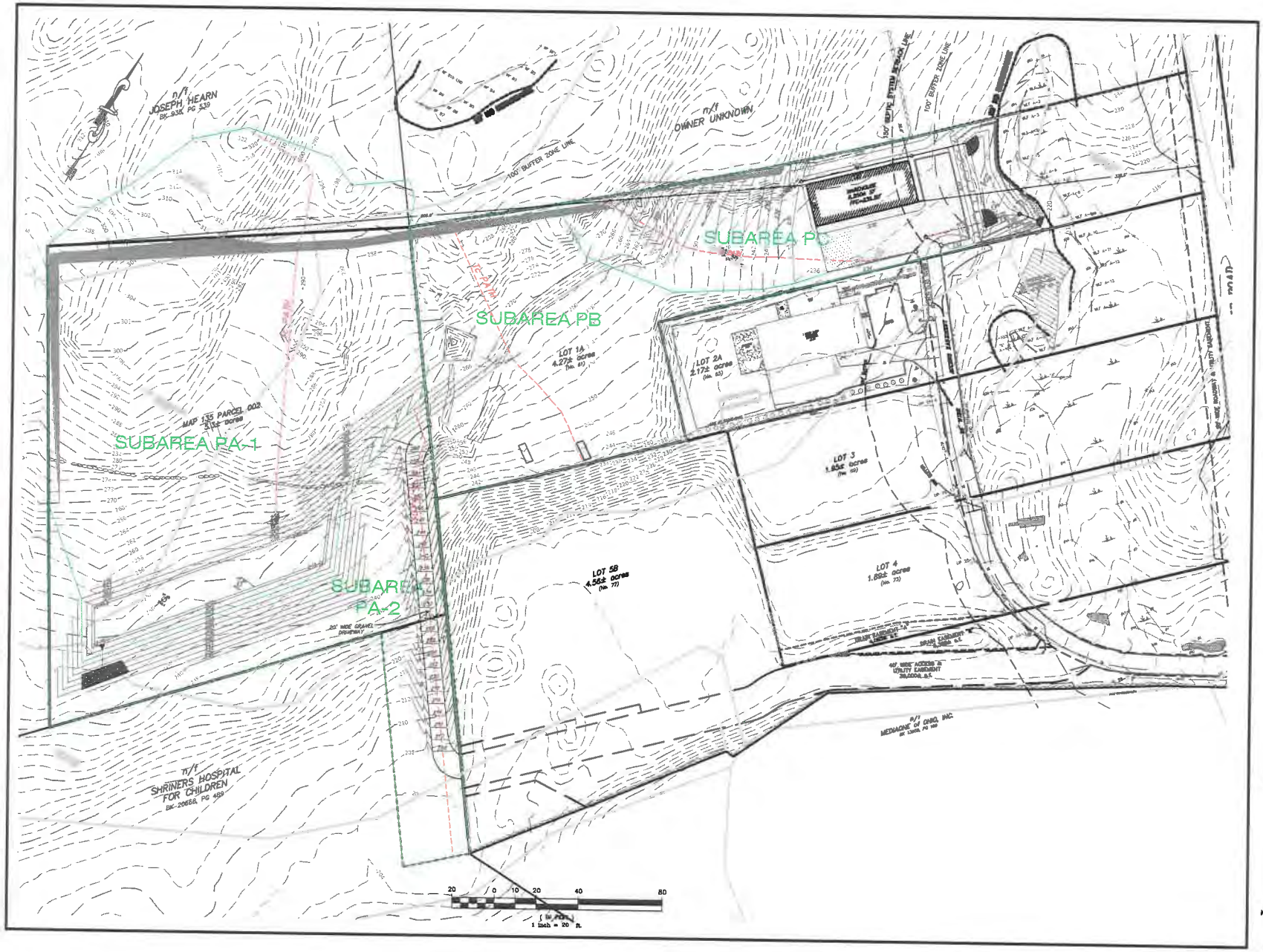
Inflow Area = 1.950 ac, 0.00% Impervious, Inflow Depth > 5.81" for 100-Year event
Inflow = 11.0 cfs @ 12.14 hrs, Volume= 0.945 af
Outflow = 11.0 cfs @ 12.14 hrs, Volume= 0.945 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 10R: Lot 5B




3S
Subarea PA-1
10S
Subarea PA-2
9S
Subarea PB
5S
Subarea PC
8P
Basin #2
10R
Lot 5B
7P
Basin #1
2R
Wetland
4R
Southeast Property Line
Subcat
Reach
Pond
Link
Routing Diagram for 21-0183 Proposed
Prepared by {enter your company name here}, Printed 11/14/2022
HydroCAD® 10.10-6a s/n 07093 © 2020 HydroCAD Software Solutions LLC



PROJECT:
61 East Belcher Road
Foxborough, MA

OWNER:
Francis Mahoney
695 Winter Street
Walpole, MA

Professional Civil Engineers & Professional Land Surveyors
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

STAMP

DRAWING TITLE

PR-Subareas

SCALE: 1" = 20'

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	PR

TABLE OF CONTENTS

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.167	61	>75% Grass cover, Good, HSG B (5S, 9S, 10S)
0.148	74	>75% Grass cover, Good, HSG C (5S, 9S, 10S)
0.120	80	>75% Grass cover, Good, HSG D (5S, 9S, 10S)
2.752	96	Gravel surface, HSG B (3S, 5S, 9S, 10S)
2.598	96	Gravel surface, HSG C (3S, 5S, 9S, 10S)
2.598	96	Gravel surface, HSG D (3S, 5S, 9S, 10S)
0.113	98	Paved parking, HSG B (5S)
0.085	98	Paved parking, HSG C (5S)
0.085	98	Paved parking, HSG D (5S)
0.057	98	Roofs, HSG B (5S)
0.043	98	Roofs, HSG C (5S)
0.043	98	Roofs, HSG D (5S)
0.243	98	Water Surface, HSG B (3S, 5S)
0.209	98	Water Surface, HSG C (3S, 5S)
0.206	98	Water Surface, HSG D (3S, 5S)
0.342	60	Woods, Fair, HSG B (3S, 5S, 10S)
0.292	73	Woods, Fair, HSG C (3S, 5S, 10S)
0.253	79	Woods, Fair, HSG D (3S, 5S, 10S)

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.674	HSG B	3S, 5S, 9S, 10S
3.375	HSG C	3S, 5S, 9S, 10S
3.305	HSG D	3S, 5S, 9S, 10S
0.000	Other	

Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 3S: Subarea PA-1 Runoff Area=4.863 ac 10.94% Impervious Runoff Depth>2.21"
Flow Length=678' Tc=10.0 min CN=92 Runoff=11.3 cfs 0.898 af

Subcatchment 5S: Subarea PC Runoff Area=1.654 ac 33.37% Impervious Runoff Depth>2.21"
Flow Length=481' Tc=10.0 min CN=92 Runoff=3.8 cfs 0.305 af

Subcatchment 9S: Subarea PB Runoff Area=1.990 ac 0.00% Impervious Runoff Depth>2.40"
Flow Length=330' Tc=10.0 min CN=94 Runoff=4.9 cfs 0.398 af

Subcatchment 10S: Subarea PA-2 Runoff Area=1.847 ac 0.00% Impervious Runoff Depth>2.40"
Flow Length=540' Tc=10.0 min CN=94 Runoff=4.6 cfs 0.370 af

Reach 2R: Wetland Inflow=2.5 cfs 0.299 af
Outflow=2.5 cfs 0.299 af

Reach 4R: Southeast Property Line Inflow=4.7 cfs 0.875 af
Outflow=4.7 cfs 0.875 af

Reach 10R: Lot 5B Inflow=4.9 cfs 0.398 af
Outflow=4.9 cfs 0.398 af

Pond 7P: Basin #1 Peak Elev=229.06' Storage=0.055 af Inflow=3.8 cfs 0.305 af
Discarded=0.0 cfs 0.000 af Primary=2.5 cfs 0.299 af Outflow=2.5 cfs 0.299 af

Pond 8P: Basin #2 Peak Elev=250.73' Storage=0.548 af Inflow=11.3 cfs 0.898 af
Outflow=1.6 cfs 0.505 af

Summary for Subcatchment 3S: Subarea PA-1

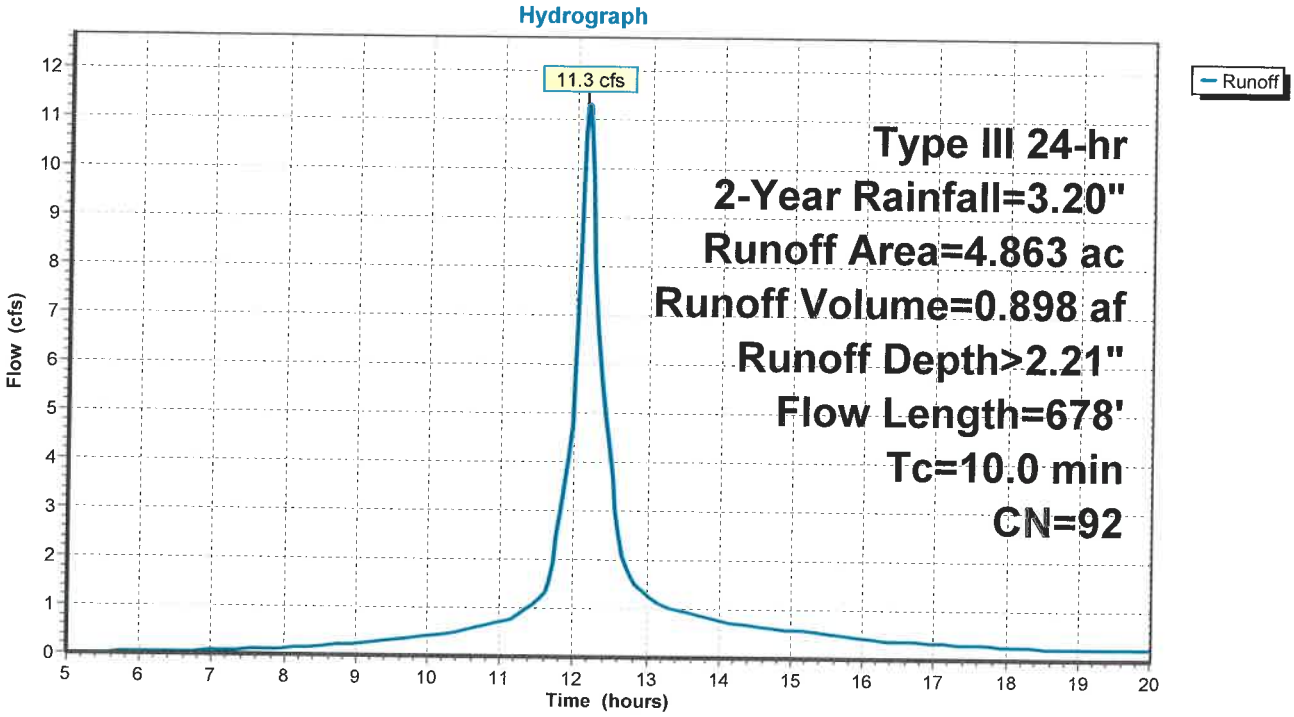
Runoff = 11.3 cfs @ 12.14 hrs, Volume= 0.898 af, Depth> 2.21"
Routed to Pond 8P : Basin #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.647	96	Gravel surface, HSG B
1.497	96	Gravel surface, HSG C
1.497	96	Gravel surface, HSG D
0.276	60	Woods, Fair, HSG B
0.207	73	Woods, Fair, HSG C
0.207	79	Woods, Fair, HSG D
0.194	98	Water Surface, HSG B
0.169	98	Water Surface, HSG C
0.169	98	Water Surface, HSG D
4.863	92	Weighted Average
4.331		89.06% Pervious Area
0.532		10.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.3200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.1	123	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	505	0.1130	5.41		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.8	678	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 3S: Subarea PA-1



Summary for Subcatchment 5S: Subarea PC

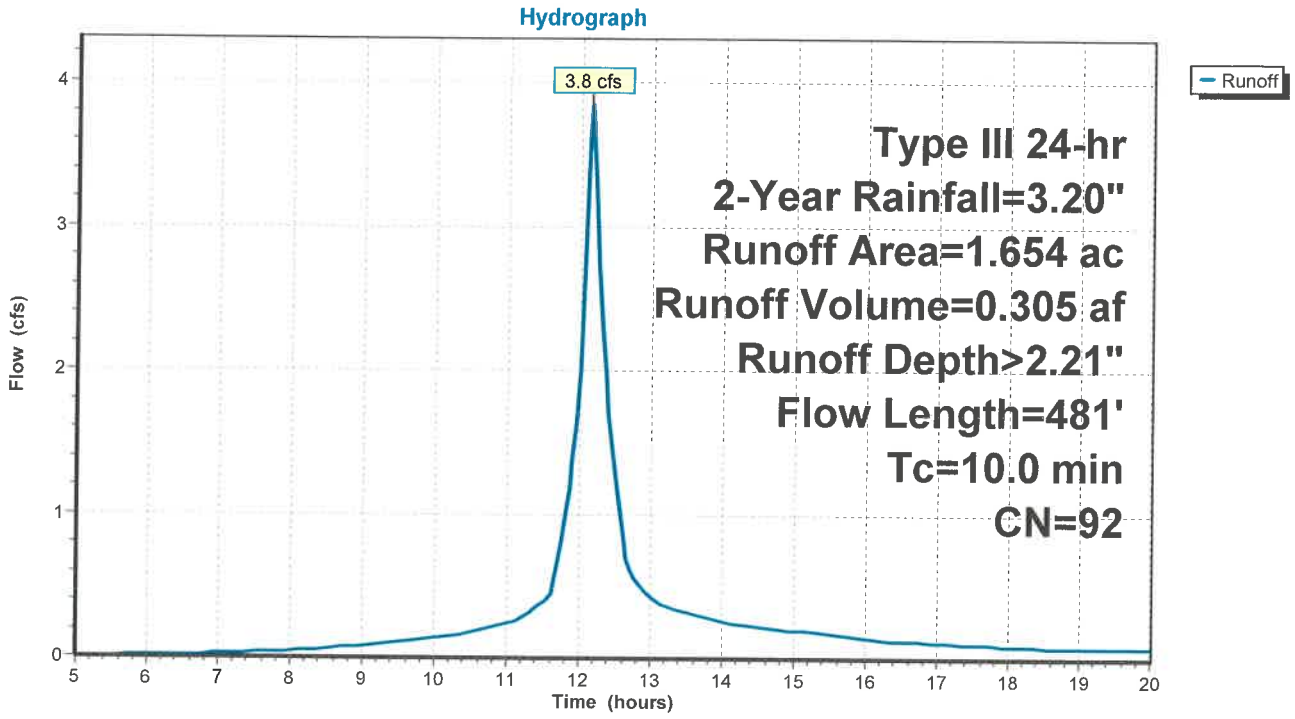
Runoff = 3.8 cfs @ 12.14 hrs, Volume= 0.305 af, Depth> 2.21"
Routed to Pond 7P : Basin #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.314	96	Gravel surface, HSG B
0.235	96	Gravel surface, HSG C
0.235	96	Gravel surface, HSG D
0.113	98	Paved parking, HSG B
0.085	98	Paved parking, HSG C
0.085	98	Paved parking, HSG D
0.057	98	Roofs, HSG B
0.043	98	Roofs, HSG C
0.043	98	Roofs, HSG D
0.080	61	>75% Grass cover, Good, HSG B
0.088	74	>75% Grass cover, Good, HSG C
0.060	80	>75% Grass cover, Good, HSG D
0.021	60	Woods, Fair, HSG B
0.054	73	Woods, Fair, HSG C
0.015	79	Woods, Fair, HSG D
0.049	98	Water Surface, HSG B
0.040	98	Water Surface, HSG C
0.037	98	Water Surface, HSG D
1.654	92	Weighted Average
1.102		66.63% Pervious Area
0.552		33.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	50	0.4400	4.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	230	0.1260	5.71		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	105	0.0130	2.31		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	96	0.0280	6.58	5.17	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.015 Concrete sewer w/manholes & inlets
1.9	481	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 5S: Subarea PC



Summary for Subcatchment 9S: Subarea PB

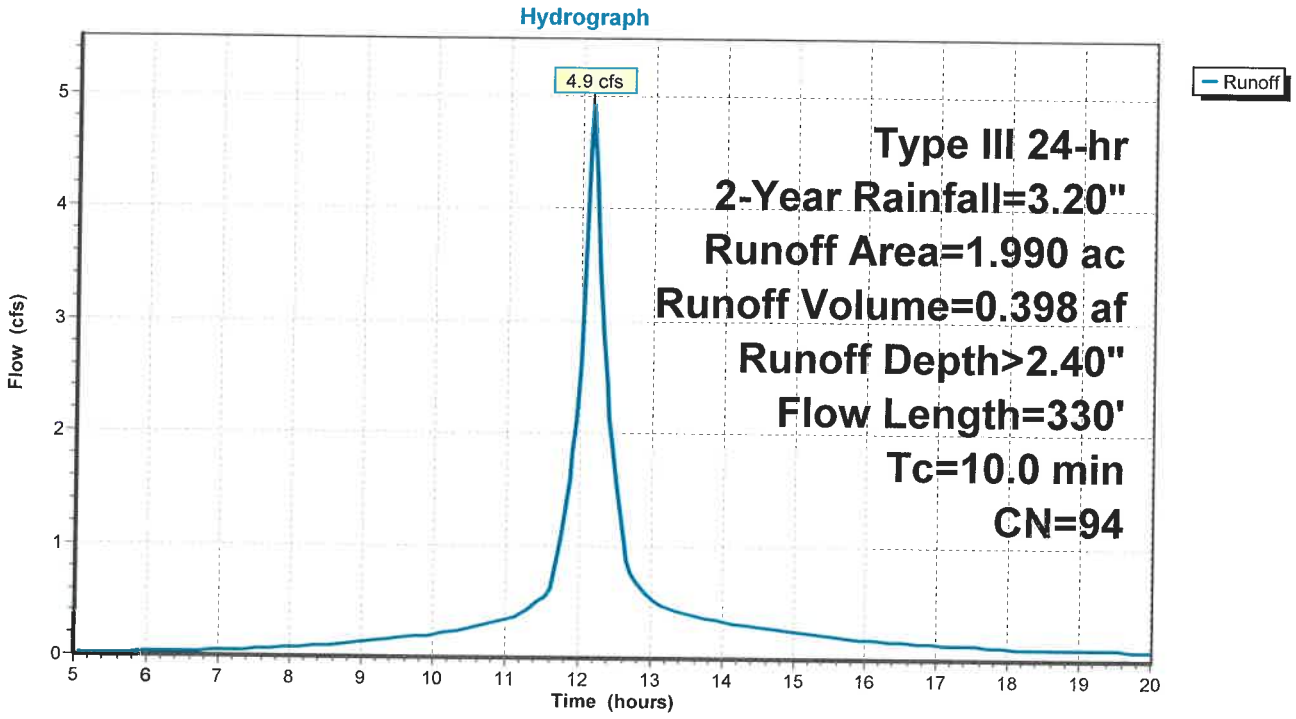
Runoff = 4.9 cfs @ 12.14 hrs, Volume= 0.398 af, Depth> 2.40"
Routed to Reach 10R : Lot 5B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
0.070	61	>75% Grass cover, Good, HSG B
0.052	74	>75% Grass cover, Good, HSG C
0.052	80	>75% Grass cover, Good, HSG D
0.726	96	Gravel surface, HSG B
0.545	96	Gravel surface, HSG C
0.545	96	Gravel surface, HSG D
1.990	94	Weighted Average
1.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	50	0.4500	4.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	270	0.0920	4.88		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	10	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	330	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 9S: Subarea PB



Summary for Subcatchment 10S: Subarea PA-2

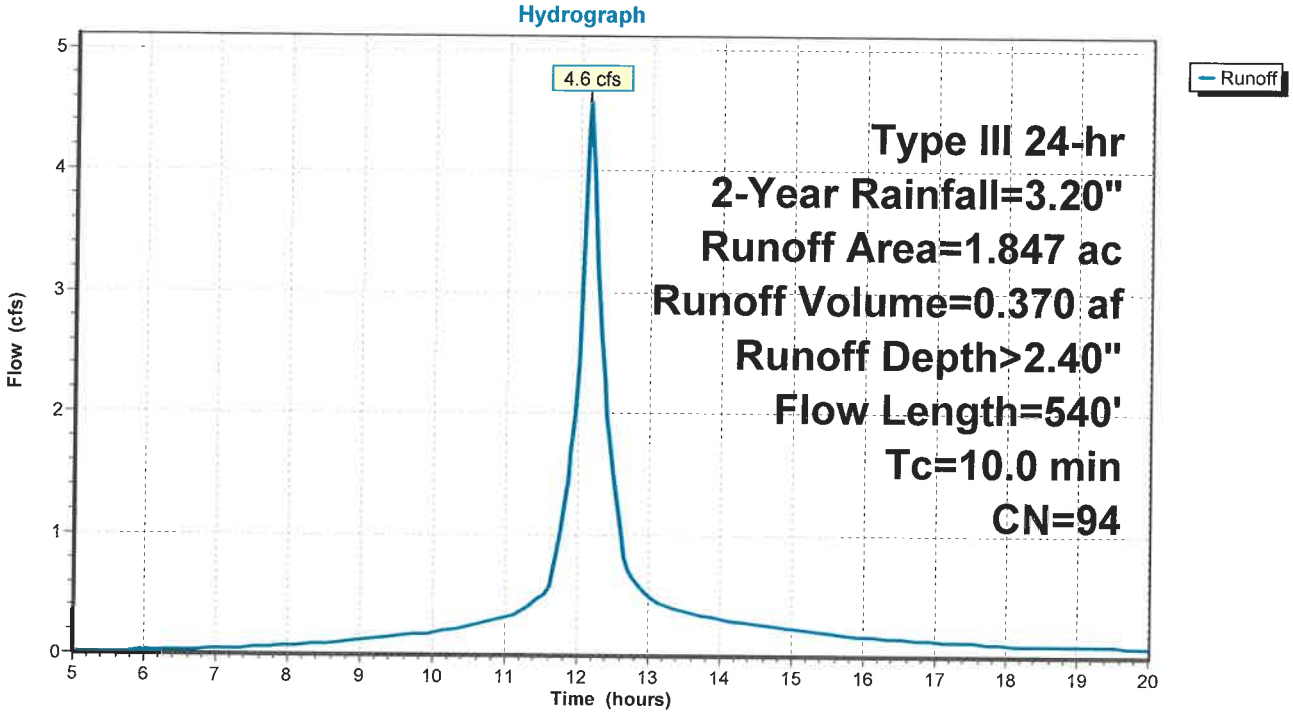
Runoff = 4.6 cfs @ 12.14 hrs, Volume= 0.370 af, Depth> 2.40"
Routed to Reach 4R : Southeast Property Line

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (ac)	CN	Description
1.065	96	Gravel surface, HSG B
0.321	96	Gravel surface, HSG C
0.321	96	Gravel surface, HSG D
0.045	60	Woods, Fair, HSG B
0.031	73	Woods, Fair, HSG C
0.031	79	Woods, Fair, HSG D
0.017	61	>75% Grass cover, Good, HSG B
0.008	74	>75% Grass cover, Good, HSG C
0.008	80	>75% Grass cover, Good, HSG D
1.847	94	Weighted Average
1.847		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	490	0.1170	5.51		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.9	540	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 10S: Subarea PA-2

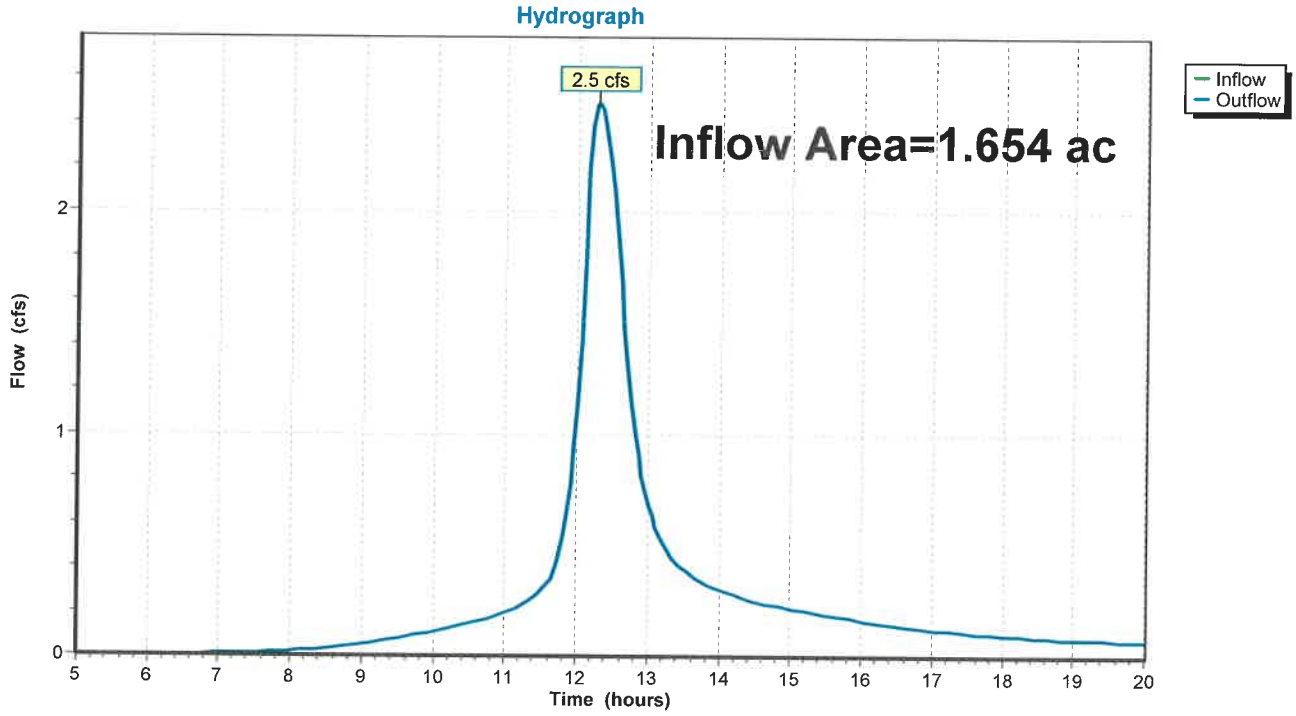


Summary for Reach 2R: Wetland

Inflow Area =	1.654 ac,	33.37% Impervious,	Inflow Depth >	2.17"	for 2-Year event
Inflow =	2.5 cfs @	12.28 hrs,	Volume=	0.299 af	
Outflow =	2.5 cfs @	12.28 hrs,	Volume=	0.299 af,	Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Wetland

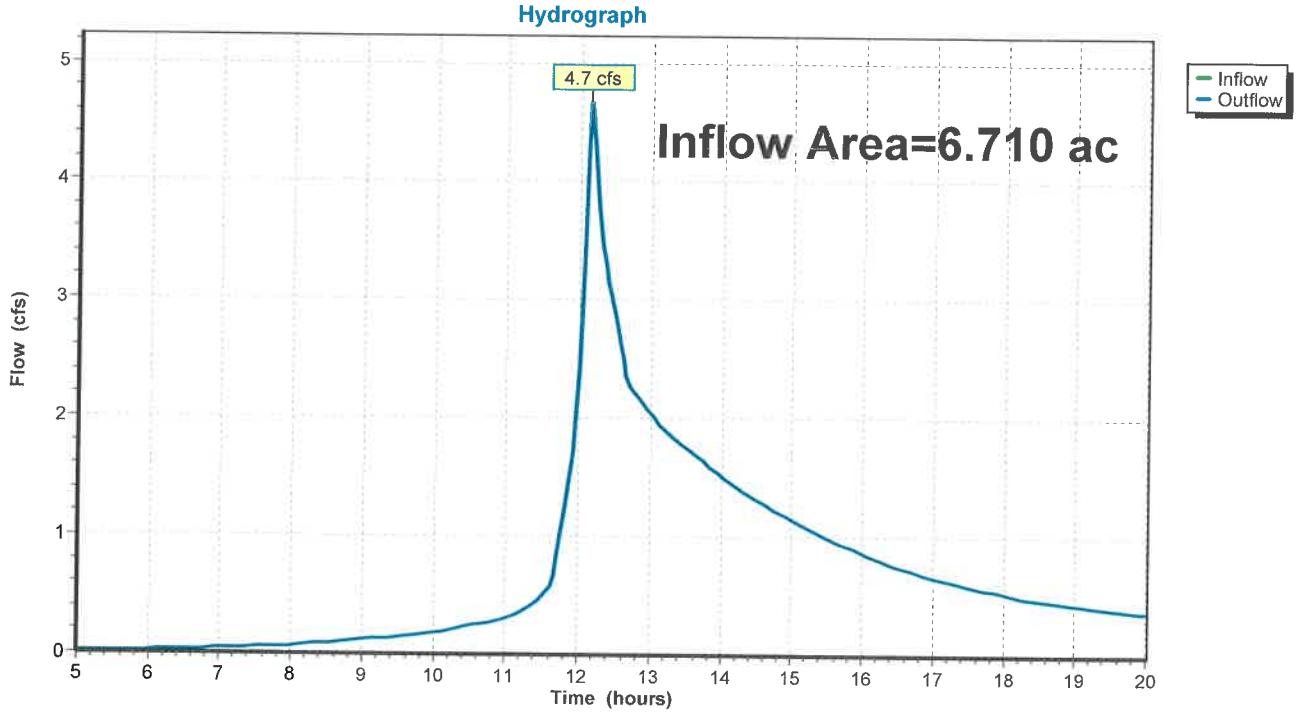


Summary for Reach 4R: Southeast Property Line

Inflow Area = 6.710 ac, 7.93% Impervious, Inflow Depth > 1.57" for 2-Year event
Inflow = 4.7 cfs @ 12.15 hrs, Volume= 0.875 af
Outflow = 4.7 cfs @ 12.15 hrs, Volume= 0.875 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Southeast Property Line

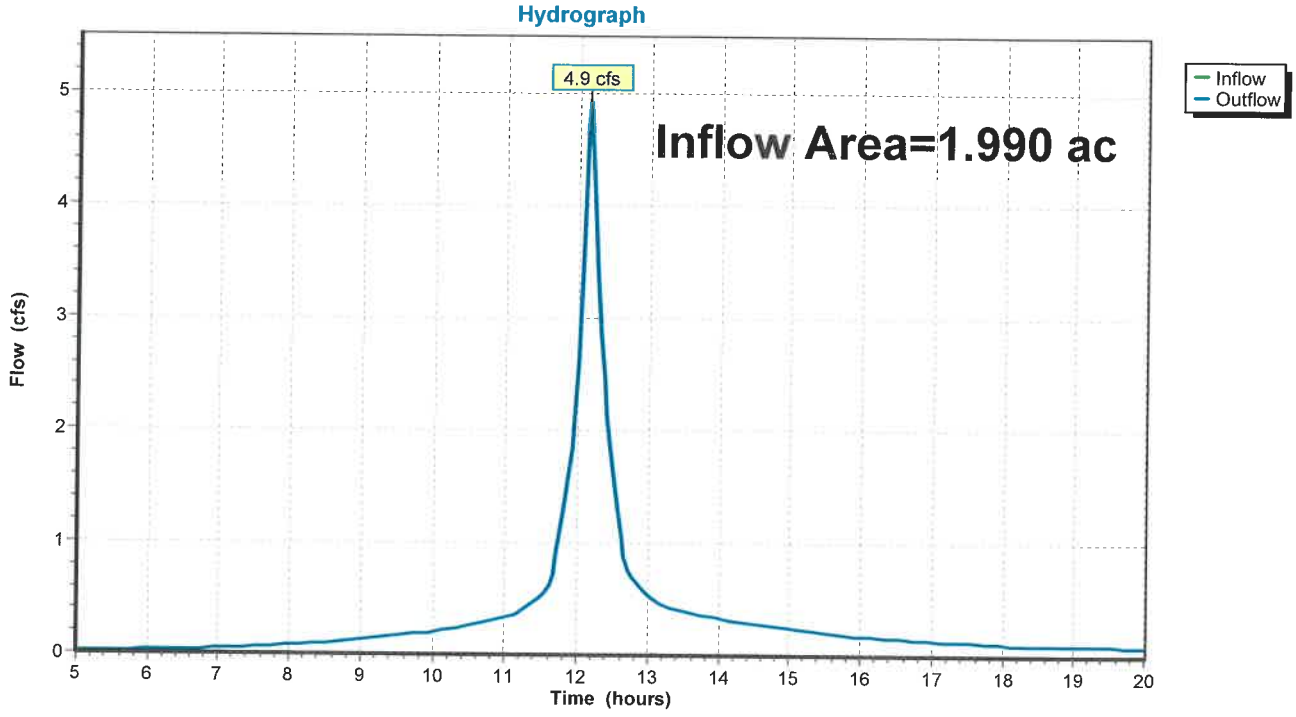


Summary for Reach 10R: Lot 5B

Inflow Area = 1.990 ac, 0.00% Impervious, Inflow Depth > 2.40" for 2-Year event
Inflow = 4.9 cfs @ 12.14 hrs, Volume= 0.398 af
Outflow = 4.9 cfs @ 12.14 hrs, Volume= 0.398 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 10R: Lot 5B



Summary for Pond 7P: Basin #1

Inflow Area = 1.654 ac, 33.37% Impervious, Inflow Depth > 2.21" for 2-Year event
Inflow = 3.8 cfs @ 12.14 hrs, Volume= 0.305 af
Outflow = 2.5 cfs @ 12.28 hrs, Volume= 0.299 af, Atten= 35%, Lag= 8.3 min
Discarded = 0.0 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 2.5 cfs @ 12.28 hrs, Volume= 0.299 af
Routed to Reach 2R : Wetland

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 229.06' @ 12.28 hrs Surf.Area= 0.062 ac Storage= 0.055 af

Plug-Flow detention time= 27.7 min calculated for 0.299 af (98% of inflow)
Center-of-Mass det. time= 19.8 min (789.8 - 769.9)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	0.327 af	**Custom Stage Data (Irregular)** Listed below (Recalc)

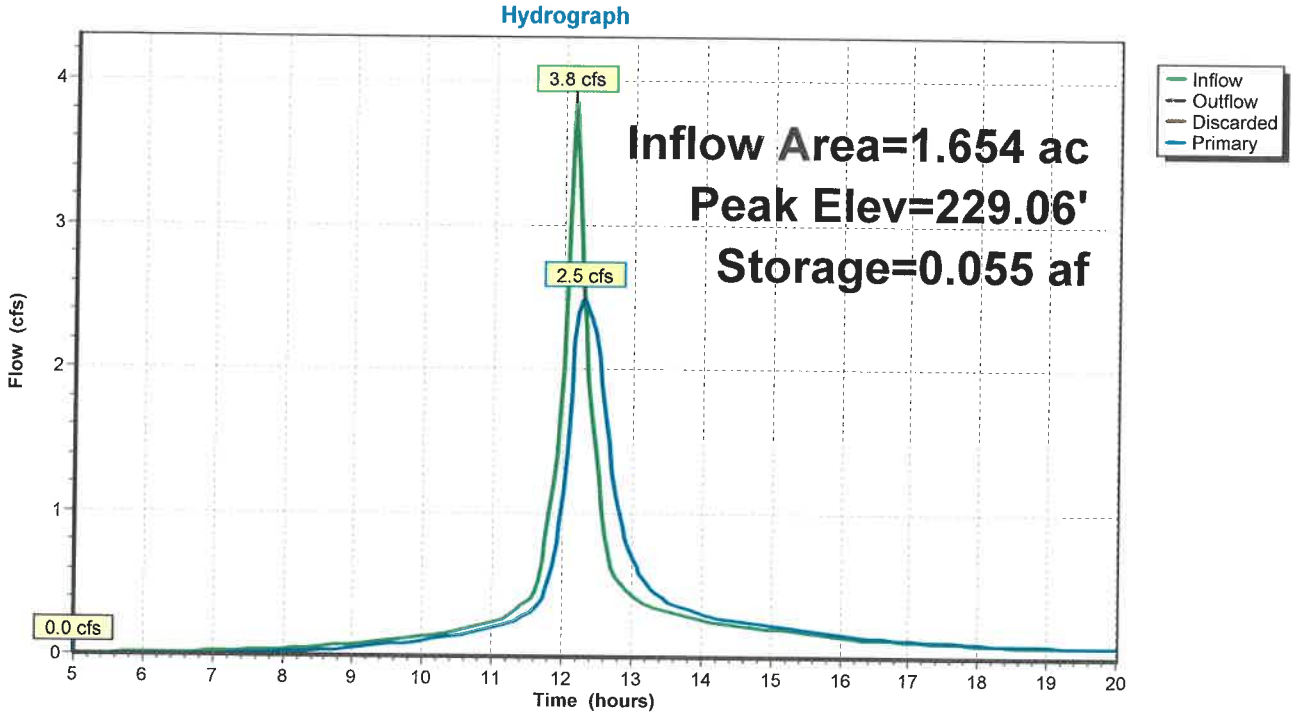
Elevation (feet)	Surf.Area (acres)	Perim. (feet)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
228.00	0.043	264.7	0.000	0.000	0.043
230.00	0.081	305.1	0.122	0.122	0.087
232.00	0.126	354.2	0.205	0.327	0.148

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**0.102 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.10'
#2	Primary	228.00'	**12.0" Round Culvert** L= 20.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 228.00' / 227.50' S= 0.0250 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#3	Device 1	231.00'	**0.2" x 0.2" Horiz. Orifice/Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.0 cfs @ 5.00 hrs HW=228.00' (Free Discharge)
↑—**1=Exfiltration** (Passes 0.0 cfs of 0.0 cfs potential flow)
↑—**3=Orifice/Grate** (Controls 0.0 cfs)

Primary OutFlow Max=2.5 cfs @ 12.28 hrs HW=229.05' (Free Discharge)
↑—**2=Culvert** (Inlet Controls 2.5 cfs @ 3.16 fps)

Pond 7P: Basin #1



Summary for Pond 8P: Basin #2

Inflow Area = 4.863 ac, 10.94% Impervious, Inflow Depth > 2.21" for 2-Year event
Inflow = 11.3 cfs @ 12.14 hrs, Volume= 0.898 af
Outflow = 1.6 cfs @ 12.80 hrs, Volume= 0.505 af, Atten= 86%, Lag= 39.3 min
Primary = 1.6 cfs @ 12.80 hrs, Volume= 0.505 af
Routed to Reach 4R : Southeast Property Line

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 250.73' @ 12.80 hrs Surf.Area= 0.360 ac Storage= 0.548 af

Plug-Flow detention time= 208.6 min calculated for 0.504 af (56% of inflow)
Center-of-Mass det. time= 131.0 min (900.9 - 769.9)

Volume	Invert	Avail.Storage	Storage Description
#1	249.00'	2.020 af	**Custom Stage Data (Irregular)** Listed below (Recalc)

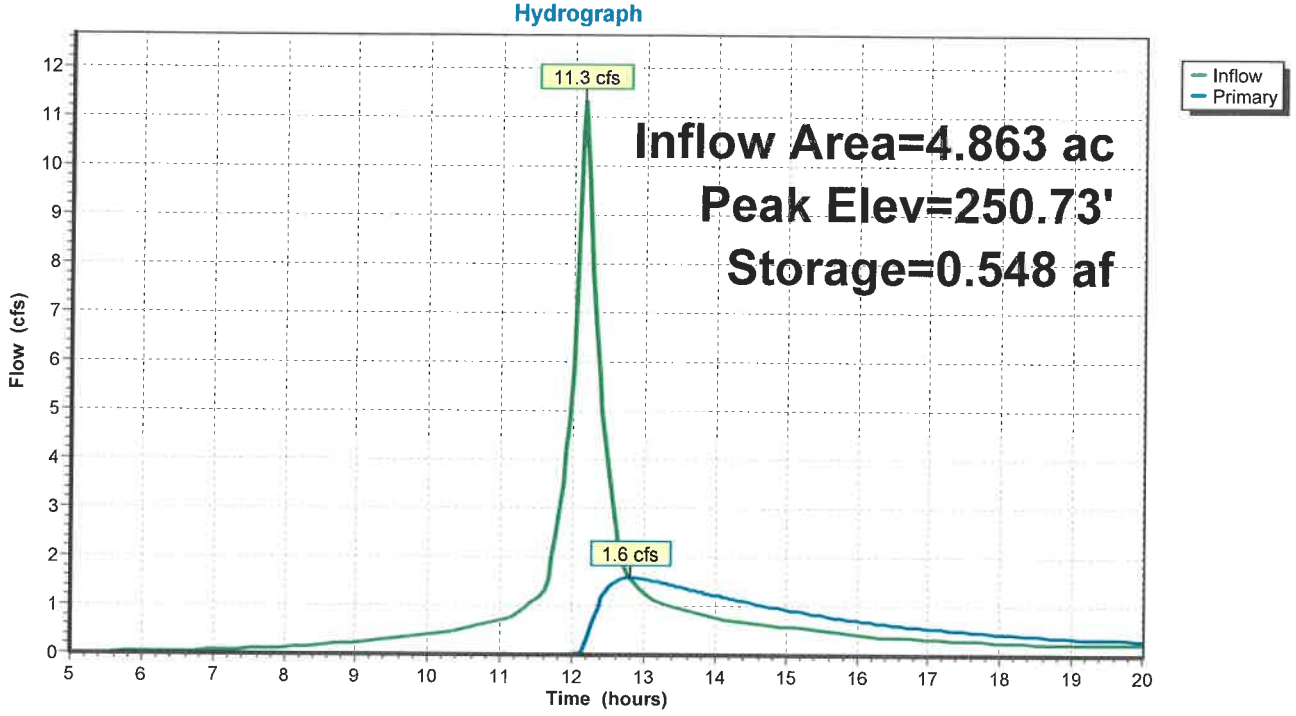
Elevation (feet)	Surf.Area (acres)	Perim. (feet)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
249.00	0.275	693.0	0.000	0.000	0.275
250.00	0.324	725.0	0.299	0.299	0.359
252.00	0.428	789.0	0.750	1.049	0.540
254.00	0.546	855.0	0.972	2.020	0.742

Device	Routing	Invert	Outlet Devices
#1	Device 2	250.00'	**12.0" Round Culvert** L= 28.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 250.00' / 249.45' S= 0.0196 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Primary	249.45'	**0.6" Vert. Orifice/Grate X 80.00 columns** X 4 rows with 6.0" cc spacing C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.6 cfs @ 12.80 hrs HW=250.73' (Free Discharge)
↑└**2=Orifice/Grate** (Passes 1.6 cfs of 1.9 cfs potential flow)
↑└**1=Culvert** (Inlet Controls 1.6 cfs @ 2.56 fps)

Pond 8P: Basin #2

Hydrograph



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 3S: Subarea PA-1 Runoff Area=4.863 ac 10.94% Impervious Runoff Depth>3.59"
Flow Length=678' Tc=10.0 min CN=92 Runoff=17.8 cfs 1.453 af

Subcatchment 5S: Subarea PC Runoff Area=1.654 ac 33.37% Impervious Runoff Depth>3.59"
Flow Length=481' Tc=10.0 min CN=92 Runoff=6.1 cfs 0.494 af

Subcatchment 9S: Subarea PB Runoff Area=1.990 ac 0.00% Impervious Runoff Depth>3.78"
Flow Length=330' Tc=10.0 min CN=94 Runoff=7.6 cfs 0.628 af

Subcatchment 10S: Subarea PA-2 Runoff Area=1.847 ac 0.00% Impervious Runoff Depth>3.78"
Flow Length=540' Tc=10.0 min CN=94 Runoff=7.0 cfs 0.582 af

Reach 2R: Wetland Inflow=3.5 cfs 0.487 af
Outflow=3.5 cfs 0.487 af

Reach 4R: Southeast Property Line Inflow=9.1 cfs 1.622 af
Outflow=9.1 cfs 1.622 af

Reach 10R: Lot 5B Inflow=7.6 cfs 0.628 af
Outflow=7.6 cfs 0.628 af

Pond 7P: Basin #1 Peak Elev=229.58' Storage=0.090 af Inflow=6.1 cfs 0.494 af
Discarded=0.0 cfs 0.000 af Primary=3.5 cfs 0.487 af Outflow=3.5 cfs 0.487 af

Pond 8P: Basin #2 Peak Elev=251.49' Storage=0.839 af Inflow=17.8 cfs 1.453 af
Outflow=3.3 cfs 1.039 af

Summary for Subcatchment 3S: Subarea PA-1

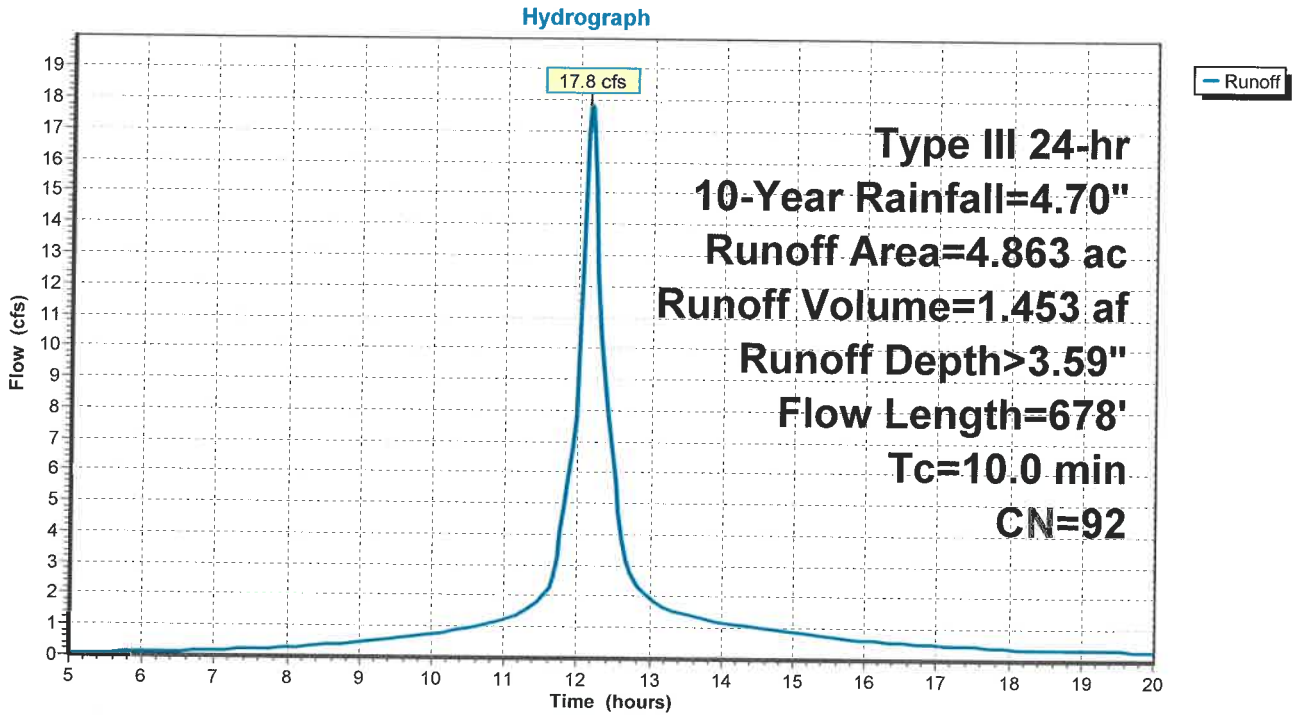
Runoff = 17.8 cfs @ 12.14 hrs, Volume= 1.453 af, Depth> 3.59"
Routed to Pond 8P : Basin #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.647	96	Gravel surface, HSG B
1.497	96	Gravel surface, HSG C
1.497	96	Gravel surface, HSG D
0.276	60	Woods, Fair, HSG B
0.207	73	Woods, Fair, HSG C
0.207	79	Woods, Fair, HSG D
0.194	98	Water Surface, HSG B
0.169	98	Water Surface, HSG C
0.169	98	Water Surface, HSG D
4.863	92	Weighted Average
4.331		89.06% Pervious Area
0.532		10.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.3200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.1	123	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	505	0.1130	5.41		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.8	678	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 3S: Subarea PA-1



Summary for Subcatchment 5S: Subarea PC

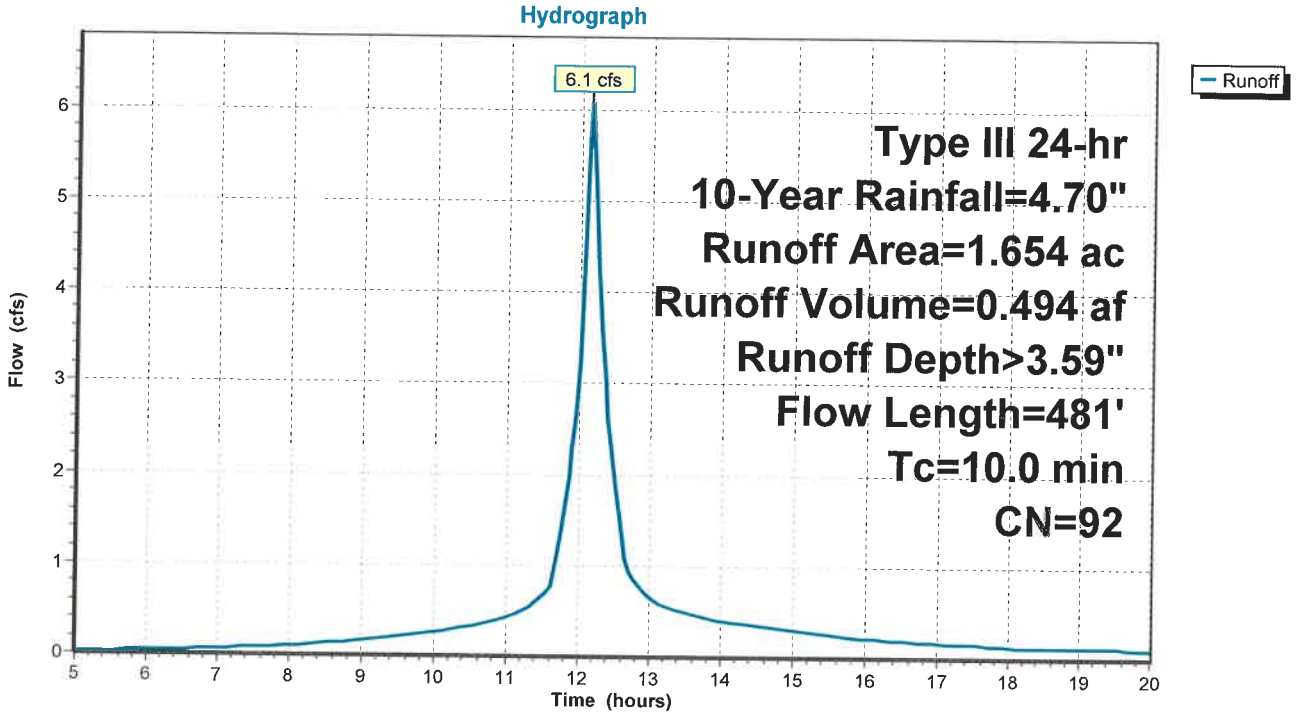
Runoff = 6.1 cfs @ 12.14 hrs, Volume= 0.494 af, Depth> 3.59"
Routed to Pond 7P : Basin #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.314	96	Gravel surface, HSG B
0.235	96	Gravel surface, HSG C
0.235	96	Gravel surface, HSG D
0.113	98	Paved parking, HSG B
0.085	98	Paved parking, HSG C
0.085	98	Paved parking, HSG D
0.057	98	Roofs, HSG B
0.043	98	Roofs, HSG C
0.043	98	Roofs, HSG D
0.080	61	>75% Grass cover, Good, HSG B
0.088	74	>75% Grass cover, Good, HSG C
0.060	80	>75% Grass cover, Good, HSG D
0.021	60	Woods, Fair, HSG B
0.054	73	Woods, Fair, HSG C
0.015	79	Woods, Fair, HSG D
0.049	98	Water Surface, HSG B
0.040	98	Water Surface, HSG C
0.037	98	Water Surface, HSG D
1.654	92	Weighted Average
1.102		66.63% Pervious Area
0.552		33.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	50	0.4400	4.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	230	0.1260	5.71		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	105	0.0130	2.31		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	96	0.0280	6.58	5.17	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.015 Concrete sewer w/manholes & inlets
1.9	481	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 5S: Subarea PC



Summary for Subcatchment 9S: Subarea PB

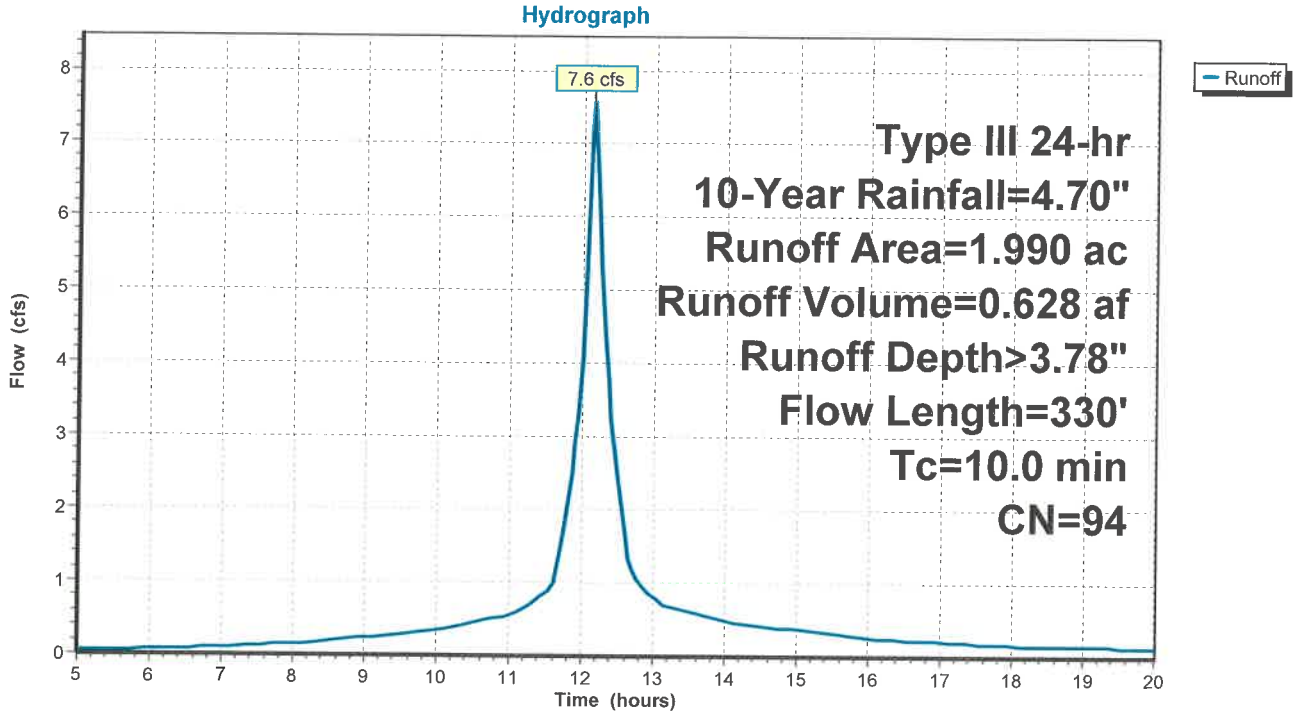
Runoff = 7.6 cfs @ 12.14 hrs, Volume= 0.628 af, Depth> 3.78"
Routed to Reach 10R : Lot 5B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
0.070	61	>75% Grass cover, Good, HSG B
0.052	74	>75% Grass cover, Good, HSG C
0.052	80	>75% Grass cover, Good, HSG D
0.726	96	Gravel surface, HSG B
0.545	96	Gravel surface, HSG C
0.545	96	Gravel surface, HSG D
1.990	94	Weighted Average
1.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	50	0.4500	4.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	270	0.0920	4.88		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	10	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	330	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 9S: Subarea PB



Summary for Subcatchment 10S: Subarea PA-2

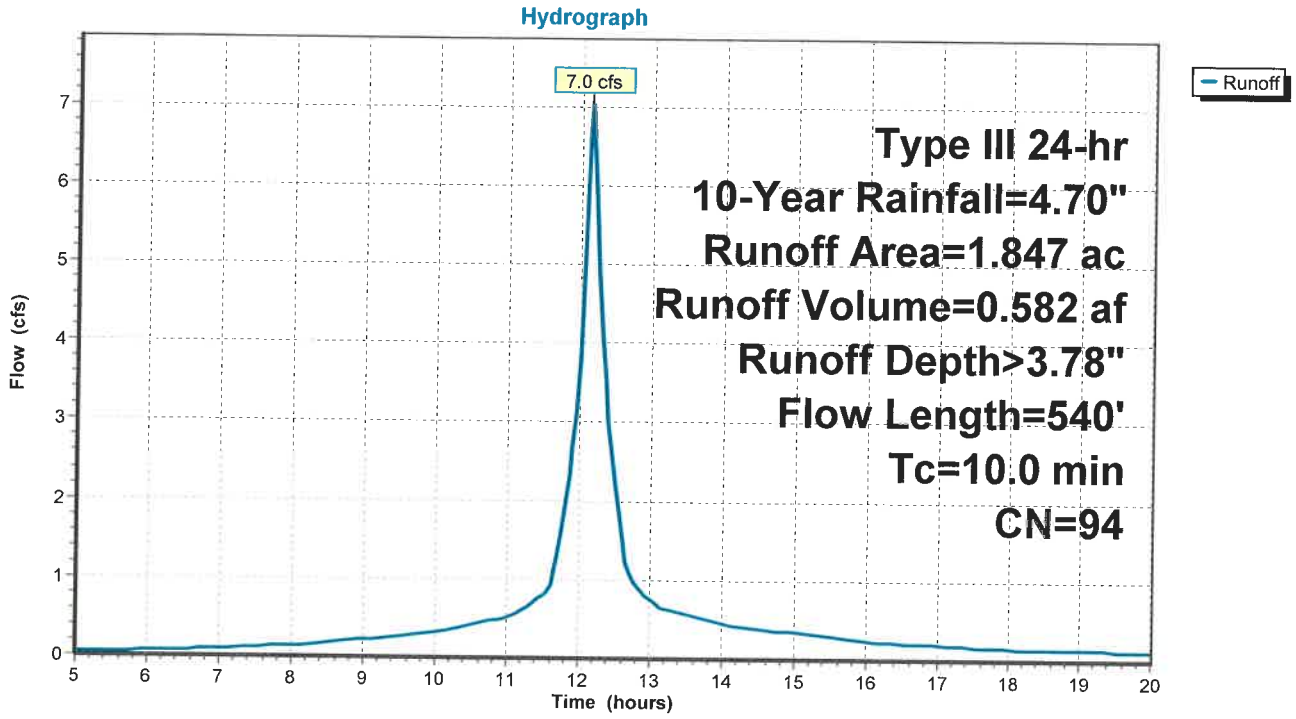
Runoff = 7.0 cfs @ 12.14 hrs, Volume= 0.582 af, Depth> 3.78"
Routed to Reach 4R : Southeast Property Line

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (ac)	CN	Description
1.065	96	Gravel surface, HSG B
0.321	96	Gravel surface, HSG C
0.321	96	Gravel surface, HSG D
0.045	60	Woods, Fair, HSG B
0.031	73	Woods, Fair, HSG C
0.031	79	Woods, Fair, HSG D
0.017	61	>75% Grass cover, Good, HSG B
0.008	74	>75% Grass cover, Good, HSG C
0.008	80	>75% Grass cover, Good, HSG D
1.847	94	Weighted Average
1.847		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	490	0.1170	5.51		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.9	540	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 10S: Subarea PA-2

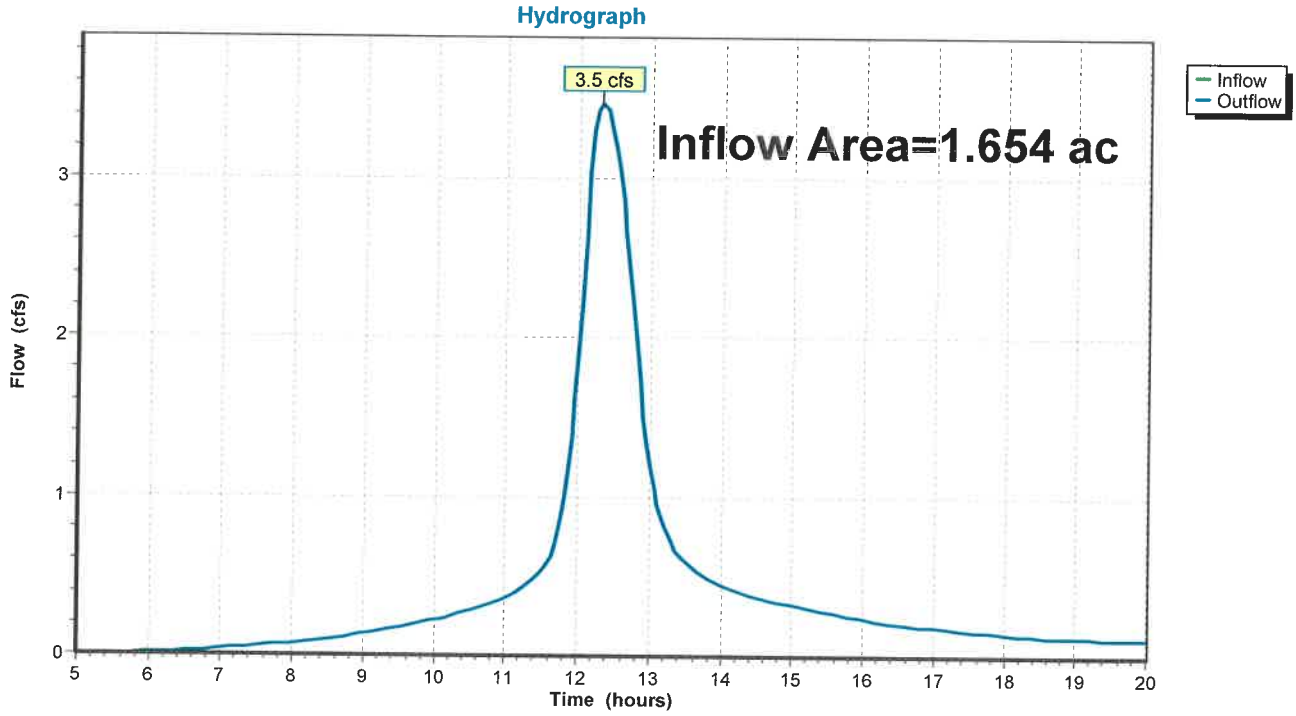


Summary for Reach 2R: Wetland

Inflow Area = 1.654 ac, 33.37% Impervious, Inflow Depth > 3.53" for 10-Year event
Inflow = 3.5 cfs @ 12.31 hrs, Volume= 0.487 af
Outflow = 3.5 cfs @ 12.31 hrs, Volume= 0.487 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Wetland

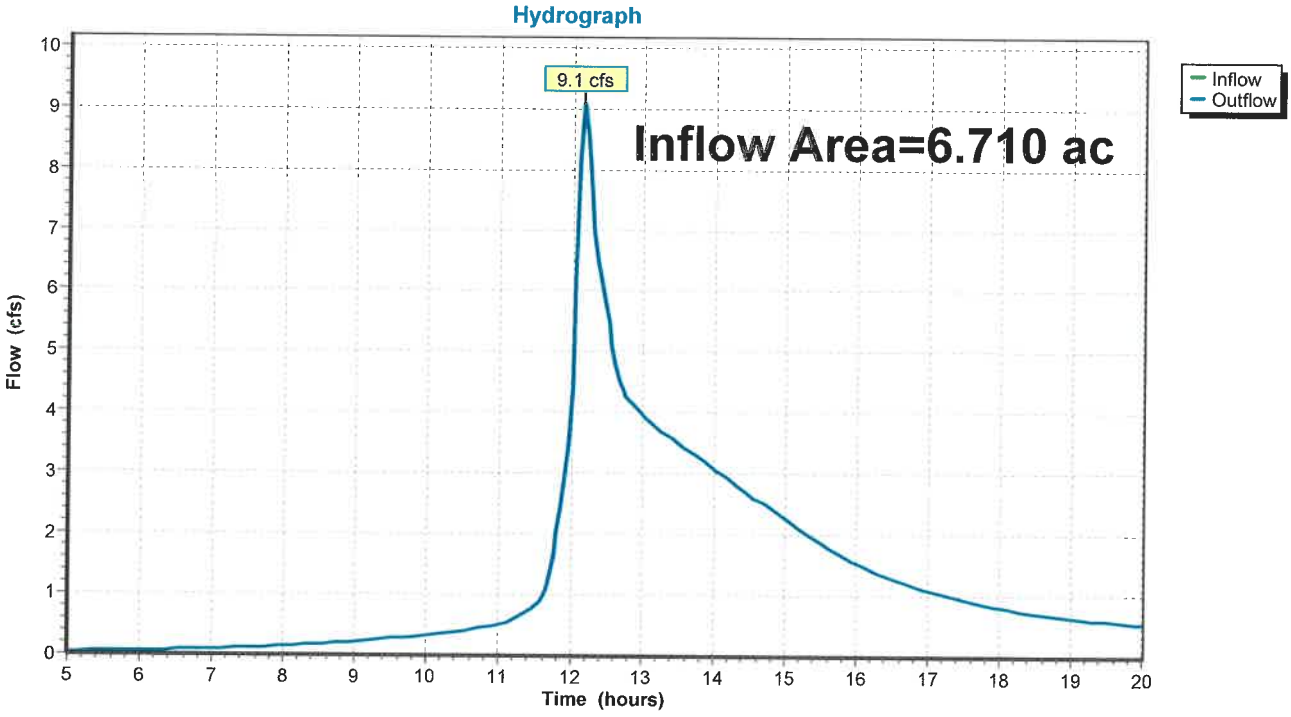


Summary for Reach 4R: Southeast Property Line

Inflow Area = 6.710 ac, 7.93% Impervious, Inflow Depth > 2.90" for 10-Year event
Inflow = 9.1 cfs @ 12.16 hrs, Volume= 1.622 af
Outflow = 9.1 cfs @ 12.16 hrs, Volume= 1.622 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Southeast Property Line

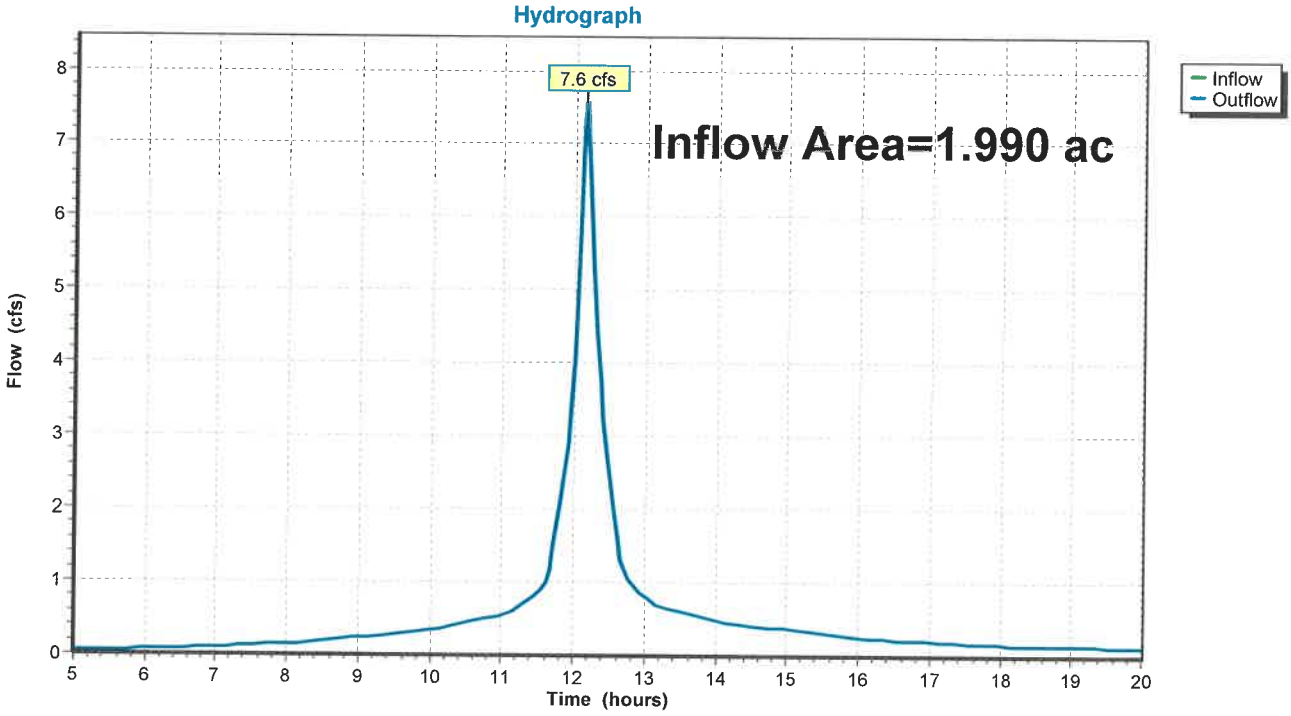


Summary for Reach 10R: Lot 5B

Inflow Area = 1.990 ac, 0.00% Impervious, Inflow Depth > 3.78" for 10-Year event
Inflow = 7.6 cfs @ 12.14 hrs, Volume= 0.628 af
Outflow = 7.6 cfs @ 12.14 hrs, Volume= 0.628 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 10R: Lot 5B



Summary for Pond 7P: Basin #1

Inflow Area = 1.654 ac, 33.37% Impervious, Inflow Depth > 3.59" for 10-Year event
Inflow = 6.1 cfs @ 12.14 hrs, Volume= 0.494 af
Outflow = 3.5 cfs @ 12.31 hrs, Volume= 0.487 af, Atten= 43%, Lag= 10.4 min
Discarded = 0.0 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 3.5 cfs @ 12.31 hrs, Volume= 0.487 af
Routed to Reach 2R : Wetland

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 229.58' @ 12.31 hrs Surf.Area= 0.072 ac Storage= 0.090 af

Plug-Flow detention time= 24.9 min calculated for 0.487 af (99% of inflow)
Center-of-Mass det. time= 18.6 min (777.9 - 759.3)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	0.327 af	**Custom Stage Data (Irregular)** Listed below (Recalc)

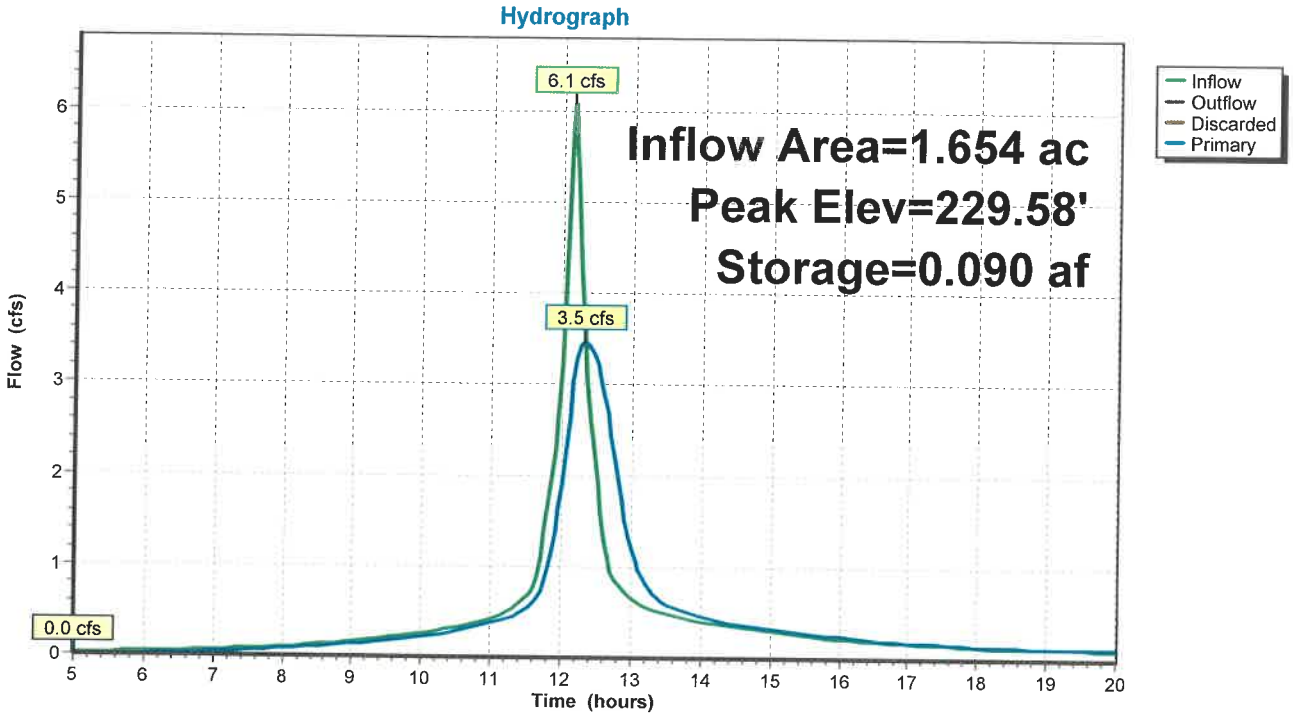
Elevation (feet)	Surf.Area (acres)	Perim. (feet)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
228.00	0.043	264.7	0.000	0.000	0.043
230.00	0.081	305.1	0.122	0.122	0.087
232.00	0.126	354.2	0.205	0.327	0.148

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**0.102 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.10'
#2	Primary	228.00'	**12.0" Round Culvert** L= 20.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 228.00' / 227.50' S= 0.0250 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#3	Device 1	231.00'	**0.2" x 0.2" Horiz. Orifice/Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.0 cfs @ 5.00 hrs HW=228.00' (Free Discharge)
↑**1=Exfiltration** (Passes 0.0 cfs of 0.0 cfs potential flow)
↑**3=Orifice/Grate** (Controls 0.0 cfs)

Primary OutFlow Max=3.5 cfs @ 12.31 hrs HW=229.58' (Free Discharge)
↑**2=Culvert** (Inlet Controls 3.5 cfs @ 4.41 fps)

Pond 7P: Basin #1



Summary for Pond 8P: Basin #2

Inflow Area = 4.863 ac, 10.94% Impervious, Inflow Depth > 3.59" for 10-Year event
Inflow = 17.8 cfs @ 12.14 hrs, Volume= 1.453 af
Outflow = 3.3 cfs @ 12.64 hrs, Volume= 1.039 af, Atten= 81%, Lag= 30.1 min
Primary = 3.3 cfs @ 12.64 hrs, Volume= 1.039 af
Routed to Reach 4R : Southeast Property Line

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 251.49' @ 12.64 hrs Surf.Area= 0.400 ac Storage= 0.839 af

Plug-Flow detention time= 183.8 min calculated for 1.036 af (71% of inflow)
Center-of-Mass det. time= 119.9 min (879.2 - 759.3)

Volume	Invert	Avail.Storage	Storage Description
#1	249.00'	2.020 af	**Custom Stage Data (Irregular)** Listed below (Recalc)

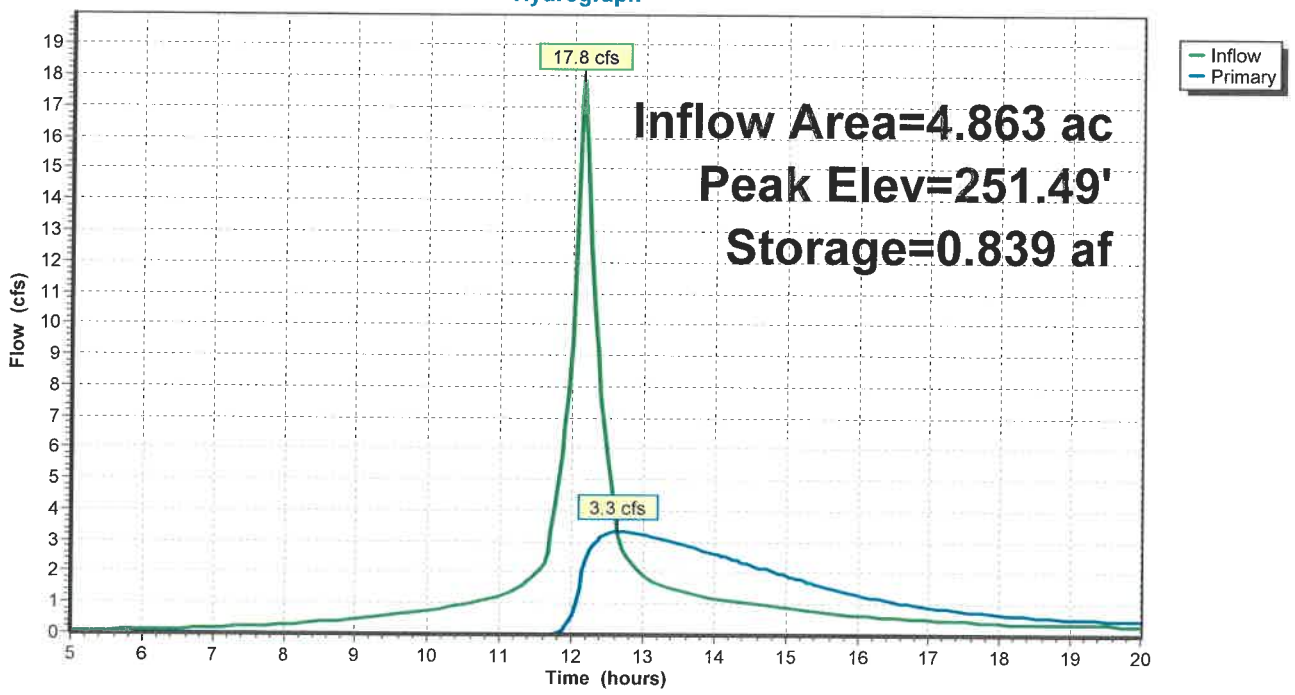
Elevation (feet)	Surf.Area (acres)	Perim. (feet)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
249.00	0.275	693.0	0.000	0.000	0.275
250.00	0.324	725.0	0.299	0.299	0.359
252.00	0.428	789.0	0.750	1.049	0.540
254.00	0.546	855.0	0.972	2.020	0.742

Device	Routing	Invert	Outlet Devices
#1	Device 2	250.00'	**12.0" Round Culvert** L= 28.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 250.00' / 249.45' S= 0.0196 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Primary	249.45'	**0.6" Vert. Orifice/Grate X 80.00 columns** X 4 rows with 6.0" cc spacing C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.3 cfs @ 12.64 hrs HW=251.49' (Free Discharge)
↑**2=Orifice/Grate** (Orifice Controls 3.3 cfs @ 5.27 fps)
↑**1=Culvert** (Passes 3.3 cfs of 3.3 cfs potential flow)

Pond 8P: Basin #2

Hydrograph



Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 3S: Subarea PA-1 Runoff Area=4.863 ac 10.94% Impervious Runoff Depth>5.43"
Flow Length=678' Tc=10.0 min CN=92 Runoff=26.4 cfs 2.200 af

Subcatchment 5S: Subarea PC Runoff Area=1.654 ac 33.37% Impervious Runoff Depth>5.43"
Flow Length=481' Tc=10.0 min CN=92 Runoff=9.0 cfs 0.748 af

Subcatchment 9S: Subarea PB Runoff Area=1.990 ac 0.00% Impervious Runoff Depth>5.63"
Flow Length=330' Tc=10.0 min CN=94 Runoff=11.0 cfs 0.934 af

Subcatchment 10S: Subarea PA-2 Runoff Area=1.847 ac 0.00% Impervious Runoff Depth>5.63"
Flow Length=540' Tc=10.0 min CN=94 Runoff=10.2 cfs 0.867 af

Reach 2R: Wetland Inflow=4.5 cfs 0.739 af
Outflow=4.5 cfs 0.739 af

Reach 4R: Southeast Property Line Inflow=13.7 cfs 2.624 af
Outflow=13.7 cfs 2.624 af

Reach 10R: Lot 5B Inflow=11.0 cfs 0.934 af
Outflow=11.0 cfs 0.934 af

Pond 7P: Basin #1 Peak Elev=230.29' Storage=0.146 af Inflow=9.0 cfs 0.748 af
Discarded=0.0 cfs 0.000 af Primary=4.5 cfs 0.739 af Outflow=4.5 cfs 0.739 af

Pond 8P: Basin #2 Peak Elev=252.44' Storage=1.244 af Inflow=26.4 cfs 2.200 af
Outflow=4.5 cfs 1.757 af

Summary for Subcatchment 3S: Subarea PA-1

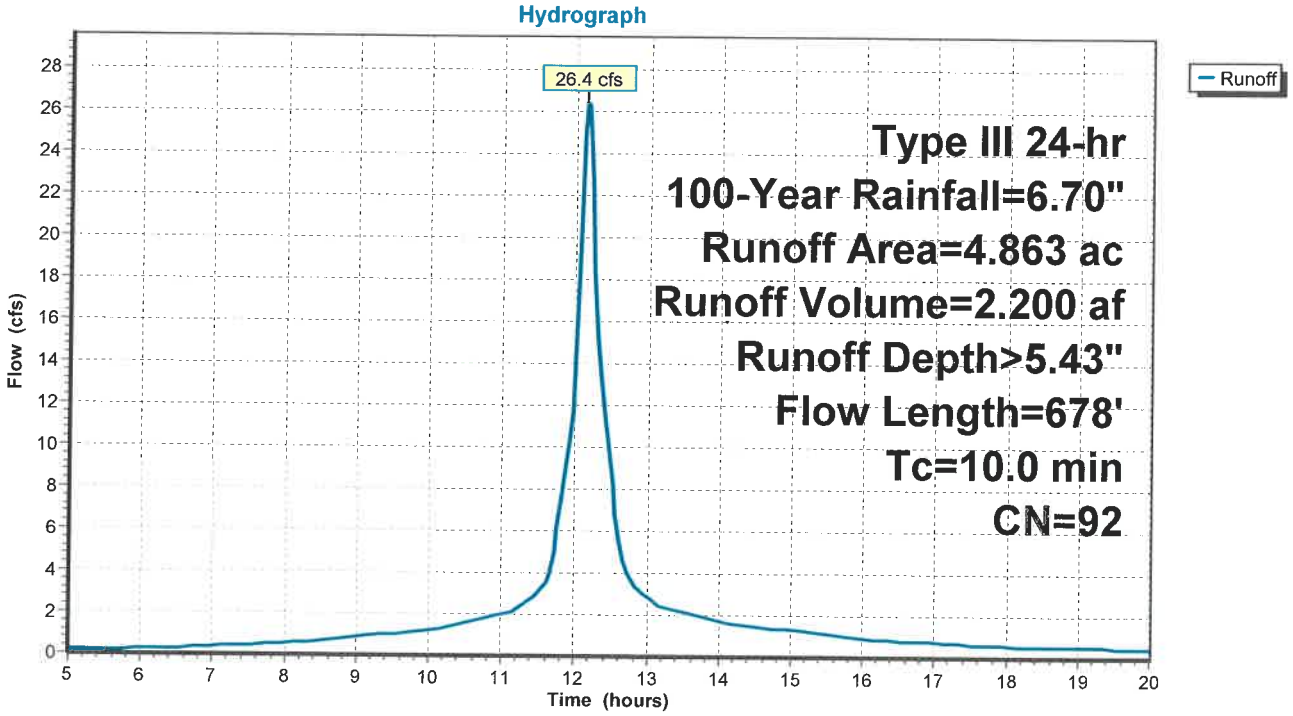
Runoff = 26.4 cfs @ 12.14 hrs, Volume= 2.200 af, Depth> 5.43"
Routed to Pond 8P : Basin #2

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
0.647	96	Gravel surface, HSG B
1.497	96	Gravel surface, HSG C
1.497	96	Gravel surface, HSG D
0.276	60	Woods, Fair, HSG B
0.207	73	Woods, Fair, HSG C
0.207	79	Woods, Fair, HSG D
0.194	98	Water Surface, HSG B
0.169	98	Water Surface, HSG C
0.169	98	Water Surface, HSG D
4.863	92	Weighted Average
4.331		89.06% Pervious Area
0.532		10.94% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.1	50	0.3200	0.20		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
1.1	123	0.1300	1.80		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
1.6	505	0.1130	5.41		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.8	678	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 3S: Subarea PA-1



Summary for Subcatchment 5S: Subarea PC

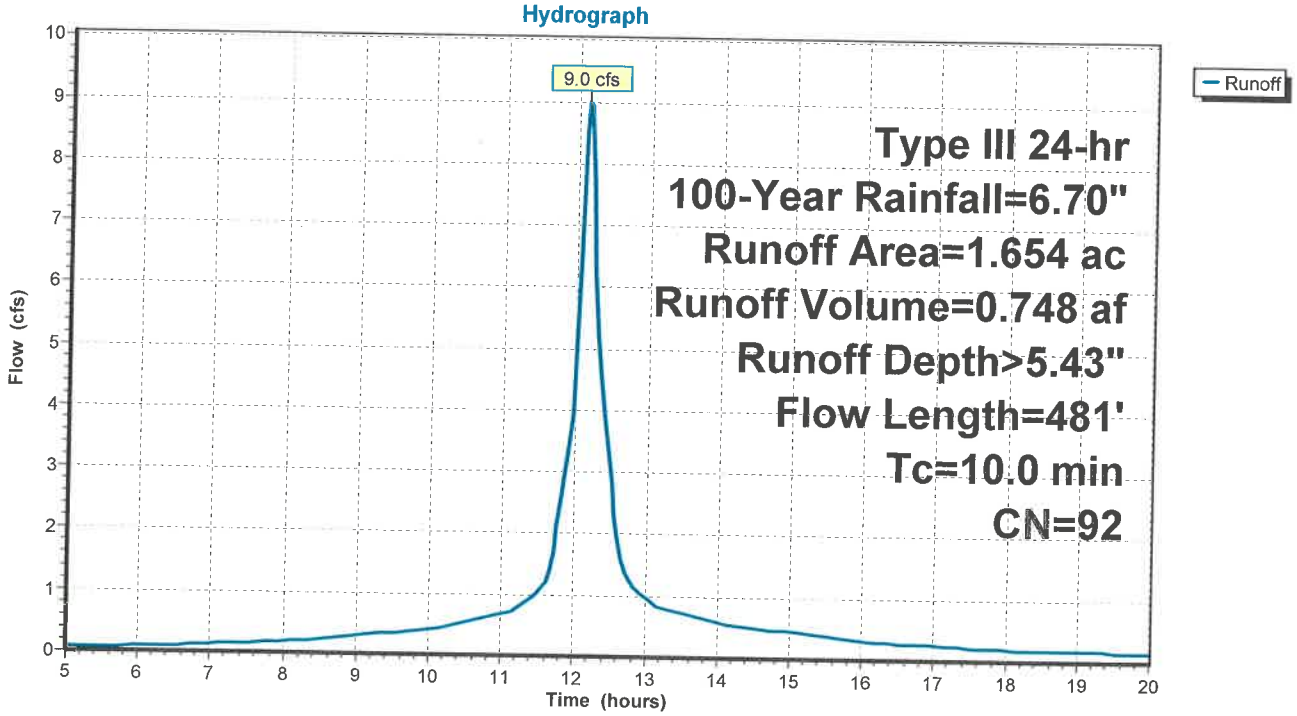
Runoff = 9.0 cfs @ 12.14 hrs, Volume= 0.748 af, Depth> 5.43"
Routed to Pond 7P : Basin #1

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
0.314	96	Gravel surface, HSG B
0.235	96	Gravel surface, HSG C
0.235	96	Gravel surface, HSG D
0.113	98	Paved parking, HSG B
0.085	98	Paved parking, HSG C
0.085	98	Paved parking, HSG D
0.057	98	Roofs, HSG B
0.043	98	Roofs, HSG C
0.043	98	Roofs, HSG D
0.080	61	>75% Grass cover, Good, HSG B
0.088	74	>75% Grass cover, Good, HSG C
0.060	80	>75% Grass cover, Good, HSG D
0.021	60	Woods, Fair, HSG B
0.054	73	Woods, Fair, HSG C
0.015	79	Woods, Fair, HSG D
0.049	98	Water Surface, HSG B
0.040	98	Water Surface, HSG C
0.037	98	Water Surface, HSG D
1.654	92	Weighted Average
1.102		66.63% Pervious Area
0.552		33.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	50	0.4400	4.12		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	230	0.1260	5.71		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	105	0.0130	2.31		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.2	96	0.0280	6.58	5.17	**Pipe Channel,** 12.0" Round Area= 0.8 sf Perim= 3.1' r= 0.25' n= 0.015 Concrete sewer w/manholes & inlets
1.9	481	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 5S: Subarea PC



Summary for Subcatchment 9S: Subarea PB

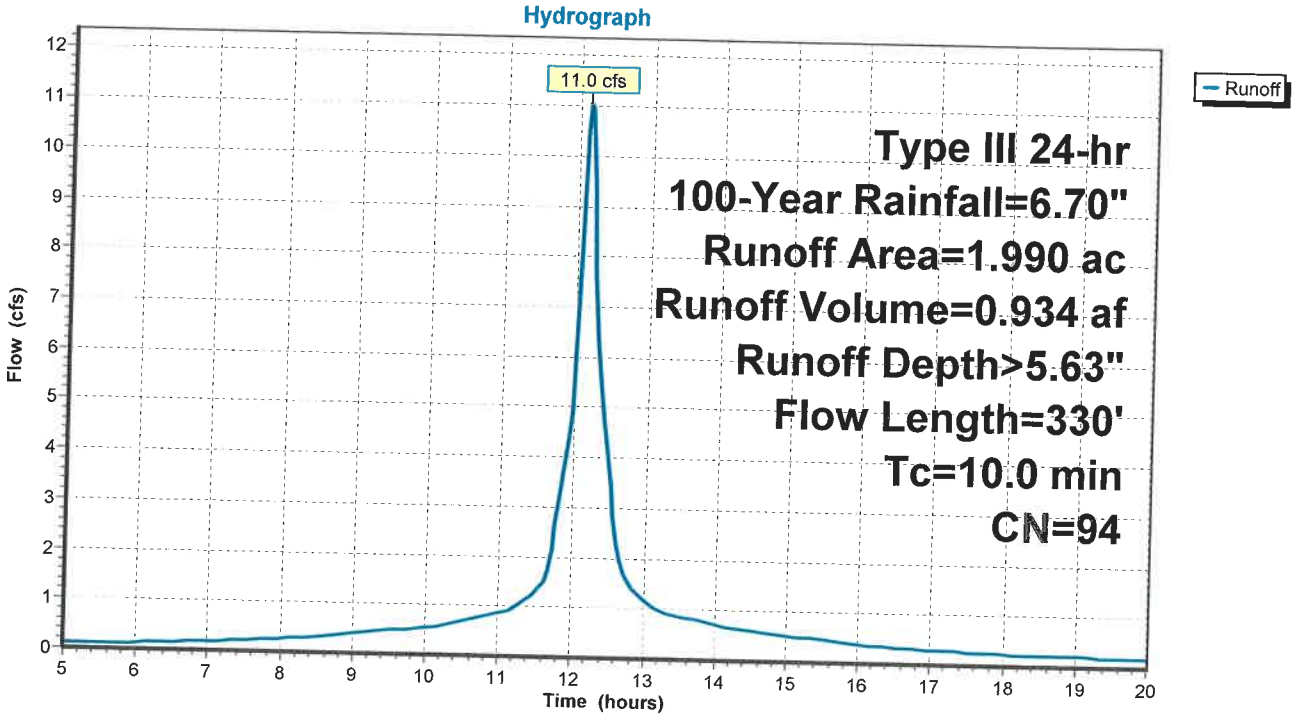
Runoff = 11.0 cfs @ 12.14 hrs, Volume= 0.934 af, Depth> 5.63"
Routed to Reach 10R : Lot 5B

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
0.070	61	>75% Grass cover, Good, HSG B
0.052	74	>75% Grass cover, Good, HSG C
0.052	80	>75% Grass cover, Good, HSG D
0.726	96	Gravel surface, HSG B
0.545	96	Gravel surface, HSG C
0.545	96	Gravel surface, HSG D
1.990	94	Weighted Average
1.990		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.2	50	0.4500	4.16		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	270	0.0920	4.88		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.0	10	0.3000	3.83		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.1	330	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 9S: Subarea PB



Summary for Subcatchment 10S: Subarea PA-2

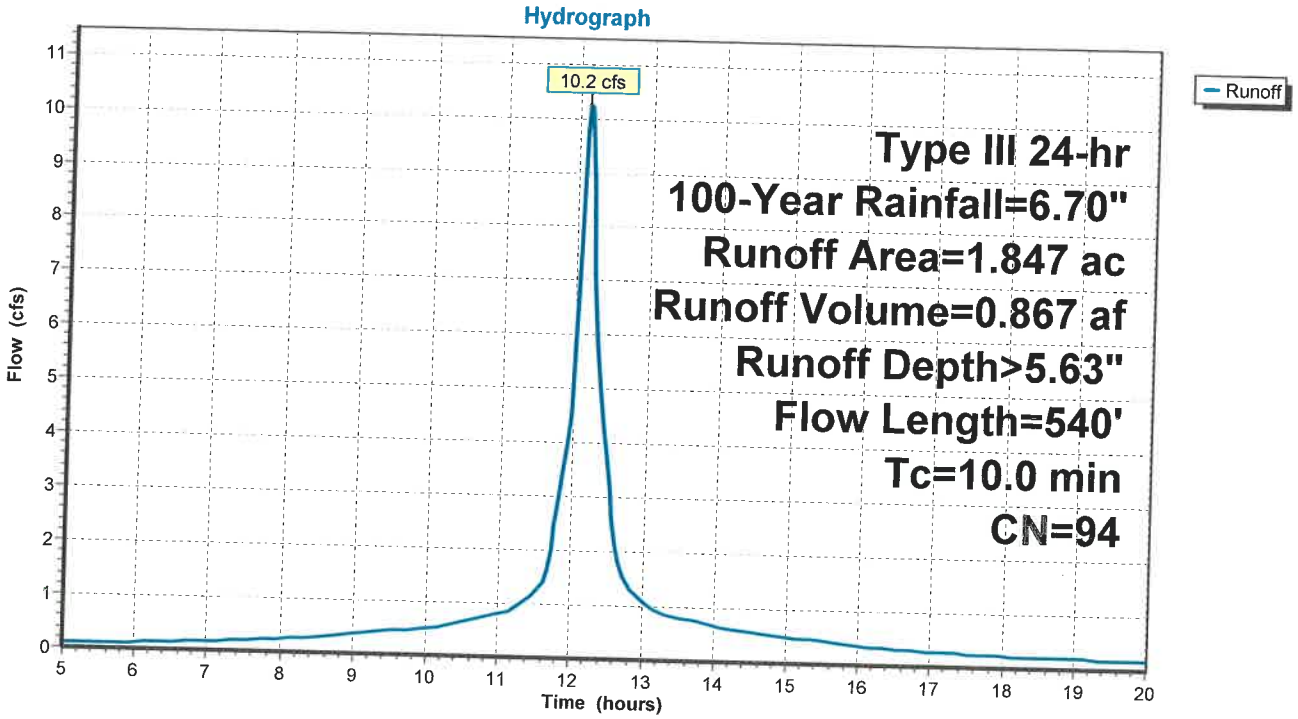
Runoff = 10.2 cfs @ 12.14 hrs, Volume= 0.867 af, Depth> 5.63"
Routed to Reach 4R : Southeast Property Line

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (ac)	CN	Description
1.065	96	Gravel surface, HSG B
0.321	96	Gravel surface, HSG C
0.321	96	Gravel surface, HSG D
0.045	60	Woods, Fair, HSG B
0.031	73	Woods, Fair, HSG C
0.031	79	Woods, Fair, HSG D
0.017	61	>75% Grass cover, Good, HSG B
0.008	74	>75% Grass cover, Good, HSG C
0.008	80	>75% Grass cover, Good, HSG D
1.847	94	Weighted Average
1.847		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	490	0.1170	5.51		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.9	540	Total, Increased to minimum Tc = 10.0 min			

Subcatchment 10S: Subarea PA-2

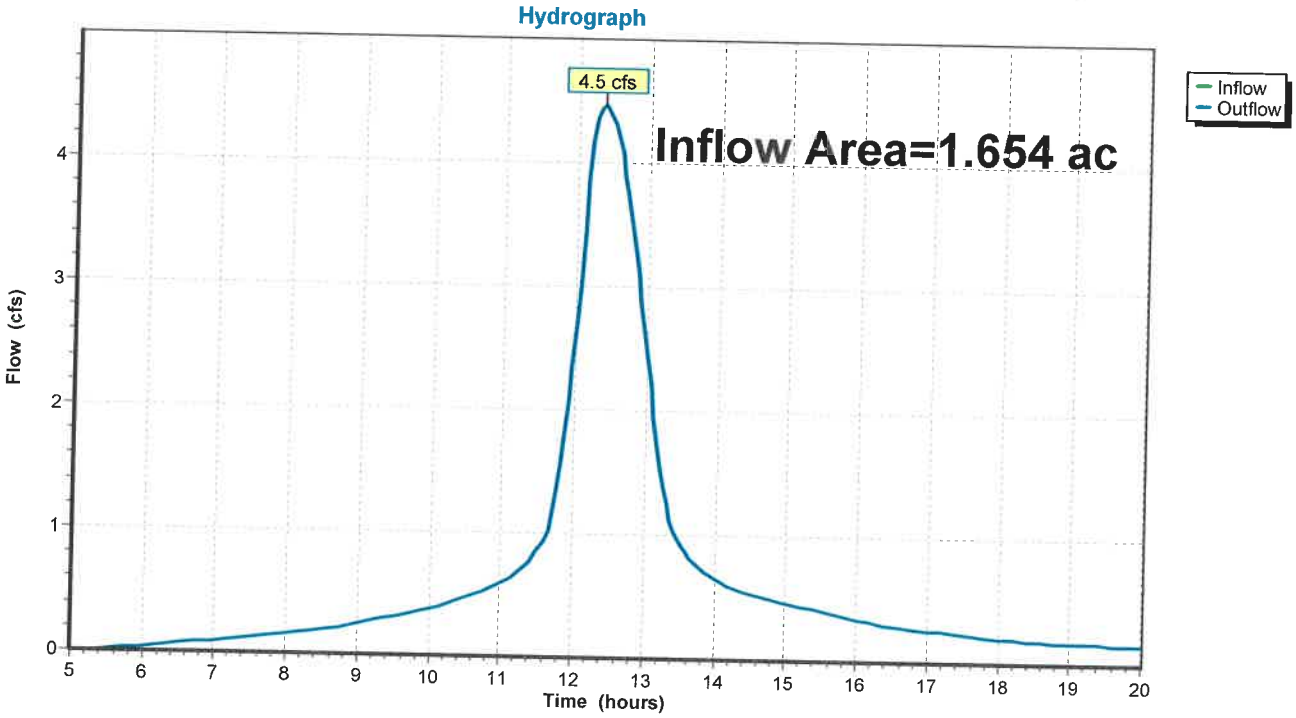


Summary for Reach 2R: Wetland

Inflow Area = 1.654 ac, 33.37% Impervious, Inflow Depth > 5.36" for 100-Year event
Inflow = 4.5 cfs @ 12.35 hrs, Volume= 0.739 af
Outflow = 4.5 cfs @ 12.35 hrs, Volume= 0.739 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 2R: Wetland

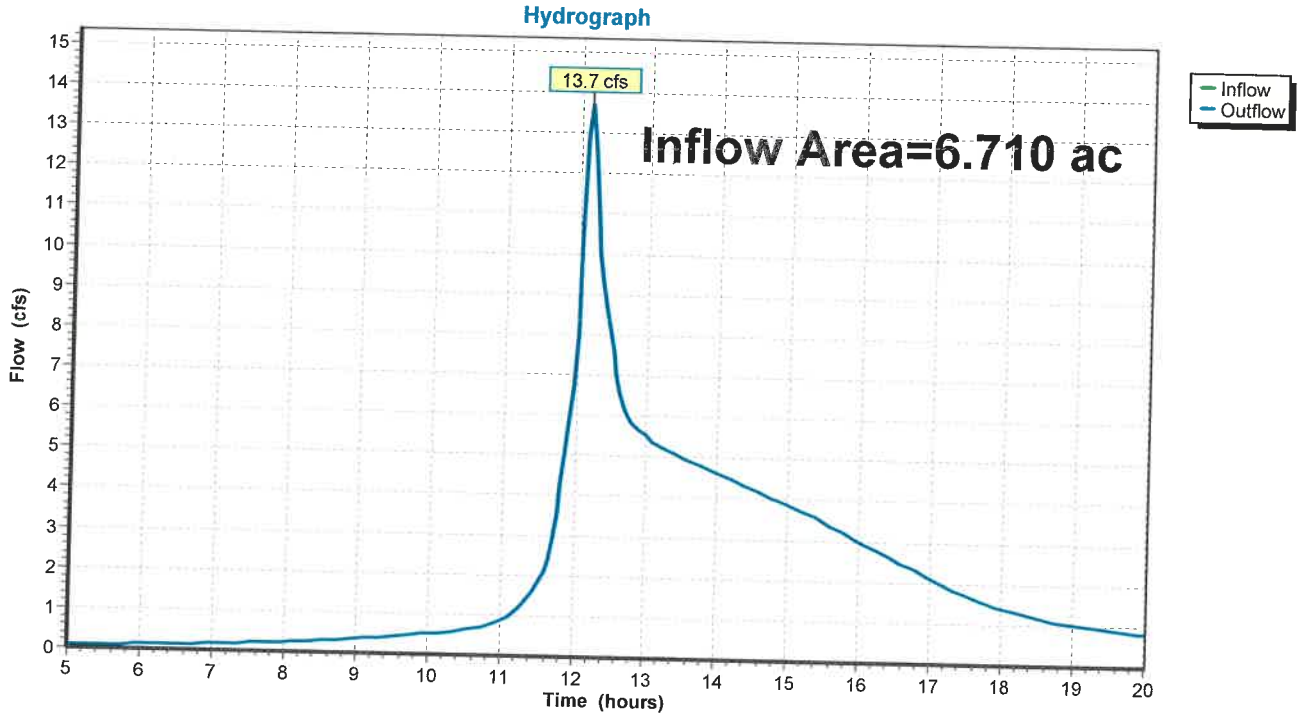


Summary for Reach 4R: Southeast Property Line

Inflow Area = 6.710 ac, 7.93% Impervious, Inflow Depth > 4.69" for 100-Year event
Inflow = 13.7 cfs @ 12.15 hrs, Volume= 2.624 af
Outflow = 13.7 cfs @ 12.15 hrs, Volume= 2.624 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 4R: Southeast Property Line

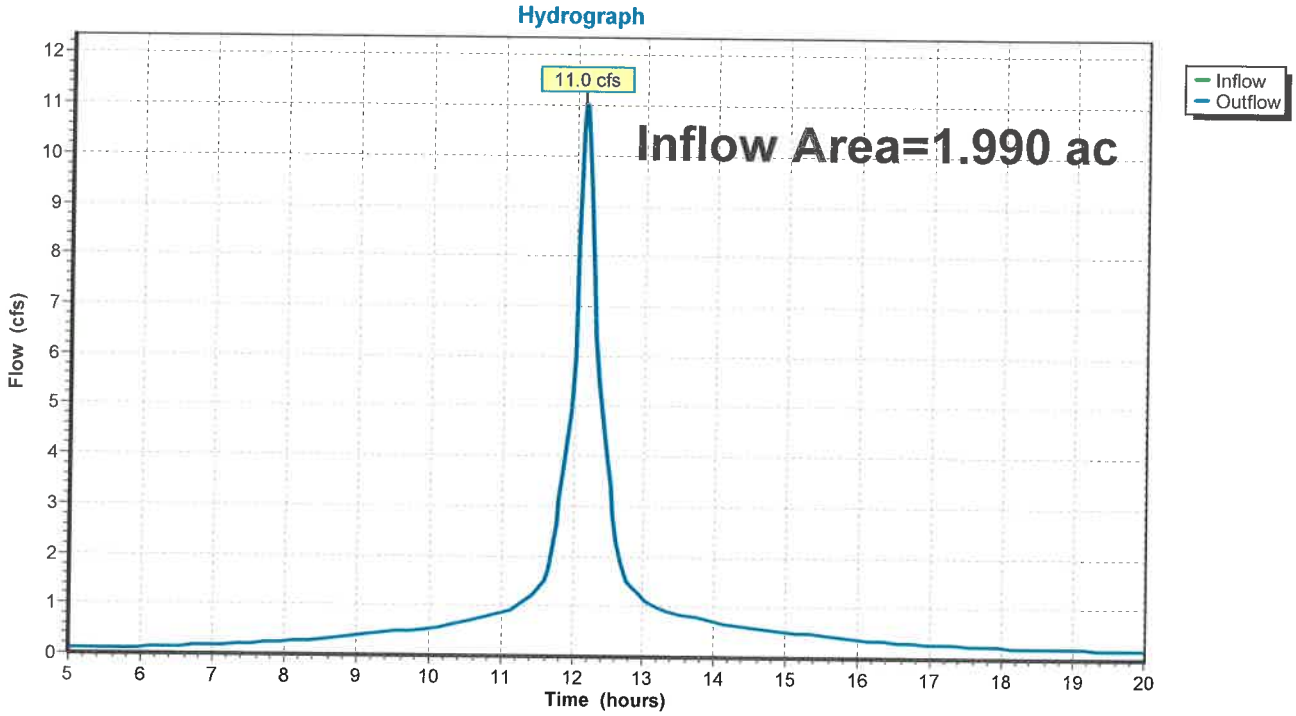


Summary for Reach 10R: Lot 5B

Inflow Area = 1.990 ac, 0.00% Impervious, Inflow Depth > 5.63" for 100-Year event
Inflow = 11.0 cfs @ 12.14 hrs, Volume= 0.934 af
Outflow = 11.0 cfs @ 12.14 hrs, Volume= 0.934 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

Reach 10R: Lot 5B



Summary for Pond 7P: Basin #1

Inflow Area = 1.654 ac, 33.37% Impervious, Inflow Depth > 5.43" for 100-Year event
Inflow = 9.0 cfs @ 12.14 hrs, Volume= 0.748 af
Outflow = 4.5 cfs @ 12.35 hrs, Volume= 0.739 af, Atten= 50%, Lag= 12.9 min
Discarded = 0.0 cfs @ 5.00 hrs, Volume= 0.000 af
Primary = 4.5 cfs @ 12.35 hrs, Volume= 0.739 af
Routed to Reach 2R : Wetland

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 230.29' @ 12.35 hrs Surf.Area= 0.087 ac Storage= 0.146 af

Plug-Flow detention time= 23.9 min calculated for 0.739 af (99% of inflow)
Center-of-Mass det. time= 18.6 min (770.3 - 751.6)

Volume	Invert	Avail.Storage	Storage Description
#1	228.00'	0.327 af	**Custom Stage Data (Irregular)** Listed below (Recalc)

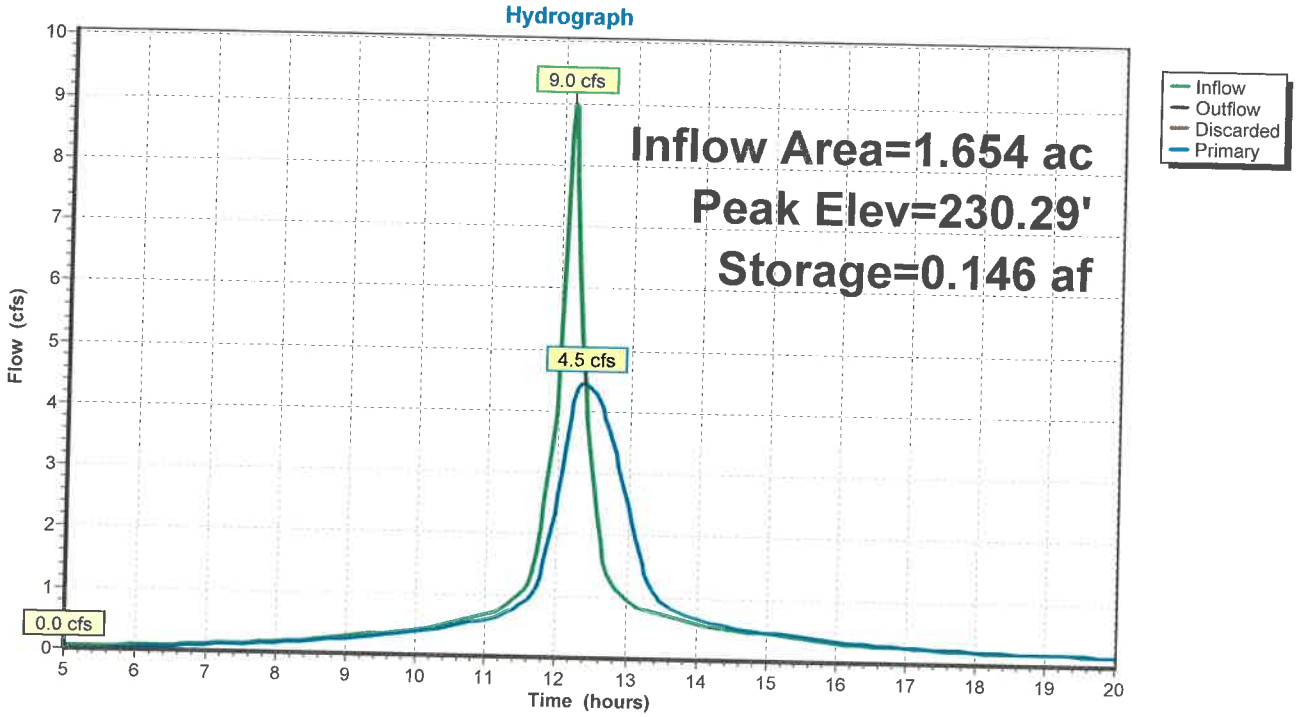
Elevation (feet)	Surf.Area (acres)	Perim. (feet)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
228.00	0.043	264.7	0.000	0.000	0.043
230.00	0.081	305.1	0.122	0.122	0.087
232.00	0.126	354.2	0.205	0.327	0.148

Device	Routing	Invert	Outlet Devices
#1	Discarded	228.00'	**0.102 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 226.10'
#2	Primary	228.00'	**12.0" Round Culvert** L= 20.0' RCP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 228.00' / 227.50' S= 0.0250 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#3	Device 1	231.00'	**0.2" x 0.2" Horiz. Orifice/Grate X 7.00 columns** X 7 rows C= 0.600 Limited to weir flow at low heads

Discarded OutFlow Max=0.0 cfs @ 5.00 hrs HW=228.00' (Free Discharge)
↑**1=Exfiltration** (Passes 0.0 cfs of 0.0 cfs potential flow)
↑**3=Orifice/Grate** (Controls 0.0 cfs)

Primary OutFlow Max=4.5 cfs @ 12.35 hrs HW=230.29' (Free Discharge)
↑**2=Culvert** (Inlet Controls 4.5 cfs @ 5.68 fps)

Pond 7P: Basin #1



Summary for Pond 8P: Basin #2

Inflow Area = 4.863 ac, 10.94% Impervious, Inflow Depth > 5.43" for 100-Year event
Inflow = 26.4 cfs @ 12.14 hrs, Volume= 2.200 af
Outflow = 4.5 cfs @ 12.66 hrs, Volume= 1.757 af, Atten= 83%, Lag= 31.6 min
Primary = 4.5 cfs @ 12.66 hrs, Volume= 1.757 af
Routed to Reach 4R : Southeast Property Line

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 252.44' @ 12.66 hrs Surf.Area= 0.453 ac Storage= 1.244 af

Plug-Flow detention time= 185.2 min calculated for 1.751 af (80% of inflow)
Center-of-Mass det. time= 132.0 min (883.7 - 751.6)

Volume	Invert	Avail.Storage	Storage Description
#1	249.00'	2.020 af	**Custom Stage Data (Irregular)** Listed below (Recalc)

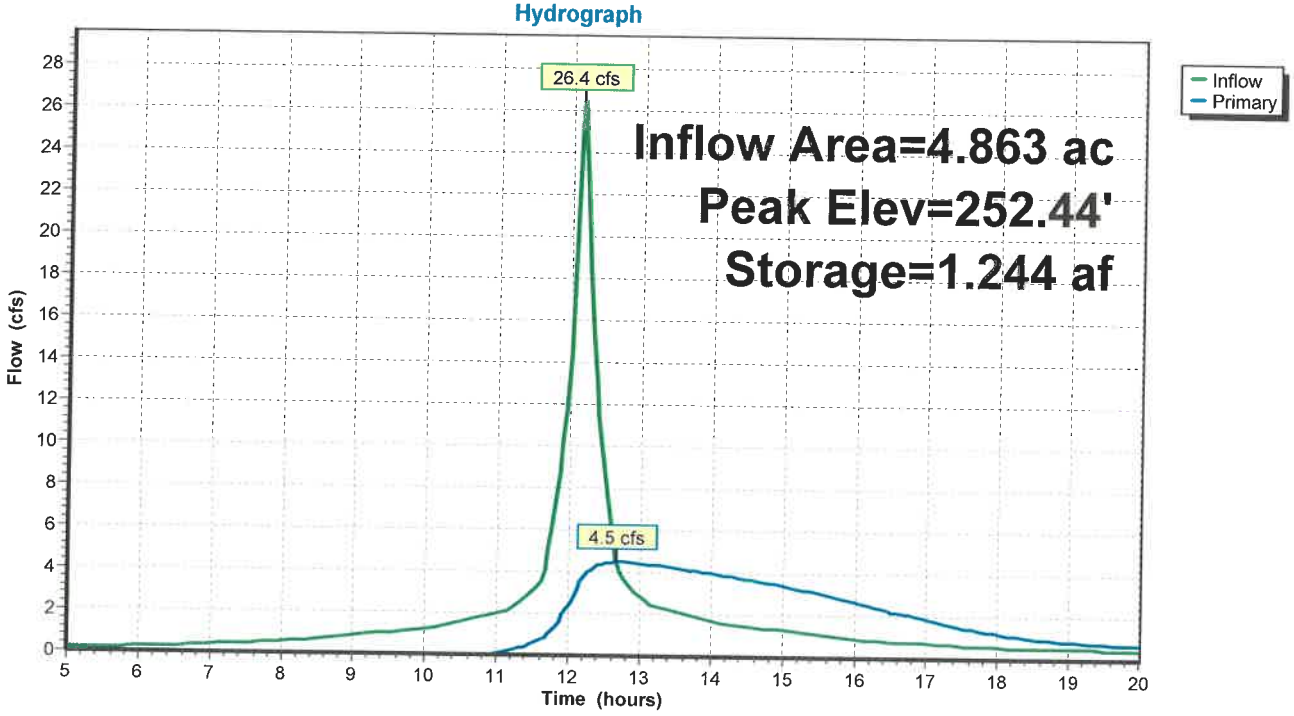
Elevation (feet)	Surf.Area (acres)	Perim. (feet)	Inc.Store (acre-feet)	Cum.Store (acre-feet)	Wet.Area (acres)
249.00	0.275	693.0	0.000	0.000	0.275
250.00	0.324	725.0	0.299	0.299	0.359
252.00	0.428	789.0	0.750	1.049	0.540
254.00	0.546	855.0	0.972	2.020	0.742

Device	Routing	Invert	Outlet Devices
#1	Device 2	250.00'	**12.0" Round Culvert** L= 28.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 250.00' / 249.45' S= 0.0196 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 0.79 sf
#2	Primary	249.45'	**0.6" Vert. Orifice/Grate X 80.00 columns** X 4 rows with 6.0" cc spacing C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.5 cfs @ 12.66 hrs HW=252.44' (Free Discharge)
└**2=Orifice/Grate** (Orifice Controls 4.5 cfs @ 7.11 fps)
└**1=Culvert** (Passes 4.5 cfs of 4.7 cfs potential flow)

Pond 8P: Basin #2

Hydrograph



APPENDIX B – STORM WATER WORKSHEETS

Required Recharge Volume and Drawdown Worksheet
TSS Removal Worksheet
Checklist for Stormwater Report
Ground Water Mounding Summary Worksheet

Required Recharge Volume Worksheet

PROJECT LOCATION: **61 East Belcher Road Foxborough, MA**
DATE: 10-Nov-22
PROJECT NUMBER: 21-0183

Subarea PC

SCS Soil Type Hydrologic Group	*Target Depth Factor (in)*	*Total Impervious Area (ac)*	*Required Volume to Recharge (ac-ft)*
HSG B - Pavement & Roofs	0.35	0.170	0.0050
HSG C - Pavement & Roofs	0.25	0.128	0.0027
HSG D - Pavement & Roofs	0.10	0.128	0.0011
		TOTAL:	**0.0087**

SITE TOTAL Rv: **0.0087**

Subsurface Basin

Volume Recharged	
Volume of pond between bottom and outlet (el=231.0)	0.213 ac-ft

Drawdown Within 72 hours	
Soil Type:	Sandy Loam
RAWLS Rate (in/hr):	1.02
Infiltration Area (sf):	1,890
Drawdown Time (hours):	2.4

TSS Phosphorous Removal Worksheet

PROJECT LOCATION: 61 East Belcher Road Foxborough, MA
DATE: 10-Nov-22
PROJECT NUMBER: 21-0183

TSS Removal

Subsurface Basin

Impervious Area = 0.426 acres
Runoff depth to be treated = 1.00 inches
Runoff volume to be treated = 0.0355 ac-ft

BMP	*TSS Removal Rate*	*Starting TSS Load*	*Amount Removed*	*Remaining Load*
Deep Sump Catch Basin	0.25	1.00	0.25	0.75
Infiltration Basin	0.8	0.75	0.60	0.15
TOTAL TSS REMOVED =				**85 %**

Phosphorous Removal

BMP	Phosphorous Removal Rate	Starting TSS Load	Amount Removed	Remaining Load
Infiltration Basin	0.6	1.00	0.6	0.40
TOTAL PHOSPHOROUS REMOVED =				**60%**

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

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.[1] 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[2]
- 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.

[1] 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.

[2] 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.

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

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.

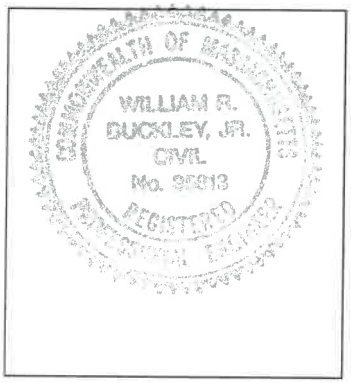
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the 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



11/22/22

Signature and Date

Checklist

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

- [x] New development
- [ ] Redevelopment
- [ ] Mix of New Development and Redevelopment

Checklist for Stormwater Report

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:

- [x] No disturbance to any Wetland Resource Areas
- [ ] Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- [ ] Reduced Impervious Area (Redevelopment Only)
- [x] 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

- [x] 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[1]

☐ 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.

[1] 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.

Checklist for Stormwater Report

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

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

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

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.

PROJECT LOCATION:	**61 East Belcher Road**
DATE:	10-Nov-22
PROJECT NUMBER:	21-0183

Basin 1

Aquifer Properties:

Hydraulic Conductivity (K-ft/day):	2.04	RAWLS rate for SAND
Specific Yield (Sy):	0.23	Medium Gravel (USGS Water Supply Paper 1662-
Initial Saturated Thickness (ft):	10	Town of Foxborough Ground Water Protection Study- April 1989

Recharge Area Properties:

Required Recharge Volume (Rv-ft3):	379	See Required Recharge Volume Worksheet
Elevation of Estimated High Groundwater (ft):	224.90	
Bottom of Recharge System (ft):	228.00	Bottom basin el-228.0'
Bottom Area (ft2):	1,890	Bottom basin el-228.0'

Application Rate Calculation:

$$\frac{\text{Rv (ft3)}}{\text{Bottom Area (ft2)}} * \frac{\text{24 hrs/day}}{\text{(DEP stan}} =$$

$$\frac{379}{1{,}890} * \frac{24}{2} = 2.4 \text{ ft/day}$$

Length of Time to Generate Rv (days):	0.0833	assume Rv generated during a 2 hour period - see DEP Stormwater Handbook, Vol.3, Ch.1, p.20

Groundwater Mounding Solution by Hantush (1967)

Maximum Water Table Rise in Center of Recharge Area (ft)	0.86	See output run using AQTESOLV V4.50.002
Depth From Top of Mound to Bottom of Recharge Area (ft):	2.24	Mound does not breach bottom of system

Transient Water-Table Rise Beneath a Rectangular Recharge Area
Groundwater Mounding Solution by Hantush (1967)

Aquifer Properties:
Hydraulic conductivity, K = 2.04 ft/day
Specific yield, Sy = 0.23
Initial saturated thickness, h(0) = 10 ft

Recharge Area Properties:
Recharge rate, w = 2.4 ft/day
Simulation time, t = 1 day
Time when recharge stops, t(0) = 0.0833 day
X coordinate at center of recharge area, X = 0 ft
Y coordinate at center of recharge area, Y = 0 ft
Length in x direction, l = 97.2 ft
Length in y direction, a = 19.44 ft

Water-Table Rise at Center of Recharge Area:

t (day)	h (ft)
0.1	0.863756
0.2	0.806294
0.3	0.731865
0.4	0.669269
0.5	0.618813
0.6	0.577694
0.7	0.543556
0.8	0.514698
0.9	0.48991
1	0.468319

Note: recovery begins after 0.0833 day.

APPENDIX C - OPERATION AND MAINTENANCE PLAN FOR STORM WATER BMPS

Construction Period O & M Plan
Post-Construction O & M Plan
Draft SWPPP

CONSTRUCTION PERIOD MAINTENANCE PLAN
FOR STORMWATER BMPs
61 East Belcher Road Foxborough, MA

References:

- Site Development Plan of "61 East Belcher Road" Foxborough, MA dated November 10, 2022
- Storm Water Report "61 East Belcher Road" Foxborough, MA dated November, 2022

Operation and Maintenance

Item 1: During construction, **weekly** inspection of the crushed stone construction entrance pad and erosion control silt socks shall be conducted by a qualified staff member of the responsible party or an independent sediment and erosion control expert hired by the responsible party. Any displaced barriers shall be restored or repaired immediately.

Item 2: The catch basins in the **parking area** shall be inspected **before** and **after** rain storms, if they are filled with sediment to half of their depth, they shall be cleaned out with an orange peel bucket or some other means. Silt sacks shall be installed inside the catch basins. The infiltration system and catch basins shall be inspected three times a year: once after leaf fall, once before the arrival of hurricane season, the third in the early or mid-spring after the snow melt and road sweeping. Any debris should be cleaned out. The parking lot shall be swept as necessary, but no less than twice a year: once before hurricane season, the once in the spring after snow melt.

Item 3: During construction every effort will be made to ensure that silt does not enter the stormwater basin. Additional silt socks shall be used as necessary. If silt does enter the basin, then the contractor shall be responsible for its removal through the inspection ports.

Item 4: During construction, the stone pad at the entrance to the project shall be inspected **weekly** and replenished if siltation is impeding the cleaning of truck tires. Any materials tracked into the roadway shall be swept up within a day.

Appendix C: LONG TERM OPERATION AND MAINTENANCE PLAN FOR STORMWATER BMPs
61 East Belcher Road Foxborough, MA

	During Construction	Post-construction
BMP Owner:	**Owner**	**Owner**
Party of Plan Responsibility:	**Owner**	**Owner**

References:

- Site Development Plan of "61 East Belcher Road" Foxborough, MA dated November 10, 2022
- Storm Water Report "61 East Belcher Road" Foxborough, MA dated November, 2022

Operation and Maintenance

Catch Basins: The catch basins shall be inspected three times a year: once after leaf fall, once before the arrival of hurricane season, the third in the early or mid-spring after the snow melt and road sweeping. Any debris in catch basins shall be cleaned out. If there is less than 2' of space below the outlet and the top of the silt then the structure shall be cleaned out.

Parking Area: The parking area will be swept twice a year: once before hurricane season, the other in the spring after snow melt.

Infiltration Basin: Once the infiltration system is in use, inspect it after every major storm (3.2 inches in 24 hours) for the first few months to ensure it is functioning properly and if necessary, take corrective action. Note how long water remains standing in the basin after a storm; standing water within the basin 48 to 72 hours after a storm indicates that there is an issue. If the ponding is due to clogging, immediately address the reasons for the clogging (such as upland sediment erosion). Thereafter, inspect the infiltration basin at least twice per year to ensure that it is dry.

Estimated Operations and Maintenance Budget

The following is an estimate of the O&M Budget, post construction.
Inspections (3 times per year): $200
Cleaning catch basins (yearly): $200

Stormwater Pollution Prevention Plan (SWPPP)

For Construction Activities At:

61 East Belcher Road
Foxborough, MA
Telephone: TBD

SWPPP Prepared For:

Blue Diamond Realty Trust
73 East Belcher Road
Foxborough, MA
508.989.1289

SWPPP Prepared By:

Bay Colony Group, Inc.
4 School Street
Foxborough, MA 02035
508.543.3939
508.543.8866 fax

SWPPP Preparation Date:

November, 2022

Estimated Project Dates:

Project Start Date: Spring, 2023
Project Completion Date: Fall, 2023

Contents

SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

1.1 Operator(s) / Subcontractor(s)

Operator(s):

A. Blue Diamond Realty Trust
73 East Belcher Road
Foxborough, MA 02035
508.989.1289

General Contractor

Subcontractor(s):

Insert Company or Organization Name:
Insert Name:
Insert Address:
Insert City, State, Zip Code:
Insert Telephone Number:
Insert Fax/Email:
Insert area of control (if more than one operator at site):

[Repeat as necessary.]

Emergency 24-Hour Contact:

A. Insert name address, telephone number

1.2 Stormwater Team

Insert Role or Responsibility: **Project Manager**
Insert Position: **Project Manager**
Insert Name: **Name**
Insert Telephone Number: **number**
Insert Email: **email**

Insert Role or Responsibility:
Insert Position:
Insert Name:
Insert Telephone Number:

Insert Email:

Insert Role or Responsibility:
Insert Position:
Insert Name:
Insert Telephone Number:
Insert Email:

[Repeat as necessary.]

SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

2.1 *Project/Site Information*

Project Name and Address

Project/Site Name: **61 East Belcher Road**
Project Street/Location: **61 East Belcher Road**
City: **Foxborough**
State: **MA**
ZIP Code: **02035**
County or Similar Subdivision: **Norfolk**

Project Latitude/Longitude

(Use **one** of three possible formats, and specify method)

Latitude:
1. **42 ° 03 ' 21" N** (degrees, minutes, seconds)
2. __ ° __ . __ ' N (degrees, minutes, decimal)
3. __ . __ __ __ ° N (decimal)

Longitude:
1. **71 ° 15 ' 38" W** (degrees, minutes, seconds)
2. __ ° __ . __ ' W (degrees, minutes, decimal)
3. __ . __ __ __ ° W (decimal)

Method for determining latitude/longitude:
☐ USGS topographic map (specify scale: _____) ☐ EPA Web site ☒ GPS
☐ Other (please specify):

Horizontal Reference Datum:
☐ NAD 27 ☒ NAD 83 or WGS 84 ☐ Unknown

If you used a U.S.G.S topographic map, what was the scale? _____

Additional Project Information

Is the project/site located on Indian country lands, or located on a property of religious or cultural significance to an Indian tribe? ☐ Yes ☒ No

If yes, provide the name of the Indian tribe associated with the area of Indian country (including the name of Indian reservation if applicable), or if not in Indian country, provide the name of the Indian tribe associated with the property: **N/A**

If you are conducting earth-disturbing activities in response to a public emergency, document the cause of the public emergency *(e.g., natural disaster, extreme flooding conditions)*, information substantiating its occurrence *(e.g., state disaster declaration)*, and a description of the construction necessary to reestablish effective public services: N/A

Are you applying for permit coverage as a "federal operator" as defined in Appendix A of the 2012 CGP? ☐ Yes ☒ No

2.2 *Discharge Information*

Does your project/site discharge stormwater into a Municipal Separate Storm Sewer System (MS4)? ☐ Yes ☒ No

Are there any surface waters that are located within 50 feet of your construction disturbances?
☐ Yes ☒ No

Table 1 – Names of Receiving Waters

Name(s) of the first surface water that receives stormwater directly from your site and/or from the MS4 (note: multiple rows provided where your site has more than one point of discharge that flows to different surface waters)
1. Spring Brook
2.
3.
4.
5.
6.

Table 2 – Impaired Waters / TMDLs (Answer the following for each surface water listed in Table 1 above)

	Is this surface water listed as "impaired"?	If you answered yes, then answer the following:			
		What pollutant(s) are causing the impairment?	Has a TMDL been completed?	Title of the TMDL document	Pollutant(s) for which there is a TMDL
1.	☐ YES ☒ NO		☐ YES ☐ NO		
2.	☐ YES ☐ NO		☐ YES ☐ NO		
3.	☐ YES ☐ NO		☐ YES ☐ NO		
4.	☐ YES ☐ NO		☐ YES ☐ NO		
5.	☐ YES ☐ NO		☐ YES ☐ NO		
6.	☐ YES ☐ NO		☐ YES ☐ NO		

[Include additional rows as necessary.]

Describe the method(s) you used to determine whether or not your project/site discharges to an impaired water: Review of the MassDEP 2018 Integrated List of Waters. Spring Brook is not listed

Table 3 – Tier 2, 2.5, or 3 Waters (Answer the following for each surface water listed in Table 1 above)

	Is this surface water designated as a Tier 2, Tier 2.5, or Tier 3 water? (see Appendix F)	If you answered yes, specify which Tier (2, 2.5, or 3) the surface water is designated as?
1.	☐ YES ☐ NO	INSERT "Tier 2", "Tier 2.5", or "Tier 3"
2.	☐ YES ☐ NO	INSERT "Tier 2", "Tier 2.5", or "Tier 3"
3.	☐ YES ☐ NO	INSERT "Tier 2", "Tier 2.5", or "Tier 3"
4.	☐ YES ☐ NO	INSERT "Tier 2", "Tier 2.5", or "Tier 3"
5.	☐ YES ☐ NO	INSERT "Tier 2", "Tier 2.5", or "Tier 3"

2.3 *Nature of the Construction Activity*

General Description of Project

Provide a general description of the construction project:

Construction of a 6,250 warehouse with associated utilities, septic system and storm water systems.

Size of Construction Project

What is the size of the property (in acres), the total area expected to be disturbed by the construction activities (in acres), and the maximum area expected to be disturbed at any one time?

INSERT SIZE OF PROPERTY – 9.57+/- acres
INSERT TOTAL AREA OF CONSTRUCTION DISTURBANCES – 9.57+/- acres
INSERT MAXIMUM AREA TO BE DISTURBED AT ANY ONE TIME – 9.57+/- acres

[Repeat as necessary for individual project phases.]

Construction Support Activities (only provide if applicable)

Describe any construction support activities for the project (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, borrow areas)

INSERT DESCRIPTION OF CONSTRUCTION SUPPORT ACTIVITY
INSERT CONTACT INFORMATION FOR CONSTRUCTION SUPPORT ACTIVITY (Name, Telephone No., Email Address)
INSERT LOCATION INFORMATION FOR CONSTRUCTION SUPPORT ACTIVITY (Address and/or Latitude/Longitude)

[Repeat as necessary.]

2.4 *Sequence and Estimated Dates of Construction Activities*

Phase I

Clearing of building site and storm water basins, installation of erosion controls, and grubbing of wooded areas, and storm water basins.

- INSERT ESTIMATED START AND END DATES OF CONSTRUCTION DISTURBANCES ASSOCIATED WITH THIS PHASE
- FOR EACH STORMWATER CONTROL, INSERT ESTIMATED DATE(s) OF INSTALLATION OF EACH STORMWATER CONTROL
- FOR AREAS OF THE SITE REQUIRED TO BE STABILIZED, INSERT ESTIMATED DATE(s) OF APPLICATION OF STABILIZATION MEASURES
- INSERT ESTIMATED DATE(s) WHEN STORMWATER CONTROLS WILL BE REMOVED

Phase II

Import and placement of material to bring building and parking to subbase elevation. Construction of storm water basins. Installation of drainage and water mains within site.

- INSERT ESTIMATED START AND END DATES OF CONSTRUCTION DISTURBANCES ASSOCIATED WITH THIS PHASE
- FOR EACH STORMWATER CONTROL, INSERT ESTIMATED DATE(s) OF INSTALLATION OF EACH STORMWATER CONTROL
- FOR AREAS OF THE SITE REQUIRED TO BE STABILIZED, INSERT ESTIMATED DATE(s) OF APPLICATION OF STABILIZATION MEASURES
- INSERT ESTIMATED DATE(s) WHEN STORMWATER CONTROLS WILL BE REMOVED

Phase III

Installation of base course of parking and construction of building.

- INSERT ESTIMATED START AND END DATES OF CONSTRUCTION DISTURBANCES ASSOCIATED WITH THIS PHASE
- FOR EACH STORMWATER CONTROL, INSERT ESTIMATED DATE(s) OF INSTALLATION OF EACH STORMWATER CONTROL
- FOR AREAS OF THE SITE REQUIRED TO BE STABILIZED, INSERT ESTIMATED DATE(s) OF APPLICATION OF STABILIZATION MEASURES
- INSERT ESTIMATED DATE(s) WHEN STORMWATER CONTROLS WILL BE REMOVED

Phase IV

Construct landscaping, finish building, place finished course of pavement. Remove storm water erosion controls.

- INSERT ESTIMATED START AND END DATES OF CONSTRUCTION DISTURBANCES ASSOCIATED WITH THIS PHASE
- FOR EACH STORMWATER CONTROL, INSERT ESTIMATED DATE(s) OF INSTALLATION OF EACH STORMWATER CONTROL
- FOR AREAS OF THE SITE REQUIRED TO BE STABILIZED, INSERT ESTIMATED DATE(s) OF APPLICATION OF STABILIZATION MEASURES
- INSERT ESTIMATED DATE(s) WHEN STORMWATER CONTROLS WILL BE REMOVED
-

[Repeat as needed.]

2.5 *Allowable Non-Stormwater Discharges*

List of Allowable Non-Stormwater Discharges Present at the Site

Type of Allowable Non-Stormwater Discharge	Likely to be Present at Your Site?
Discharges from emergency fire-fighting activities	☐ YES ☒ NO
Fire hydrant flushings	☐ YES ☒ NO
Landscape irrigation	☒ YES ☐ NO
Waters used to wash vehicles and equipment	☐ YES ☒ NO
Water used to control dust	☒ YES ☐ NO
Potable water including uncontaminated water line flushings	☒ YES ☐ NO
Routine external building wash down	☐ YES ☒ NO
Pavement wash waters	☐ YES ☒ NO
Uncontaminated air conditioning or compressor condensate	☒ YES ☐ NO

Uncontaminated, non-turbid discharges of ground water or spring water	☐ YES ☒ NO
Foundation or footing drains	☐ YES ☒ NO
Construction dewatering water	☒ YES ☐ NO

(Note: You are reminded of the requirement to identify the likely locations of these allowable non-stormwater discharges on your site map. See Section 2.6, below, of the SWPPP Template.)

2.6 *Site Maps*

See Site Development Plan of #61 East Belcher Road by Bay Colony Group, Inc.

SECTION 3: DOCUMENTATION OF COMPLIANCE WITH OTHER FEDERAL REQUIREMENTS

3.1 *Endangered Species Protection*

Eligibility Criterion

Under which criterion listed in Appendix D are you eligible for coverage under this permit?

☐ A ☐ B ☐ C ☐ D ☐ E ☒ F

For reference purposes, the eligibility criteria listed in Appendix D are as follows:

Criterion A. No federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's "action area" as defined in Appendix A of this permit.

Criterion B. The construction site's discharges and discharge-related activities were already addressed in another operator's valid certification of eligibility for your action area under eligibility Criterion A, C, D, E, or F and there is no reason to believe that federally-listed species or federally-designated critical habitat not considered in the prior certification may be present or located in the "action area". To certify your eligibility under this Criterion, there must be no lapse of NPDES permit coverage in the other operator's certification. By certifying eligibility under this Criterion, you agree to comply with any effluent limitations or conditions upon which the other operator's certification was based. You must include in your NOI the tracking number from the other operator's notification of authorization under this permit. If your certification is based on another operator's certification under Criterion C, you must provide EPA with the relevant supporting information required of existing dischargers in Criterion C in your NOI form.

Criterion C. Federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in or near your site's "action area," and your site's discharges and discharge-related activities are not likely to adversely affect listed threatened or endangered species or critical habitat. This determination may include consideration of any stormwater controls and/or management practices you will adopt to ensure that your discharges and discharge-related activities are not likely to adversely affect listed species and critical habitat. To make this certification, you must include the following in your NOI: 1) any federally listed species and/or designated habitat located in your "action area"; and 2) the distance between your site and the listed species or designated critical habitat (in miles). You must also include a copy of your site map with your NOI.

Criterion D. Coordination between you and the Services has been concluded. The coordination must have addressed the effects of your site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat, and must have resulted in a written concurrence from the relevant Service(s) that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion E. Consultation between a Federal Agency and the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service under section 7 of the ESA has been concluded. The consultation must have addressed the effects of the construction site's discharges and discharge-related activities on federally-listed threatened or endangered species and federally-designated critical habitat. The result of this consultation must be either:

i. a biological opinion that concludes that the action in question (taking into account the effects of your site's discharges and discharge-related activities) is not likely to jeopardize the continued existence of listed species, nor the destruction or adverse modification of critical habitat; or

ii. written concurrence from the applicable Service(s) with a finding that the site's discharges and discharge-related activities are not likely to adversely affect federally-listed species or federally-designated habitat.

You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Criterion F. Your construction activities are authorized through the issuance of a permit under section 10 of the ESA, and this authorization addresses the effects of the site's discharges and discharge-related activities on federally-listed species and federally-designated critical habitat. You must include copies of the correspondence between yourself and the Services in your SWPPP and your NOI.

Supporting Documentation

Provide documentation for the applicable eligibility criterion you select in Appendix D, as follows:

For criterion A, indicate the basis for your determination that no federally-listed threatened or endangered species or their designated critical habitat(s) are likely to occur in your site's action area (as defined in Appendix A of the permit). Check the applicable source of information you relied upon:

- ☐ Specific communication with staff of the U.S. Fish & Wildlife Service or National Marine Fisheries Service. INSERT DATE OF COMMUNICATION AND WHO YOU SPOKE WITH
- ☐ Publicly available species list. MASS GIS Website – NHESP Tabs
- ☐ Other source: INSERT SPECIFIC SOURCE

For criterion B, provide the Tracking Number from the other operator's notification of permit authorization: INSERT AUTHORIZATION TRACKING NUMBER FROM OTHER OPERATOR'S NOTIFICATION LETTER/EMAIL

Provide a brief summary of the basis used by the other operator for selecting criterion A, B, C, D, E, or F: INSERT TEXT HERE

For criterion C, provide the following information:

- INSERT LIST OF FEDERALLY-LISTED SPECIES OR FEDERALLY-DESIGNATED CRITICAL HABITAT LOCATED IN YOUR ACTION AREA
- INSERT DISTANCE BETWEEN YOUR SITE AND THE LISTED SPECIES OR CRITICAL HABITAT (in miles)

Also, provide a brief summary of the basis used for determining that your site's discharges and discharge-related activities are not likely to adversely affect listed species or critical habitat: INSERT TEXT HERE

For criterion D, E, or F, attach copies of any letters or other communication between you and the U.S. Fish & Wildlife Service or National Marine Fisheries Service concluding consultation or coordination activities. INSERT COPIES OF LETTERS OR OTHER COMMUNICATIONS HERE

3.2 *Historic Preservation*

Appendix E, Step 1

Do you plan on installing any of the following stormwater controls at your site? Check all that apply below, and proceed to Appendix E, Step 2.

- ☐ Dike
- ☐ Berm
- ☒ Catch Basin
- ☒ Pond
- ☐ Stormwater Conveyance Channel (e.g., ditch, trench, perimeter drain, swale, etc.)
- ☒ Culvert
- ☐ Other type of ground-disturbing stormwater control: INSERT SPECIFIC TYPE OF STORMWATER CONTROL

(Note: If you will not be installing any ground-disturbing stormwater controls, no further documentation is required for Section 3.2 of the Template.)

Appendix E, Step 2

If you answered yes in Step 1, have prior surveys or evaluations conducted on the site already determined that historic properties do not exist, or that prior disturbances at the site have precluded the existence of historic properties? ☐ YES ☒ NO

- If yes, no further documentation is required for Section 3.2 of the Template.
- If no, proceed to Appendix E, Step 3.

Appendix E, Step 3

If you answered no in Step 2, have you determined that your installation of subsurface earth-disturbing stormwater controls will have no effect on historic properties? ☒ YES ☐ NO

If yes, provide documentation of the basis for your determination. **Reference to the Massachusetts Cultural Resources Information System shows no historical areas, buildings, burial grounds, objects or structures on or near the site.**

If no, proceed to Appendix E, Step 4.

Appendix E, Step 4

If you answered no in Step 3, did the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Office (THPO), or other tribal representative (whichever applies) respond to you

within 15 calendar days to indicate whether the subsurface earth disturbances caused by the installation of stormwater controls affect historic properties? ☐ YES ☐ NO

If no, no further documentation is required for Section 3.2 of the Template.

If yes, describe the nature of their response:

☐ Written indication that adverse effects to historic properties from the installation of stormwater controls can be mitigated by agreed upon actions. INSERT COPIES OF LETTERS, EMAILS, OR OTHER COMMUNICATION BETWEEN YOU AND THE APPLICABLE SHPO, THPO, OR OTHER TRIBAL REPRESENTATIVE

☐ No agreement has been reached regarding measures to mitigate effects to historic properties from the installation of stormwater controls. INSERT COPIES OF LETTERS, EMAILS, OR OTHER COMMUNICATION BETWEEN YOU AND THE APPLICABLE SHPO, THPO, OR OTHER TRIBAL REPRESENTATIVE

☐ Other: INSERT COPIES OF LETTERS, EMAILS, OR OTHER COMMUNICATION BETWEEN YOU AND THE APPLICABLE SHPO, THPO, OR OTHER TRIBAL REPRESENTATIVE

3.3 *Safe Drinking Water Act Underground Injection Control Requirements*

Do you plan to install any of the following controls? Check all that apply below.

☐ Infiltration trenches (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

☐ Commercially manufactured pre-cast or pre-built proprietary subsurface detention vaults, chambers, or other devices designed to capture and infiltrate stormwater flow

☐ Drywells, seepage pits, or improved sinkholes (if stormwater is directed to any bored, drilled, driven shaft or dug hole that is deeper than its widest surface dimension, or has a subsurface fluid distribution system)

If yes, INSERT COPIES OF LETTERS, EMAILS, OR OTHER COMMUNICATION BETWEEN YOU AND THE STATE AGENCY OR EPA REGIONAL OFFICE - **no correspondence undertaken. Project is permitted under the MassDEP Stormwater Regulations which are enforced by the local Planning Board. A Notice of Intent will be filed and an Order of Conditions issued before the project can proceed.**

SECTION 4: EROSION AND SEDIMENT CONTROLS

4.1 *Natural Buffers or Equivalent Sediment Controls*

Buffer Compliance Alternatives

Are there any surface waters within 50 feet of your project's earth disturbances? ☐ YES ☒ NO

(Note: If no, no further documentation is required for the SWPPP Template.)

Check the compliance alternative that you have chosen:

☐ I will provide and maintain a 50-foot undisturbed natural buffer.

(Note (1): You must show the 50-foot boundary line of the natural buffer on your site map.)

(Note (2): You must show on your site map how all discharges from your construction disturbances through the natural buffer area will first be treated by the site's erosion and sediment controls. Also, show on the site map any velocity dissipation devices used to prevent erosion within the natural buffer area.)

☐ I will provide and maintain an undisturbed natural buffer that is less than 50 feet and is supplemented by additional erosion and sediment controls, which in combination achieves the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

(Note (1): You must show the boundary line of the natural buffer on your site map.)

(Note (2): You must show on your site map how all discharges from your construction disturbances through the natural buffer area will first be treated by the site's erosion and sediment controls. Also, show on the site map any velocity dissipation devices used to prevent erosion within the natural buffer area.)

- INSERT WIDTH OF NATURAL BUFFER TO BE RETAINED
- INSERT EITHER ONE OF THE FOLLOWING:

  (1) THE ESTIMATED SEDIMENT REMOVAL FROM A 50-FOOT BUFFER USING APPLICABLE TABLES IN APP. G, ATTACHMENT 1. INCLUDE INFORMATION ABOUT THE BUFFER VEGETATION AND SOIL TYPE THAT PREDOMINATE AT YOUR SITE

  OR

  (2) IF YOU CONDUCTED A SITE-SPECIFIC CALCULATION FOR THE ESTIMATED SEDIMENT REMOVAL OF A 50-FOOT BUFFER, PROVIDE THE SPECIFIC REMOVAL EFFICIENCY, AND INFORMATION YOU RELIED UPON TO MAKE YOUR SITE-SPECIFIC CALCULATION.
- INSERT DESCRIPTION OF ADDITIONAL EROSION AND SEDIMENT CONTROLS TO BE USED IN COMBINATION WITH NATURAL BUFFER AREA
- INSERT THE FOLLOWING INFORMATION:
  - (1) SPECIFY THE MODEL OR OTHER TOOL USED TO ESTIMATE SEDIMENT LOAD REDUCTIONS FROM THE COMBINATION OF THE BUFFER AREA AND ADDITIONAL EROSION AND SEDIMENT CONTROLS INSTALLED AT YOUR SITE, AND
  - (2) INCLUDE THE RESULTS OF CALCULATIONS SHOWING THAT THE COMBINATION OF YOUR BUFFER AREA AND THE ADDITIONAL EROSION AND SEDIMENT CONTROLS INSTALLED AT YOUR SITE WILL MEET OR EXCEED THE SEDIMENT REMOVAL EFFICIENCY OF A 50-FOOT BUFFER

☐ It is infeasible to provide and maintain an undisturbed natural buffer of any size, therefore I will implement erosion and sediment controls that achieve the sediment load reduction equivalent to a 50-foot undisturbed natural buffer.

- DESCRIPTION OF WHY IT IS NOT FEASIBLE
- INSERT EITHER ONE OF THE FOLLOWING:

  (1) THE ESTIMATED SEDIMENT REMOVAL FROM A 50-FOOT BUFFER USING APPLICABLE TABLES IN APP. G, ATTACHMENT 1. INCLUDE INFORMATION ABOUT THE BUFFER VEGETATION AND SOIL TYPE THAT PREDOMINATE AT YOUR SITE

  OR

  (2) IF YOU CONDUCTED A SITE-SPECIFIC CALCULATION FOR THE ESTIMATED SEDIMENT REMOVAL OF A 50-FOOT BUFFER, PROVIDE THE SPECIFIC REMOVAL EFFICIENCY, AND INFORMATION YOU RELIED UPON TO MAKE YOUR SITE-SPECIFIC CALCULATION.
- INSERT DESCRIPTION OF ADDITIONAL EROSION AND SEDIMENT CONTROLS TO BE USED IN COMBINATION WITH NATURAL BUFFER AREA
- INSERT THE FOLLOWING INFORMATION:
  - (1) SPECIFY THE MODEL OR OTHER TOOL USED TO ESTIMATE SEDIMENT LOAD REDUCTIONS FROM THE EROSION AND SEDIMENT CONTROLS INSTALLED AT YOUR SITE, AND
  - (2) INCLUDE THE RESULTS OF CALCULATIONS SHOWING THAT THE ADDITIONAL EROSION AND SEDIMENT CONTROLS INSTALLED AT YOUR SITE WILL MEET OR EXCEED THE SEDIMENT REMOVAL EFFICIENCY OF A 50-FOOT BUFFER

☐ I qualify for one of the exceptions in Part 2.1.2.1.e. (If you have checked this box, provide information on the applicable buffer exception that applies, below.)

Buffer Exceptions

Which of the following exceptions to the buffer requirements applies to your site?

☐ There is no discharge of stormwater to the surface water that is located 50 feet from my construction disturbances.

(Note: If this exception applies, no further documentation is required for Section 4.1 of the Template.)

☐ No natural buffer exists due to preexisting development disturbances that occurred prior to the initiation of planning for this project.

(Note (1): If this exception applies, no further documentation is required for Section 4.1 of the Template.)

(Note (2): Where some natural buffer exists but portions of the area within 50 feet of the surface water are occupied by preexisting development disturbances, you must still comply with the one of the CGP Part 2.1.2.1.a compliance alternatives.)

☐ For a "linear project" (defined in Appendix A), site constraints (e.g., limited right-of-way) make it infeasible for me to meet any of the CGP Part 2.1.2.1.a compliance alternatives. INCLUDE DOCUMENTATION HERE OF THE FOLLOWING: (1) WHY IT IS INFEASIBLE FOR YOU TO MEET ONE OF THE BUFFER COMPLIANCE ALTERNATIVES, AND (2) BUFFER WIDTH RETAINED AND/OR SUPPLEMENTAL EROSION AND SEDIMENT CONTROLS TO TREAT DISCHARGES TO THE SURFACE WATER

☐ The project qualifies as "small residential lot" construction (defined in Part 2.1.2.1.e.iv and in Appendix A).

For Alternative 1 (see Appendix G, Part G.2.3.2.a):

- INSERT WIDTH OF NATURAL BUFFER TO BE RETAINED
- INSERT APPLICABLE REQUIREMENTS BASED ON TABLE G-1
- INSERT DESCRIPTION OF HOW YOU WILL COMPLY WITH THESE REQUIREMENTS

For Alternative 2 (see Appendix G, Part G.2.3.2.b):

- INSERT (1) THE ASSIGNED RISK LEVEL BASED ON APPLICABLE TABLE IN APP. G, PART G.2.3.2.b, AND (2) THE PREDOMINANT SOIL TYPE AND AVERAGE SLOPE AT YOUR SITE
- INSERT APPLICABLE REQUIREMENTS BASED ON APP. G, TABLE G-7
- INSERT DESCRIPTION OF HOW YOU WILL COMPLY WITH THESE REQUIREMENTS

☐ Buffer disturbances are authorized under a CWA Section 404 permit. INSERT DESCRIPTION OF ANY EARTH DISTURBANCES THAT WILL OCCUR WITHIN THE BUFFER AREA.

(Note (1): If this exception applies, no further documentation is required for Section 4.1 of the Template.)

(Note (2): This exception only applies to the limits of disturbance authorized under the Section 404 permit, and does not apply to any upland portion of the construction project.)

☐ Buffer disturbances will occur for the construction of a water-dependent structure or water access area (e.g., pier, boat ramp, and trail). INSERT DESCRIPTION OF ANY EARTH DISTURBANCES THAT WILL OCCUR WITHIN THE BUFFER AREA.

(Note (1): If this exception applies, no further documentation is required for Section 4.1 of the Template.)

4.2 *Perimeter Controls*

General

- **The perimeter of the site where sediment could be expected to migrate off site will contain a silt sock barrier that will capture siltation and runoff.**

Specific Perimeter Controls

Perimeter Control # 1

Perimeter Control Description

- **Silt sock barrier**
- **See SWPP Plan – Site Plan**

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- **Weekly inspection and removal of sediment once it reaches at least ½ way up the barrier.**

[Repeat as needed for individual perimeter controls.]

4.3 *Sediment Track-Out*

General

- **Rip rap stabilized construction entrance.**

Specific Track-Out Controls

Track-Out Control # 1

Track-Out Control Description

- **Rip rap stabilized construction entrances at points where they meet existing access road pavement off of East Belcher Road**
- **See SWPP Plan – Site Plan**

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- **Monitor and maintain the Stabilized Construction Entrance shown on the SWPPP Plan to ensure that it is cleaned and functioning correctly to prevent tracking of sediment by construction that exit the Site.**
- **Where sediment has been tracked-out from the site onto the surface of off-site streets, other paved areas, and sidewalks, you must remove the deposited sediment by the end of the same work day in which the track-out occurs or by the end of the next work day if track-out occurs on a non-work day. You must remove the track-out by sweeping, shoveling, or vacuuming these surfaces, or by using other similarly effective means of sediment removal. Hosing or sweeping tracked-out sediment into any stormwater conveyance (unless it is connected to a sediment basin, sediment trap, or similarly effective control), storm drain inlet, or surface water.") is prohibited.**

[Repeat as needed for individual track-out controls.]

4.4 *Stockpiled Sediment or Soil*

General

- **Stockpiled Material will be encircled with a silt sock barrier**

Specific Stockpile Controls

Stockpile Control # 1

Stockpiled Sediment/Soil Control Description

- **Silt sock will be placed around the perimeter of the stockpiled material.**
- **See SWPP Plan – Site Plan**

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- **Inspect barriers weekly or after a rain storm and remove sediment if it has reached ½ way up the barrier.**

[Repeat as needed for individual stockpile controls.]

4.5 *Minimize Dust*

General

- **A water truck will be used for dust control.**

Specific Dust Controls

Dust Control # 1
Dust Control Description

- **A water truck will be used for dust control.**

Installation

- **n/a**

Maintenance Requirements

- **n/a**

[Repeat as needed for individual dust controls.]

4.6 *Minimize the Disturbance of Steep Slopes*

General

- **Erosion control will be used to minimize siltation from slopes to be disturbed.**

Specific Steep Slope Controls

Steep Slope Control # 1
Steep Slope Control Description

- INSERT DESCRIPTION OF STEEP SLOPE CONTROL TO BE INSTALLED
- INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- INSERT MAINTENANCE REQUIREMENTS FOR THE STEEP SLOPE CONTROL

[Repeat as needed for individual steep slope controls.]

4.7 *Topsoil*

General

- **The existing topsoil will be stripped and stockpiled on the site and reused in areas of the site where it is appropriate: lawns, road side slopes, storm water basin slopes, etc. The remainder will be removed from the site to locations TBD.**

Specific Topsoil Controls

Topsoil Control # 1
Topsoil Control Description
- **Topsoil will be stripped and stockpiled on the site and handled in accordance with the specifications of other stockpiles**
- **See Section 4.4**
- **See SWPP Plan – Appendix A**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- **Same as Section 4.4**

[Repeat as needed for individual topsoil controls.]

4.8 *Soil Compaction*

General
- **Areas of landscaping will be handled in accordance with local landscaping practice. Storm water basin construction will be handled in accordance with the guidance in the MA DEP Stormwater standards.**

Specific Soil Compaction Controls

Soil Compaction Control # 1
Soil Compaction Control Description
- **Storm water basin construction will be in accordance with MA DEP Stormwater standards.**
- **See definitive plans – Appendix A**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- **Storm water basins will be cleaned on an annual basis, or more if necessary.**
-

[Repeat as needed for individual soil compaction controls.]

4.9 *Storm Drain Inlets*

General
- **Storm drain inlets will be protected through the use of silt socks within drainage swales. Catch basins will protected by silt socks around the grates or with silt bags inserted in the structure.**

Specific Storm Drain Inlet Controls

Storm Drain Inlet Control # 1
Storm Drain Inlet Control Description

- **Silt socks**
- **See SWPP Plan – Appendix A**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- **Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, you must remove the deposited sediment by the end of the same work day in which it is found or by the end of the following work day if removal by the same work day is not feasible.**

Storm Drain Inlet Control # 2
Storm Drain Inlet Control Description
- **Silt socks around grates or silt sacks in catch basins**
- **See SWPP Plan – Appendix A**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- **Clean, or remove and replace, the protection measures as sediment accumulates, the filter becomes clogged, and/or performance is compromised. Where there is evidence of sediment accumulation adjacent to the inlet protection measure, you must remove the deposited sediment by the end of the same work day in which it is found or by the end of the following work day if removal by the same work day is not feasible.**

[Repeat as needed for individual storm drain inlet controls.]

4.10 Constructed Stormwater Conveyance Channels

General
- **Rip rap devices will be used at all outlets.**

Specific Conveyance Channel Controls

Stormwater Conveyance Channel Control # 1
Stormwater Conveyance Channel Control Description
- **Rip rap outlet to drain outlet pipes**
- **See Site Plan**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- **Rip rap shall be inspected weekly and after every rainstorm. If erosion is taking place the stone shall be replenished.**

[Repeat as needed for individual stormwater conveyance channel controls.]

4.11 Sediment Basins

General

- **The storm water basin will not be used as sediment basin during construction. Sediment basins will be constructed as necessary to control sediment close to the source and to prevent it from exiting site or going into the storm water basin.**

Specific Sediment Basin Controls

Sediment Basin Control # 1
Sediment Basin Control Description

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- **Sediment basins will be inspected weekly and after every rain event greater than 0.5". Once the sediment in the forebay reaches 1/2 of depth the sediment will be removed.**
- **Once construction has stopped and the site is fully stabilized the basin will be revegetated as necessary to bring it into compliance with the definitive plans.**
  (Note: At a minimum, you must comply with following requirement in CGP Part 2.1.3.2.b: "Keep in effective operating condition and remove accumulated sediment to maintain at least ½ of the design capacity of the sediment basin at all times.")

[Repeat as needed for individual sediment basin controls.]

4.12 Chemical Treatment

Soil Types
List all the soil types (including soil types expected to be found in fill material) that are expected to be exposed during construction and that will be discharged to locations where chemicals will be applied:
None anticipated

Treatment Chemicals
List all treatment chemicals that will be used at the site and explain why these chemicals are suited to the soil characteristics: INSERT TEXT HERE

Describe the dosage of all treatment chemicals you will use at the site or the methodology you will use to determine dosage: INSERT TEXT HERE

Provide information from any applicable Material Safety Data Sheets (MSDS): INSERT TEXT HERE

Describe how each of the chemicals will stored: INSERT TEXT HERE

Include references to applicable state or local requirements affecting the use of treatment chemicals, and copies of applicable manufacturer's specifications regarding the use of your specific treatment chemicals and/or chemical treatment systems: INSERT TEXT HERE

Special Controls for Cationic Treatment Chemicals (if applicable)
If you have been authorized by your applicable Regional Office to use cationic treatment chemicals, include the official EPA authorization letter or other communication, and identify the specific controls and implementation procedures you are required to implement to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards: INSERT (1) ANY LETTERS OR OTHER DOCUMENTS SENT FROM THE EPA REGIONAL OFFICE CONCERNING YOUR USE OF CATIONIC TREATMENT CHEMICALS, AND (2) DESCRIPTION OF ANY SPECIFIC CONTROLS YOU ARE REQUIRED TO IMPLEMENT

Schematic Drawings of Stormwater Controls/Chemical Treatment Systems
Provide schematic drawings of any chemically-enhanced stormwater controls or chemical treatment systems to be used for application of treatment chemicals: INSERT TEXT HERE

Training
Describe the training that personnel who handle and apply chemicals have received prior to permit coverage, or will receive prior to the use of treatment chemicals: INSERT TEXT HERE

4.13 Dewatering Practices

General

- **Dewatering is not expected to be necessary**

Specific Dewatering Practices

Dewatering Practice # 1
Dewatering Practice Description

- **Installation of a sump pipe with trash pump in the area of the excavation**
- **Discharge will take place in a sediment basin, which will allow the water to infiltrate into the ground away from the property lines.**

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- **Create a stone sump if necessary to ameliorate velocity and to encourage infiltration. If necessary, use silt socks or hay bales to contain.**

[Repeat as needed for individual dewatering practices.]

4.14 Other Stormwater Controls

General

- INSERT GENERAL DESCRIPTION OF THE PROBLEM THIS CONTROL IS DESIGNED TO ADDRESS

Specific Stormwater Control Practices

Stormwater Control Practice # 1
Description
- INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED
- IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE STORMWATER CONTROL PRACTICE

[Repeat as needed.]

4.15 Site Stabilization

Site Stabilization Practice (only use this if you are not located in an arid, semi-arid, or drought-stricken area)
☒ *Vegetative* ☐ *Non-Vegetative*
☒ *Temporary* ☐ *Permanent*

Description of Practice
- **Temporary stabilization of disturbed areas.**
- **No later than 14 days after initiation of soil stabilization measures the portion of the site in question will be planted with temporary cover using either standard seeding or hydroseeding.**
- **Seed mixture shall be based on the Massachusetts Conservation Guide Vol. II – Vegetated Practices in Site Development Table 1 – Seedings for Temporary Cover and is dependent on the time of year and the weather conditions.**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION
- INSERT APPROXIMATE COMPLETION DATE CONSISTENT WITH CGP PART 2.2.1.2

Maintenance Requirements
Seeded areas should be refertilized with ½ of the establishment amount in the second growing season and subsequently as needed.

[Repeat as needed for additional stabilization practices.]

Site Stabilization Practice (only use this if you are located in an arid, semi-arid, or drought-stricken area)
☒ *Vegetative* ☐ *Non-Vegetative*
☐ *Temporary* ☒ *Permanent*

Description of Practice
- **Permanent stabilization of disturbed areas.**
- **Final stabilization in areas to be vegetated will be done in accordance Section 2.2.2 of the general permit.**
- **Seed mixture shall be based on the Massachusetts Conservation Guide Vol. II – Vegetated Practices in Site Development Table 2 – Seed Mixtures for Permanent Cover and is dependent on the time of year and the weather conditions.**
-

Installation
- FOR VEGETATIVE STABILIZATION IN ARID OR SEMI-ARID AREAS, INDICATE THE BEGINNING AND ENDING DATES OF THE SEASONALLY DRY PERIOD AND DESCRIBE YOUR SITE CONDITIONS
- INSERT APPROXIMATE DATE OF INSTALLATION
- INSERT APPROXIMATE COMPLETION DATE CONSISTENT WITH CGP PART 2.2.1.3

Maintenance Requirements
Seeded areas should be refertilized with ½ of the establishment amount in the second growing season and subsequently as needed.

[Repeat as needed for additional stabilization practices.]

Site Stabilization Practice (only use this if uncontrollable circumstances have delayed the initiation or completion of stabilization)

(Note: You will not be able to include this information in your initial SWPPP. If you are affected by circumstances such as those described in CGP Part 2.2.1.3.b, you will need to modify your SWPPP to include this information.)

☐ *Vegetative* ☐ *Non-Vegetative*
☐ *Temporary* ☐ *Permanent*

Justification

- INSERT DESCRIPTION OF CIRCUMSTANCES THAT PREVENT YOU FROM MEETING THE DEADLINES REQUIRED IN CGP PARTS 2.2.1.1 AND/OR 2.2.1.2 AND THE SCHEDULE YOU WILL FOLLOW FOR INITIATING AND COMPLETING STABILIZATION

Description of Practice

- INSERT DESCRIPTION OF STABILIZATION PRACTICE TO BE INSTALLED
- NOTE HOW DESIGN WILL MEET REQUIREMENTS OF PART 2.2.2.1 OR 2.2.2.2, WHICHEVER APPLIES
- INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation

- INSERT DATES OF INITIATION AND COMPLETION OF NON-VEGETATIVE STABILIZATION CONTROLS (must be completed within 14 days of the cessation of construction)

Maintenance Requirements

INSERT MAINTENANCE REQUIREMENTS FOR THE STABILIZATION PRACTICE

[Repeat as needed for additional stabilization practices.]

SECTION 5: POLLUTION PREVENTION STANDARDS

5.1 Potential Sources of Pollution

Construction Site Pollutants

Pollutant-Generating Activity	**Pollutants or Pollutant Constituents** (that could be discharged if exposed to stormwater)	**Location on Site** (or reference SWPPP site map where this is shown)
Fueling of vehicles	Gasoline or diesel	Only on paved surfaces, to include access road

[Include additional rows as necessary.]

5.2 Spill Prevention and Response

Any spills of petroleum products will be cleaned using available sorbent material, to include sand, gravel, earth, or other dry clean up measures. If the spill is so large that it enters a catch basin then ensure that the basin is properly emptied so that the materials do not exit the structure. If necessary, contact the Foxboro Fire Department at 911 and direct them to the project site.

5.3 Fueling and Maintenance of Equipment or Vehicles

General

- Fueling will only take place on pavement where spills can be readily cleaned-up. Ensure that adequate absorbent, spill clean-up materials are available on the site. If necessary, drip pans will be used under vehicles that leak. Those vehicles shall be removed from the site and repaired before being allowed to return. No storage of fuels or lubricants will take place on site. No maintenance will take place on site.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description

- Fueling will only take place on pavement and adequate absorbent, spill clean-up materials will be available on site.

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- Ensure that adequate materials are maintained on site.

[Repeat as needed.]

5.4 Washing of Equipment and Vehicles

General

- No washing of equipment or vehicles will be done on site.

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description

- INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED
- IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

5.5 Storage, Handling, and Disposal of Construction Products, Materials, and Wastes

5.5.1 Building Products

(Note: Examples include asphalt sealants, copper flashing, roofing materials, adhesives, concrete admixtures.)

General
- **Building products not designed to come in contact with rain will be stored under cover.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- **Building products not designed to come in contact with rain will be stored under cover.**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

5.5.2 Pesticides, Herbicides, Insecticides, Fertilizers, and Landscape Materials

General
- **Shall not be stored on site. Application shall be done at a rate and in amounts consistent with the manufacturer's specifications.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- **Application shall be done at a rate and in amounts consistent with the manufacturer's specifications.**
- **See manufacturer's specifications**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

5.5.3 *Diesel Fuel, Oil, Hydraulic Fluids, Other Petroleum Products, and Other Chemicals*

General

- **No fuels or petroleum products will be stored on site.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description

- INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED
- IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

5.5.4 *Hazardous or Toxic Waste*

(Note: Examples include paints, solvents, petroleum-based products, wood preservatives, additives, curing compounds, acids.)

General

- INSERT GENERAL DESCRIPTION OF HOW YOU WILL COMPLY WITH CGP PART 2.3.3.3.d

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description

- INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED
- IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation

- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements

- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

5.5.5 *Construction and Domestic Waste*

(Note: Examples include packaging materials, scrap construction materials, masonry products, timber, pipe and electrical cuttings, plastics, styrofoam, concrete, and other trash or building materials.)

General

- **Dumpsters will be used for waste from the commercial building construction.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- **Dumpsters will be used for materials waste for building construction. The location of the dumpsters will be determined on a case by case basis as the building is built.**
-

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- **Remove from site when full.**

[Repeat as needed.]

5.5.6 Sanitary Waste

General
- **Porta-johns will be used on the site for human waste.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- **Porta-johns will be used on the site as necessary. The number of porta-johns will be based on the worker population. Typically, one will be sufficient.**

Installation
- **They will be used on the site from the start to the end of construction.**

Maintenance Requirements
- **Typical maintenance will involve pumping and cleaning once per week depending on the population size.**

[Repeat as needed.]

5.6 Washing of Applicators and Containers used for Paint, Concrete or Other Materials

General
- **Direct all washwater into leak-proof containers designed so that no overflows can occur. Do not dump liquid wastes in storm sewers. Remove and dispose of hardened concrete in accordance with other solid wastes generated on site.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED
- IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

5.7 Fertilizers

General
- **Shall not be stored on site. Application shall be done at a rate and in amounts consistent with the manufacturer's specifications.**

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- **Application shall be done at a rate and in amounts consistent with the manufacturer's specifications.**

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed for individual fertilizer practices.]

5.8 Other Pollution Prevention Practices

General
- INSERT GENERAL DESCRIPTION OF THE PROBLEM THIS CONTROL IS DESIGNED TO ADDRESS

Specific Pollution Prevention Practices

Pollution Prevention Practice # 1
Description
- INSERT DESCRIPTION OF PRACTICE TO BE INSTALLED
- IF APPLICABLE INCLUDE COPIES OF DESIGN SPECIFICATIONS HERE

Installation
- INSERT APPROXIMATE DATE OF INSTALLATION

Maintenance Requirements
- INSERT MAINTENANCE REQUIREMENTS FOR THE POLLUTION PREVENTION PRACTICE

[Repeat as needed.]

SECTION 6: INSPECTION AND CORRECTIVE ACTION

6.1 *Inspection Personnel and Procedures*

Personnel Responsible for Inspections

INSERT NAMES OF PERSONNEL OR TYPES OF PERSONNEL WHO WILL BE CONDUCTING SITE INSPECTIONS HERE

Note: All personnel conducting inspections must be considered a "qualified person." CGP Part 4.1.1 clarifies that a "qualified person" is a person knowledgeable in the principles and practices of erosion and sediment controls and pollution prevention, who possesses the skills to assess conditions at the construction site that could impact stormwater quality, and the skills to assess the effectiveness of any stormwater controls selected and installed to meet the requirements of this permit.

Inspection Schedule

Specific Inspection Frequency

Inspections will take place once every 7 days or more often if a rain event greater then 0.25" has occurred.

Rain Gauge Location (if applicable)

SPECIFY LOCATION(S) OF RAIN GAUGE TO BE USED FOR DETERMINING WHETHER A RAIN EVENT OF 0.25 INCHES OR GREATER HAS OCCURRED (only applies to inspections conducted for Part 4.1.2.2, 4.1.3, or 4.1.4.2)

Reductions in Inspection Frequency (if applicable)

- For the reduction in inspections resulting from stabilization: SPECIFY (1) LOCATIONS WHERE STABILIZATION STEPS HAVE BEEN COMPLETED AND (2) DATE THAT THEY WERE COMPLETED (Note: It is likely that you will not be able to include this in your initial SWPPP. If you qualify for this reduction (see CGP Part 4.1.4.1), you will need to modify your SWPPP to include this information.)
- For the reduction in inspections in arid, semi-arid, or drought-stricken areas: INSERT BEGINNING AND ENDING DATES OF THE SEASONALLY-DEFINED ARID PERIOD FOR YOUR AREA OR THE VALID PERIOD OF DROUGHT
- For reduction in inspections due to frozen conditions: INSERT BEGINNING AND ENDING DATES OF FROZEN CONDITIONS ON YOUR SITE

Inspection Report Forms

See Appendix D

6.2 *Corrective Action*

Personnel Responsible for Corrective Actions

INSERT NAMES OF PERSONNEL OR TYPES OF PERSONNEL RESPONSIBLE FOR CORRECTIVE ACTIONS

Corrective Action Forms

See Appendix E

6.3 *Delegation of Authority*

Duly Authorized Representative(s) or Position(s):

Insert Company or Organization Name:
Insert Name:
Insert Position:
Insert Address:
Insert City, State, Zip Code:
Insert Telephone Number:
Insert Fax/Email:

SECTION 7: TRAINING

Table 7-1: Documentation for Completion of Training

Name	Date Training Completed
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
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INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE
INSERT NAME OF PERSONNEL HERE	INSERT COMPLETION DATE HERE

SECTION 8: CERTIFICATION AND NOTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____ Title: _____

Signature: _____ Date: _____

[Repeat as needed for multiple construction operators at the site.]

SWPPP APPENDICES

Attach the following documentation to the SWPPP:

Appendix A – Site Maps

Appendix B – Copy of 2017 CGP

Appendix C – NOI and EPA Authorization Email

Appendix D – Inspection Forms
- ***Stormwater Construction Site Inspection Report***
- ***Checklist for Catch Basin***
- ***Checklist for Tree Box Filter***
- ***Checklist for Infiltration Basin***

Appendix E – Corrective Action Form

Appendix F – SWPPP Amendment Log

Appendix G – Subcontractor Certifications/Agreements

Appendix H – Grading and Stabilization Activities Log

Appendix I – Training Log

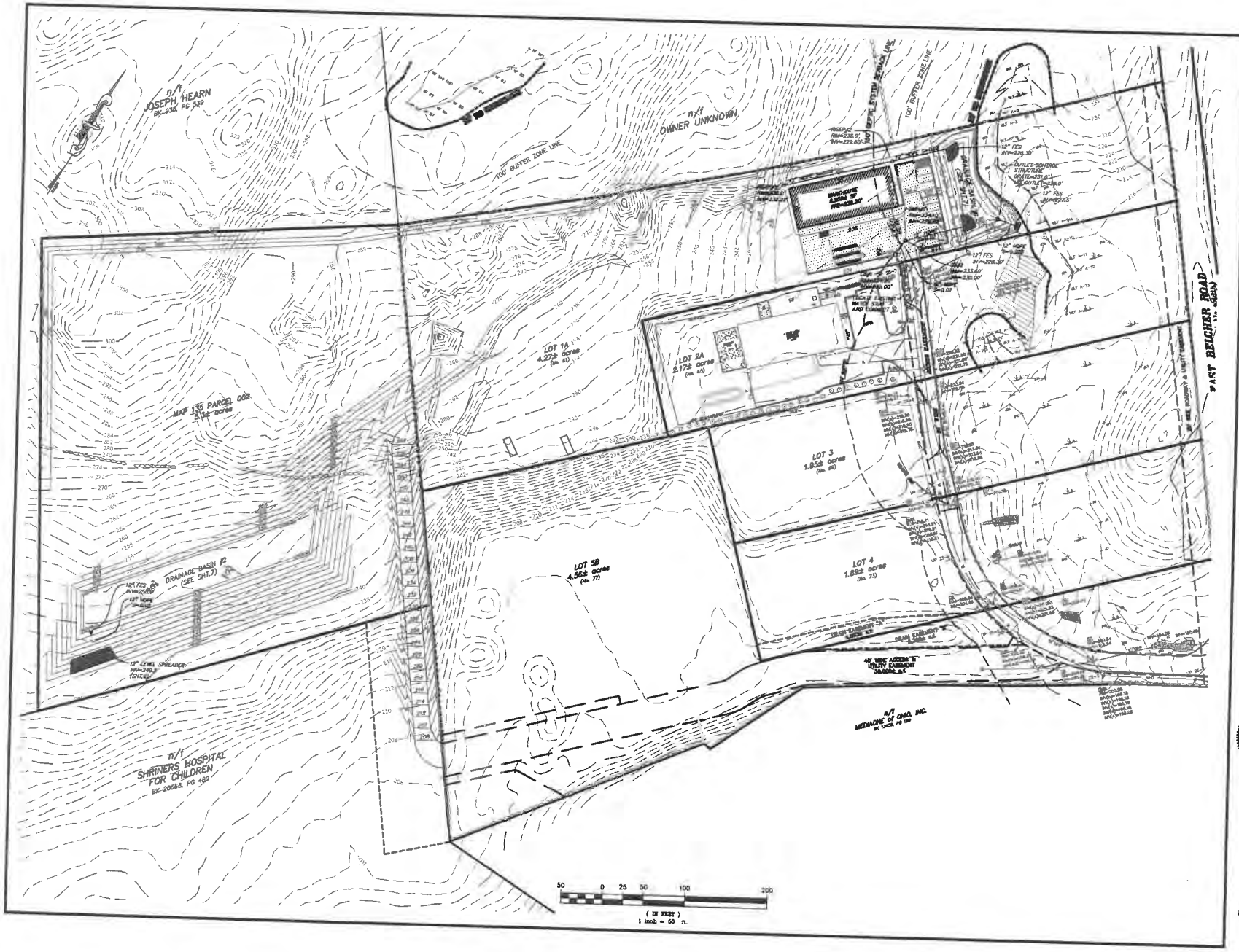
Appendix J – Delegation of Authority

Appendix K – Endangered Species Documentation

Appendix L – Historic Preservation Documentation

Appendix A – Site Maps

INSERT SITE MAPS CONSISTENT WITH TEMPLATE SECTION 2.6



PROJECT:
61 East Belcher Road
Foxborough, MA

PREPARED FOR:
Blue Diamond Reality Trust
73 East Belcher Road
Foxborough, MA

OWNER:
Francis Mahoney
695 Winter Street
Walpole, MA

Civil Engineers and Professional Land Surveyors
FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FOXBOROUGH PLANNING BOARD

STAMP

COMMONWEALTH OF MASSACHUSETTS
WILLIAM R. BUCKLEY, JR.
CIVIL
No. 35813
REGISTERED PROFESSIONAL ENGINEER

DRAWING TITLE

Drainage & Utilities

SCALE: 1" = 50'

NOVEMBER 10, 2022	SHEET NUMBER
21-018SC	4

Appendix B – Copy of 2017 CGP

INSERT COPY OF 2017 CGP

Appendix C – Copy of NOI and EPA Authorization email

INSERT COPY OF NOI AND EPA'S AUTHORIZATION EMAIL PROVIDING COVERAGE UNDER THE CGP

Appendix D – Copy of Inspection Form

INSERT COPY OF ANY INSPECTION FORMS YOU WILL USE TO PREPARE INSPECTION REPORTS

Stormwater Construction Site Inspection Report

General Information			
Project Name	61 East Belcher Road Foxborough, MA		
NPDES Tracking No.		**Location**	61 East Belcher Road Foxborough, MA
Date of Inspection		**Start/End Time**	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Inspector's Qualifications			
Describe present phase of construction			
Type of Inspection: ❑ Regular ❑ Pre-storm event ❑ During storm event ❑ Post-storm event			

Weather Information
Has there been a storm event since the last inspection? ❑Yes ❑No **If yes, provide:** Storm Start Date & Time: Storm Duration (hrs): Approximate Amount of Precipitation (in):
Weather at time of this inspection? ❑ Clear ❑Cloudy ❑ Rain ❑ Sleet ❑ Fog ❑ Snowing ❑ High Winds ❑ Other: Temperature:
Have any discharges occurred since the last inspection? ❑Yes ❑No **If yes, describe:**
Are there any discharges at the time of inspection? ❑Yes ❑No **If yes, describe:**

Site-specific BMPs

- *Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of the numbered site map with you during your inspections. This list will ensure that you are inspecting all required BMPs at your site.*
- *Describe corrective actions initiated, date completed, and note the person that completed the work in the Corrective Action Log.*

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
1	Stabilized Construction Entrances	❑Yes ❑No	❑Yes ❑No	
2	Silt socks	❑Yes ❑No	❑Yes ❑No	
3	Silt sacks – Catch Basins	❑Yes ❑No	❑Yes ❑No	
4	Sediment Basins	❑Yes ❑No	❑Yes ❑No	
5	Soil Stabilization	❑Yes ❑No	❑Yes ❑No	
6	Material Piles	❑Yes ❑No	❑Yes ❑No	
7	General Housekeeping	❑Yes ❑No	❑Yes ❑No	
9		❑Yes ❑No	❑Yes ❑No	
10		❑Yes ❑No	❑Yes ❑No	
11		❑Yes ❑No	❑Yes ❑No	
12		❑Yes ❑No	❑Yes ❑No	

	BMP	BMP Installed?	BMP Maintenance Required?	Corrective Action Needed and Notes
13		❑Yes ❑No	❑Yes ❑No	
14		❑Yes ❑No	❑Yes ❑No	
15		❑Yes ❑No	❑Yes ❑No	
16		❑Yes ❑No	❑Yes ❑No	
17		❑Yes ❑No	❑Yes ❑No	
18		❑Yes ❑No	❑Yes ❑No	
19		❑Yes ❑No	❑Yes ❑No	
20		❑Yes ❑No	❑Yes ❑No	

Overall Site Issues

Below are some general site issues that should be assessed during inspections. Customize this list as needed for conditions and phases of construction. Use Project SWPPP (Sheets 6.0 & 61) for inspection.

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
5	Are all slopes and disturbed areas not actively being worked properly stabilized?	❑Yes ❑No	❑Yes ❑No	
2,3	Are wetlands and future infiltration basin area protected with barriers or similar BMPs?	❑Yes ❑No	❑Yes ❑No	
2,3	Are perimeter controls and sediment barriers adequately installed (keyed into substrate) and maintained?	❑Yes ❑No	❑Yes ❑No	
4	Are sediment basins functioning properly?	❑Yes ❑No	❑Yes ❑No	
3	Are storm drain inlets properly protected?	❑Yes ❑No	❑Yes ❑No	
1	Is the construction exit preventing sediment from being tracked into the street?	❑Yes ❑No	❑Yes ❑No	
7	Is trash/litter from work areas collected and placed in covered dumpsters?	❑Yes ❑No	❑Yes ❑No	
7	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	❑Yes ❑No	❑Yes ❑No	

	BMP/activity	Implemented?	Maintenance Required?	Corrective Action Needed and Notes
6	Are material piles covered or seeded and surrounded by sediment control barrier?	❑Yes ❑No	❑Yes ❑No	
		❑Yes ❑No	❑Yes ❑No	
		❑Yes ❑No	❑Yes ❑No	
		❑Yes ❑No	❑Yes ❑No	

Non-Compliance

Describe any incidents of non-compliance not described above:

CERTIFICATION STATEMENT

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Print name and title: _____

Signature: _____ **Date:** _____

CHECKLIST FOR INSPECTION OF CATCH BASIN			
Location:			
Inspector:			
Date/Time:			
Weather:			
Date of Last Rainfall:			
Amount of Last Rainfall:			
Inspection Items:	**Satisfactory (S) or Unsatisfactory (U)**		**Comments/ Corrective Actions**
Damage to frame/cover	S	U	
Settlement of frame/cover	S	U	
Depth of sediment in basin	S	U	
Condition of water quality hood	S	U	
Condition of inlet from Tree Box Filter	S	U	
Corrective Action Needed			**Due Date**
1			
2			
3			
4			
5			

CHECKLIST FOR INSPECTION OF INFILTRATION BASIN	
Location:	
Inspector:	
Date/Time:	
Weather:	
Date of Last Rainfall:	
Amount of Last Rainfall:	

Inspection Items:	**Satisfactory (S) or Unsatisfactory (U)**		**Comments/ Corrective Actions**
Signs of differential settlement	S	U	
Cracking	S	U	
Erosion	S	U	
Leakage in the embankments	S	U	
Tree growth on the embankments	S	U	
Condition of inlet rip rap	S	U	
Sediment in forebay	S	U	
Damage to forebay outlet	S	U	
Damage to emergency spillway	S	U	
Emergence of invasive species	S	U	
Evidence of standing water 72 hrs after rainfall	S	U	

Corrective Action Needed	**Due Date**
1	
2	
3	
4	
5	

Appendix E – Copy of Corrective Action Form

INSERT COPY OF CORRECTIVE ACTION FORMS YOU WILL USE

Appendix F –SWPPP Amendment Log

No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

Appendix G – *Sample* Subcontractor Certifications/Agreements

SUBCONTRACTOR CERTIFICATION
STORMWATER POLLUTION PREVENTION PLAN

Project Number: _____

Project Title: _____

Operator(s): _____

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.

This certification is hereby signed in reference to the above named project:

Company: _____

Address: _____

Telephone Number: _____

Type of construction service to be provided: _____

_____

_____

Signature: _____

Title: _____

Date: _____

Appendix H –Grading and Stabilization Activities Log

Date Grading Activity Initiated	Description of Grading Activity	Description of Stabilization Measure and Location	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures Initiated

Appendix I –SWPPP Training Log

Stormwater Pollution Prevention Training Log

Project Name:

Project Location:

Instructor's Name(s):

Instructor's Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ❑ **Sediment and Erosion Controls**
- ❑ **Emergency Procedures**
- ❑ **Stabilization Controls**
- ❑ **Inspections/Corrective Actions**
- ❑ **Pollution Prevention Measures**

Specific Training Objective: _____

_____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		

Appendix J –Delegation of Authority Form

Delegation of Authority

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the _____ construction site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

_____ (name of person or position)
_____ (company)
_____ (address)
_____ (city, state, zip)
_____ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA's Construction General Permit (CGP), and that the designee above meets the definition of a "duly authorized representative" as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

Appendix K – Endangered Species Documentation

INSERT DOCUMENTATION CONSISTENT WITH SWPPP TEMPLATE SECTION 3.1

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

September 30, 2022

Frank Mahoney
Blue Diamond Equipment Corp, LLC
73 E. Belcher Road
Foxboro MA 02035

RE:	Applicant:	Frank Mahoney, Blue Diamond Equipment Corp, LLC
	Project Location:	East Belcher Road, Foxborough
	Project Description:	Commercial Building Improvements: Construction of stormwater management, additional commercial building, access road, and equipment storage
	NHESP File No.:	**15-34673**

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist, plans (dated 4/15/2022) and other required materials for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals...harm...kill...disrupt the nesting, breeding, feeding or migratory activity...and in reference to plants...collect, pick, kill, transplant, cut or process...Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the Blanding's Turtle (*Emydoidea blandingii*), a species state-listed as Threatened. This species and their habitats are protected in accordance with the MESA.

Based on the information provided and the information contained in our database, the Division finds that a portion of this project, as currently proposed, **must be conditioned** in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). To avoid a prohibited Take of state-listed species, the following condition must be met:

- Turtle Protection: Prior to the start of Work, the Applicant shall submit a Blanding's Turtle Protection Plan to the Division for review and written approval. Said plan shall detail procedures for protecting state-listed turtles and habitat features during construction, and be prepared and implemented by a qualified biologist pre-approved by the Division. The Division is available for consultation regarding this protection plan.

Provided the above-noted condition is fully implemented and there are no changes to the project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and 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 Lauren Glorioso, Endangered Species Review Biologist, at lauren.glorioso@mass.gov.

Sincerely,

Everose Schlüter

Everose Schlüter, Ph.D.
Assistant Director

cc: Brian Butler, Oxbow Associates, Inc.
Foxborough Conservation Commission

Blanding's Turtle Protection Plan for:
E. Belcher Road Parcels
122-2, 122-6, 135-2, 135-1

NHESP File # 15-34673

November 1, 2022

Prepared for:

Blue Diamond Equipment Company, LLC
Francis A. Mahoney, Tr.
73 E. Belcher Road, Foxboro, MA 02035

Prepared by:

Oxbow Associates, Inc.
P.O. Box 971
Acton, MA 01720

Oxbow Associates, Inc. (OA) has prepared this Turtle Protection Plan to avoid incidental mortality (prohibited "take";321 CMR 10.02 under the MA Endangered Species Act (MESA) to Blanding's turtle (*Emydoidea blandingii*) at the subject site during the course of site work for construction of storage space, commercial facilities and access roadways within the referenced parcels. A MESA Checklist and Habitat Assessment was submitted to NHESP and a conditional "no-take" determination was issued by the Program on September 30, 2022.

The "no-take" finding was conditioned upon an acceptable mortality avoidance plan, or Turtle Protection Plan (TPP) being in place prior to site work. Below we detail the elements of the TPP, in keeping with the conventions for similar applications for Blanding's and other turtle species.

Whereas the site work will commence in the near future, beyond the active season for Blanding's turtle we believe there is no need for active TPP measures to be implemented between October 15 (2022) and April 15, 2023. The measures prescribed below will be commenced in March, 2023, or as soon as conditions for animal exclusion materials to be installed are present. There are no active measures to be applied during the 2022-2023 winter construction season.

This protection plan is comparable to similar measures required by NHESP for analogous projects in the Commonwealth. OA will obtain a Scientific Collecting Permit (for 2023)

from Massachusetts Division of Fisheries and Wildlife (MDFW) prior to implementation of the active (spring, 2023) of this plan. Provided the exclusion barrier is installed in advance of April 15, 2023, no site "clearing" (of turtles) is anticipated. A brief memorandum will be provided to NHESP within 5 days of completion of the turtle exclusion barrier and contractor education (see below). If the project is delayed, or the barrier is not fully installed prior to April 15, 2023, a site-clearing protocol may be required.

Blanding's Turtle Protection Precautions

At the project site, OA will conduct an inspection in March or early April, 2023, including an evaluation of the equipment access routes to determine construction methods that will minimize the likelihood of harming any Blanding's turtles.

There are five general components to the turtle protection plan:

1. **Administration of a worker training program**
   Prior to construction work in spring, 2023, the construction crew, project foreman, and site engineers, as applicable will be provided a brief (est. 20 minutes) introductory session on Blanding's turtle biology, behavior, and conservation. A laminated poster with images of turtles, contact information for a qualified biologist and instructions regarding proper protocol if a Blanding's turtle is encountered will be provided. These posters will be given to the construction supervisor and available for review by all workers.

2. **Installation of a Turtle Barrier Fence**
   Prior to April 15, 2023, the area will be partially sequestered with siltation fencing to function as turtle exclusion barriers at the limit of work as indicated (red dashed line) on the attached Figure 5 orthophotographic figure. Once installed, OA will confirm the barrier is installed properly (trenched-in, haybales [if required] on the work side of fence, secure and taut, etc.) and the fence will be inspected weekly by the contractor for the duration of the project. A moveable gate (*e.g.*, PVC half-culverts or equivalent) will be fitted the barrier between Lots 122-2 and 135-1, and at any temporary breeches not indicated in Figure 5, if needed. Gate(s) will be closed at the end of each work day.

   The barrier will consist of a standard; 36-inch, 300 lb burst, silt fence trenched-in the ground approximately 6 inches, staked approximately every 8 horizontal feet, and will be installed around the limit of work (Fig. 5). Use of a ditch-witch and chain saws will allow the turtle barrier (silt fence) to be installed with very low probability of injuring or killing individual animals; particularly during the inactive season. Any other methods using larger machinery during the active season must be approved by the NHESP. Moveable gates made with corrugated PVC 18-inch or larger, cut in half culverts, or wooden gates will be used at the construction access locations, only if deviation from the primary plan is required (See Photos).

PVC Culvert "Gate"

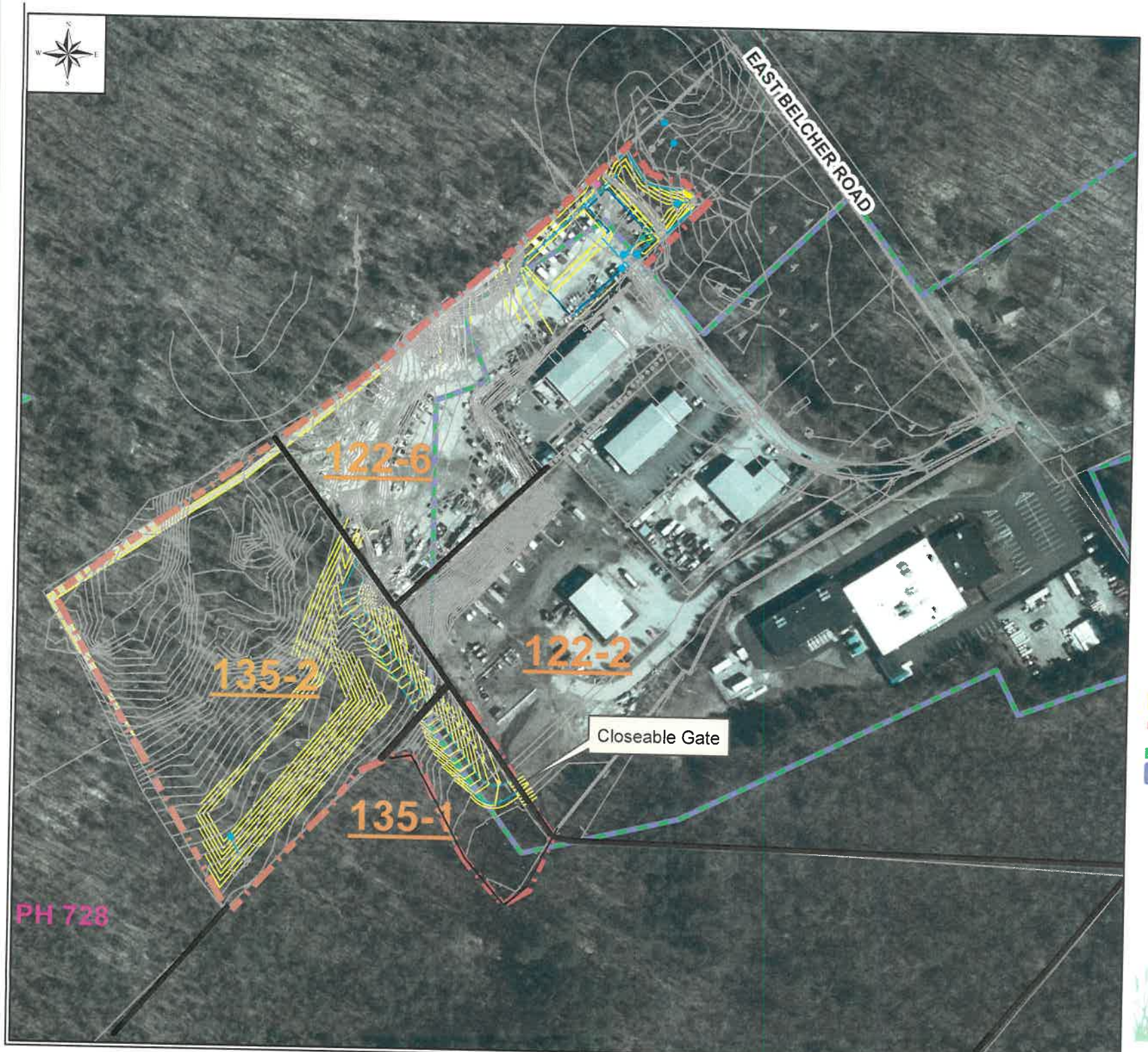
Wooden "Gate"

3. **Maintenance of Turtle Barrier Fence**
   The fence will be inspected weekly, once installed, by the contractor for the duration of the project. Construction access points at existing, shared roadways will not be closed. However, note (Fig. 5) that the areas where the fence is not closed are not adjacent to areas of likely habitat or migration paths for Blanding's turtles. If any damage occurs to the turtle barrier, it must be repaired immediately, with photo-documentation, and the turtle biologist notified.

4. **Clearing surveys immediately prior to initiating upland work**
   Whereas work is anticipated to commence in the inactive season for Blanding's turtles in 2022, no "clearing" of the premises is proposed under this TPP. Should the schedule be amended such that the barrier fence is not timely installed (<Apr. 15) a conventional site clearing of 4 hours per forested acre will be implemented under SCRA issued for the 2023 season. This is not anticipated.

5. **Turtle observations, relocations, and reporting**
   Any turtles encountered (state-listed or common) by contractors will be reported to the turtle biologist, and the turtle biologist shall relocate the turtle to a nearby location outside of the work area with similar conditions. This will be completed for Blanding's turtles under guidelines specified in the Scientific Collecting Permit from MDFW. Documentation will include standard morphometric data (mass, carapace length and depth), age as determined by annuli count, determination of sex, description of behavior and local environment at time of capture, and photographs taken of the animal. Any turtle encounter locus will be recorded using a hand-held GPS receiver with sub-meter accuracy.

Oxbow Associates, Inc.



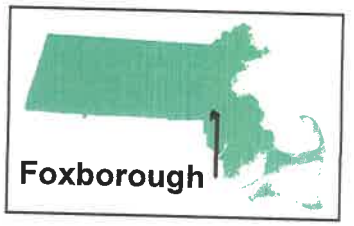


Figure 5.
Turtle Protection Plan
Turtle Barrier Layout
E. Belcher Rd Parcels
Foxborough, MA
2021 MASSGIS Imagery

November 1, 2022

1:2,400

1 inch = 200 feet

0 100 200
Feet

Turtle Barrier
- Movable Gate
- Siltation Fence
- NHESP Estimated Habitat
- NHESP Priority Habitat

OXBOW ASSOCIATES, INC.

Appendix L – Historic Properties Documentation

INSERT DOCUMENTATION CONSISTENT WITH SWPPP TEMPLATE SECTION 3.2

APPENDIX D – SOIL DATA

Soil Evaluation Forms
Grain Size Analysis & USDA Soil Textural Classification
NRCS Soil Resource Report

No. 21-0183

Date: February 23, 2022

Commonwealth of Massachusetts

Foxborough , Massachusetts

Soil Suitability Assessment for On-Site Sewage Disposal

Performed By: Cameron Gray Date: February 23, 2022

Witnessed By: Frank Mahoney

Location Address or Lot #:	Owner's Name, Address, and , Telephone #:
61 East Belcher Road Foxborough, Ma 02035 New Construction: ☑ Repair ☐	Frank Mahoney 73 East Belcher Road Foxborough, MA 02035 508.543.3711

Office Review

Published Soil Survey Available: No ☐ Yes ☑

Year Published 1989 Publication Scale 1:25,000 Soil Map Unit hollis-rock outcrop charlton

Drainage Class C/D - B Soil Limitations Bedrock

Surficial Geology Report Available: No ☐ Yes ☑

Year Published 1992 Publication Scale 1:250,000

Geologic Material (Map Unit) Thin Till

Landform Glacial Outwash Plain

Flood Insurance Rate Map:

Above 500 year flood boundary No ☐ Yes ☑

Within 500 year flood boundary No ☑ Yes ☐

Within 100 year flood boundary No ☑ Yes ☐

Wetland Area:

National Wetland Inventory Map (map unit) _____

Wetlands Conservancy Program Map (map unit) _____

Current Water Resource Conditions (USGS): Month December, 2021

Range: Above Normal ☑ Normal ☐ Below Normal ☐

Other References Reviewed: _____

Location Address or Lot No. 61 East Belcher Road

On-site Review

Deep Hole Number: 1 Date: 2/23/2022 Time: 0800 Weather: 50°/Cloudy

Location (identify on site plan) See site plan

Land Use Vacant Slope (%) 5% Surface Stones Some

Vegetation Wooded

Landform Glacial Outwash Plain

Position on landscape (sketch on back) See site plan

Distances from:

Open Water Body	>200'	Drainageway	>100'
Possible Wet Area	>25'	Property Line	25'+/-
Drinking Water Well	>100'	Other	

DEEP OBSERVATION HOLE LOG*

Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0" - 6"	A	Sandy Loam	10YR3/2		
6" - 21"	B	Sandy Loam	10YR5/6		
21" - 40"	C	Sandy Loam	2.5Y5/6		Gravelly, Cobbly, Some Stones

*MINIMUM OF TWO HOLES REQUIRED AT EVERY DISPOSAL AREA

Parent Material (geologic) Glacial outwash Depth to Bedrock:

Depth to Groundwater Standing Water in Hole: 36" Weeping from Pit Face:

Estimated Seasonal High Groundwater:

Location Address or Lot No. 61 East Belcher Road

On-site Review

Deep Hole Number: 2 Date: 2/23/2022 Time: 0830 Weather: 50°/Cloudy

Location (identify on site plan) See site plan

Land Use Vacant Slope (%) 5% Surface Stones Some

Vegetation Wooded

Landform Glacial Outwash Plain

Position on landscape (sketch on back) See site plan

Distances from:

Open Water Body	>200'	Drainageway	>100'
Possible Wet Area	>25'	Property Line	25'+/-
Drinking Water Well	>100'	Other	

DEEP OBSERVATION HOLE LOG*

Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0" - 6"	A	Sandy Loam	10YR3/2		
6" - 21"	B	Sandy Loam	10YR5/6		
21" - 36"	C	Sandy Loam	2.5Y5/6		Gravelly, Cobbly, Some Stones

*MINIMUM OF TWO HOLES REQUIRED AT EVERY DISPOSAL AREA

Parent Material (geologic) Glacial outwash Depth to Bedrock:

Depth to Groundwater Standing Water in Hole: 21" Weeping from Pit Face:

Estimated Seasonal High Groundwater:

No. 21-0183 Date: April 15, 2022

Commonwealth of Massachusetts

Foxborough , Massachusetts

Soil Suitability Assessment for On-Site Sewage Disposal

Performed By: Cameron Gray Date: April 15, 2022

Witnessed By: Frank Mahoney

Location Address or Lot #:	Owner's Name, Address, and , Telephone #:
61 East Belcher Road Foxborough, Ma 02035 New Construction: ☑ Repair ☐	Frank Mahoney 73 East Belcher Road Foxborough, MA 02035 508.543.3711

Office Review

Published Soil Survey Available: No ☐ Yes ☑

Year Published 1989 Publication Scale 1:25,000 Soil Map Unit hollis-rock outcrop charlton

Drainage Class C/D - B Soil Limitations Bedrock

Surficial Geology Report Available: No ☐ Yes ☑

Year Published 1992 Publication Scale 1:250,000

Geologic Material (Map Unit) Thin Till

Landform Glacial Outwash Plain

Flood Insurance Rate Map:

Above 500 year flood boundary No ☐ Yes ☑

Within 500 year flood boundary No ☑ Yes ☐

Within 100 year flood boundary No ☑ Yes ☐

Wetland Area:

National Wetland Inventory Map (map unit) _____

Wetlands Conservancy Program Map (map unit) _____

Current Water Resource Conditions (USGS): Month April, 2022

Range: Above Normal ☐ Normal ☑ Below Normal ☐

Other References Reviewed: _____

Location Address or Lot No. 61 East Belcher Road

On-site Review

Deep Hole Number: 3 Date: 4/15/2022 Time: 0800 Weather: 55°/Sunny

Location (identify on site plan) See site plan

Land Use Vacant Slope (%) 5% Surface Stones Some

Vegetation Wooded

Landform Glacial Outwash Plain

Position on landscape (sketch on back) See site plan

Distances from:

Open Water Body	>200'	Drainageway	>100'
Possible Wet Area	>25'	Property Line	25'+/-
Drinking Water Well	>100'	Other	

DEEP OBSERVATION HOLE LOG*

Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0" - 12"	A	Sandy Loam	10YR3/2		
12" - 36"	B	Sandy Loam	10YR5/6		
36" - 120"	C	Sandy Loam	2.5Y5/3		Gravelly, Cobbly, Many Stones

*MINIMUM OF TWO HOLES REQUIRED AT EVERY DISPOSAL AREA

Parent Material (geologic) Glacial outwash Depth to Bedrock:

Depth to Groundwater Standing Water in Hole: Weeping from Pit Face:

Estimated Seasonal High Groundwater:

Location Address or Lot No. 61 East Belcher Road

On-site Review

Deep Hole Number: 4 Date: 4/15/2022 Time: 0830 Weather: 55°/Sunny

Location (identify on site plan) See site plan

Land Use Vacant Slope (%) 5% Surface Stones Some

Vegetation Wooded

Landform Glacial Outwash Plain

Position on landscape (sketch on back) See site plan

Distances from:

Open Water Body >200' Drainageway >100'

Possible Wet Area >25' Property Line 25'+/-

Drinking Water Well >100' Other

DEEP OBSERVATION HOLE LOG*

Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0" - 12"	A	Sandy Loam	10YR3/2		
12" - 32"	B	Sandy Loam	10YR5/6		
32" - 118"	C	Sandy Loam	2.5Y5/3		Gravelly, Cobbly, Few Stones

*MINIMUM OF TWO HOLES REQUIRED AT EVERY DISPOSAL AREA

Parent Material (geologic) Glacial outwash Depth to Bedrock:

Depth to Groundwater Standing Water in Hole: Weeping from Pit Face:

Estimated Seasonal High Groundwater:

Professional Service Industries, Inc.
480 Neponset Street, Suite 9C
Canton, MA 02021

Phone: (781) 821-2355
Fax: (781) 821-6276

Report No: MAT:0446516-54-S1
Issue No: 1

Material Test Report

Client: BAY COLONY GROUP **CC:**
4 SCHOOL ST., P.O. BOX 9136
FOXBORO, MA 02035

Project: BAY COLONY GROUP - LAB TESTING
CANTON, MA

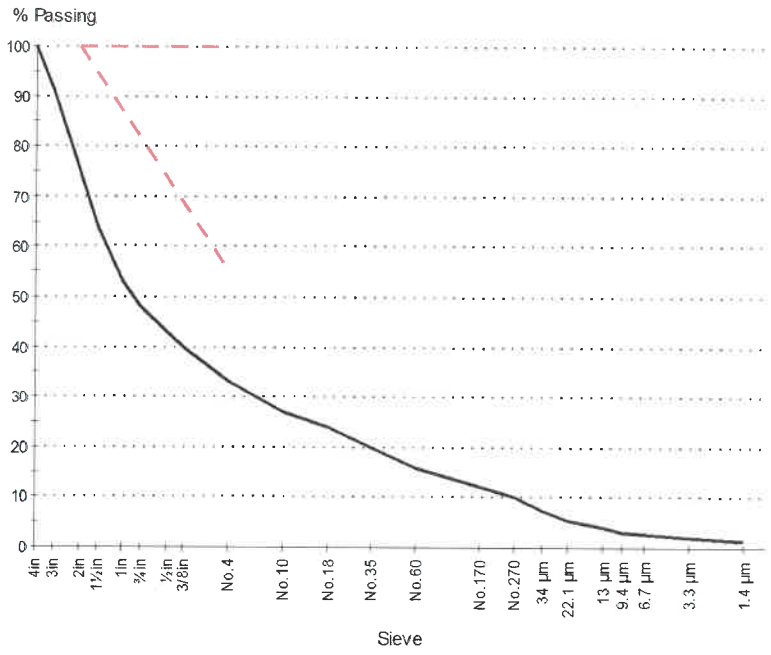
Approved Signatory: Yannick Lastennet (Department Manager)
Date of Issue: 3/4/2022

Sample Details

Sample ID:	0446516-54-S1
Client Sample ID:	
Date Sampled:	02/23/22
Sampled By:	Client
Specification:	Title V Hydrometer
Supplier:	
Source:	
Material:	
Sampling Method:	
General Location:	61 East Belcher Rd. - Foxboro, MA
Location:	TP #1, 36"
Lift:	

Sample Description:

Particle Size Distribution



COBBLES	GRAVEL		SAND			FINES	
(9.2%)	Coarse (42.4%)	Fine (15.0%)	Coarse (6.3%)	Medium (8.4%)	Fine (7.3%)	Silt (9.1%)	Clay (2.4%)

Grading: ASTM D 422

Date Tested: 3/2/2022
Tested By: Gary Brooks

Sieve Size	% Passing	Limits
4in (100mm)	100	
3in (75.0mm)	91	
2in (50.0mm)	75*	100
1½in (37.5mm)	64	
1in (25.0mm)	53	
¾in (19.0mm)	48	
½in (12.5mm)	43	
3/8in (9.5mm)	40	
No.4 (4.75mm)	33*	55 to 100
No.10 (2.0mm)	27	
No.18 (1.0mm)	24	
No.35 (500µm)	20	
No.60 (250µm)	16	
No.170 (90µm)	12	
No.270 (53µm)	10	
34.0 µm	7.5	
22.1 µm	5.5	
13.0 µm	4.2	
9.4 µm	3.0	
6.7 µm	2.7	
3.3 µm	2.0	
1.4 µm	1.5	

D85: 64.4209 **D60:** 32.3592 **D50:** 21.2045
D30: 3.0822 **D15:** 0.1936 **D10:** 0.0530
Cu: 610.55 **Cc:** 5.54

intertek psi

Professional Service Industries, Inc.
480 Neponset Street, Suite 9C
Canton, MA 02021

Phone: (781) 821-2355
Fax: (781) 821-6276

Report No: MAT:0446516-54-S1
Issue No: 1

Material Test Report

Client: BAY COLONY GROUP **CC:**
4 SCHOOL ST., P.O. BOX 9136
FOXBORO, MA 02035

Project: BAY COLONY GROUP - LAB TESTING
CANTON, MA

Approved Signatory: Yannick Lastennet (Department Manager)
Date of Issue: 3/4/2022

Sample Details

Sample ID: 0446516-54-S1
Client Sample ID:
Date Sampled: 02/23/22
Sampled By: Client
Specification: Title V Hydrometer
Supplier:
Source:
Material:
Sampling Method:
General Location: 61 East Belcher Rd. - Foxboro, MA
Location: TP #1, 36"
Lift:

Other Test Results

Description	Method	Result	Limits
Dispersion device	ASTM D 422	Dispersant by hand	
Dispersion time (min)			
Shape			
Hardness			

Comments

* = Result does not meet the specification

Professional Service Industries, Inc.
480 Neponset Street, Suite 9C
Canton, MA 02021

Phone: (781) 821-2355
Fax: (781) 821-6276

Report No: DFR:0446516-54/1
Issue No: 1

Daily Field Report

Client: BAY COLONY GROUP
4 SCHOOL ST.
P.O. BOX 9136
FOXBORO, MA 02035

CC:

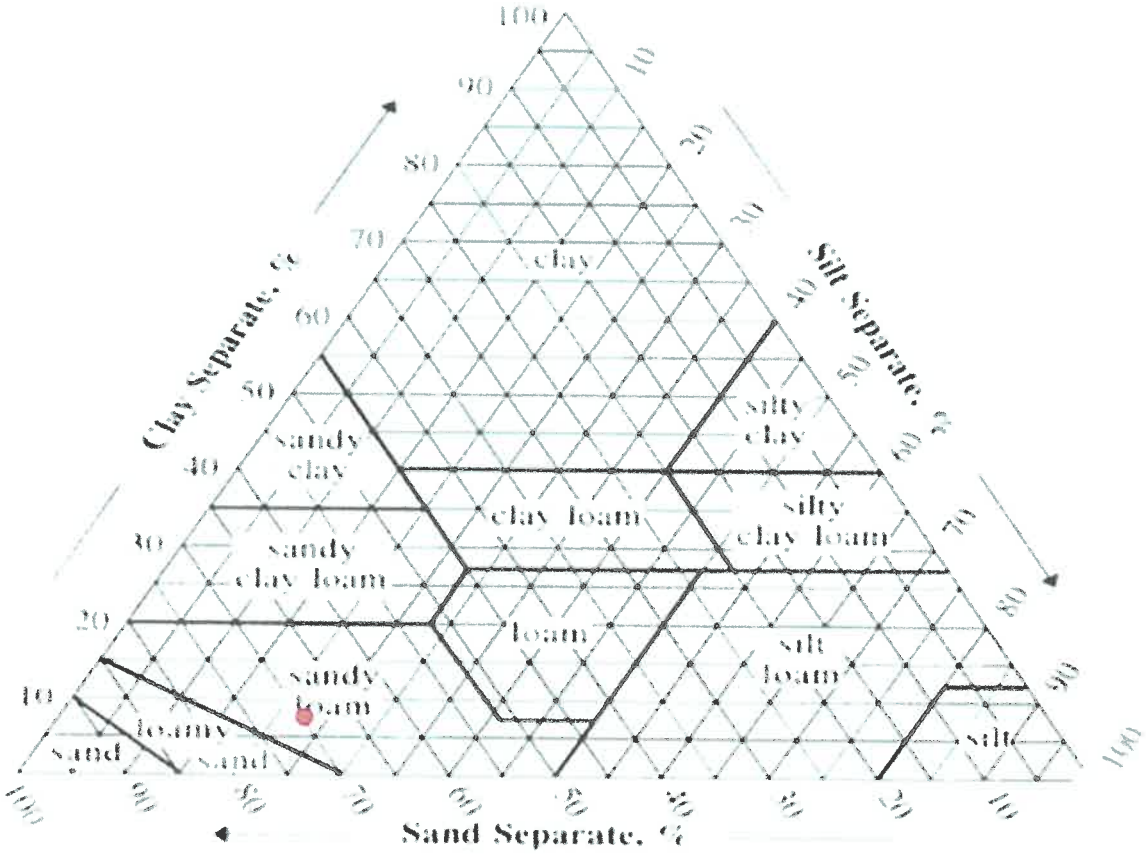
Project: BAY COLONY GROUP - LAB TESTIN
CANTON, MA

Approved Signatory: Yannick Lastennet (Department Manager)
Date of Issue: 3/4/2022

Date: 2/24/2022

Technician:

Soil Texture Triangle



SOIL DATA						
Source	Sample No.	Percentages From Material Passing a #10 Sieve			Classification
		Sand	Silt	Clay	
61 East Belcher Rd - Foxboro MA (TP#1, 36")	S1	69.7	23.03	7.27	Sandy Loam

Professional Service Industries, Inc.
480 Neponset Street, Suite 9C
Canton, MA 02021

Phone: (781) 821-2355
Fax: (781) 821-6276

Report No: MAT:0446516-59-S1
Issue No: 1

Material Test Report

Client: BAY COLONY GROUP
4 SCHOOL ST., P.O. BOX 9136
FOXBORO, MA 02035

CC:

Project: BAY COLONY GROUP - LAB TESTING
CANTON, MA

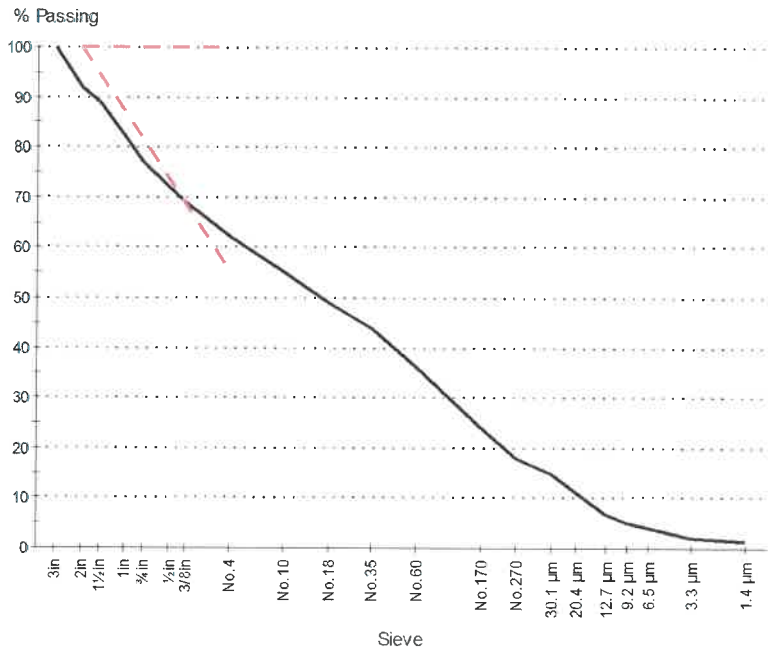
Approved Signatory: Yannick Lastennet (Department Manager)
Date of Issue: 5/12/2022

Sample Details

Sample ID:	0446516-59-S1
Client Sample ID:	
Date Sampled:	04/15/22
Sampled By:	Client
Specification:	Title V Hydrometer
Supplier:	
Source:	
Material:	
Sampling Method:	
General Location:	
Location:	61 East Belcher Rd. - Foxboro, MA, TP #4, 60"
Lift:	

Sample Description:

Particle Size Distribution



COBBLES	GRAVEL		SAND			FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
(0.0%)	(23.3%)	(14.9%)	(6.5%)	(13.9%)	(20.0%)	(18.4%)	(3.1%)

Grading: ASTM D 422

Date Tested: 5/6/2022
Tested By: Gary Brooks

Sieve Size	% Passing	Limits
3in (75.0mm)	100	
2in (50.0mm)	92*	100
1½in (37.5mm)	89	
1in (25.0mm)	82	
¾in (19.0mm)	77	
½in (12.5mm)	72	
3/8in (9.5mm)	69	
No.4 (4.75mm)	62	55 to 100
No.10 (2.0mm)	55	
No.18 (1.0mm)	49	
No.35 (500µm)	44	
No.60 (250µm)	36	
No.170 (90µm)	24	
No.270 (53µm)	18	
30.1 µm	15.0	
20.4 µm	11.2	
12.7 µm	6.9	
9.2 µm	5.1	
6.5 µm	3.9	
3.3 µm	2.1	
1.4 µm	1.3	

D85: 29.7446 **D60:** 3.7099 **D50:** 1.1225
D30: 0.1500 **D15:** 0.0301 **D10:** 0.0179
Cu: 207.57 **Cc:** 0.34

Professional Service Industries, Inc.
480 Neponset Street, Suite 9C
Canton, MA 02021

Phone: (781) 821-2355
Fax: (781) 821-6276

Report No: MAT:0446516-59-S1
Issue No: 1

Material Test Report

Client: BAY COLONY GROUP
4 SCHOOL ST., P.O. BOX 9136
FOXBORO, MA 02035

CC:

Project: BAY COLONY GROUP - LAB TESTING
CANTON, MA

Approved Signatory: Yannick Lastennet (Department Manager)
Date of Issue: 5/12/2022

Sample Details

Sample ID:	0446516-59-S1
Client Sample ID:	
Date Sampled:	04/15/22
Sampled By:	Client
Specification:	Title V Hydrometer
Supplier:	
Source:	
Material:	
Sampling Method:	
General Location:	
Location:	61 East Belcher Rd. - Foxboro, MA, TP #4, 60"
Lift:	

Other Test Results

Description	Method	Result	Limits
Dispersion device	ASTM D 422	Dispersant by hand	
Dispersion time (min)			
Shape			
Hardness			

Comments

* = Result does not meet the specification

Professional Service Industries, Inc.
480 Neponset Street, Suite 9C
Canton, MA 02021

Phone: (781) 821-2355
Fax: (781) 821-6276

Report No: DFR:0446516-59/1
Issue No: 1

Daily Field Report

Client: BAY COLONY GROUP
4 SCHOOL ST.
P.O. BOX 9136
FOXBORO, MA 02035

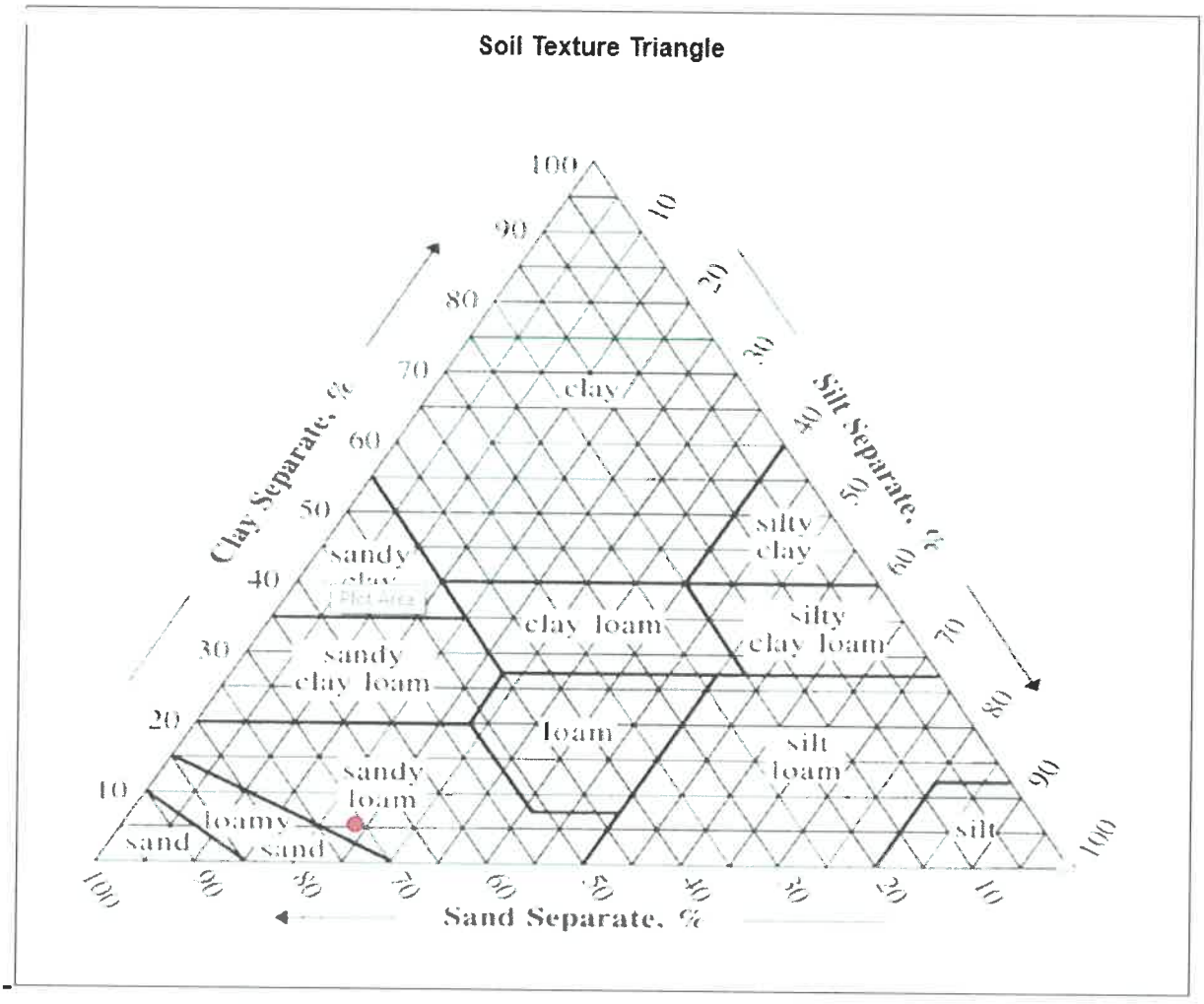
CC:

Project: BAY COLONY GROUP - LAB TESTIN
CANTON, MA

Approved Signatory: Yannick Lastennet (Department Manager)
Date of Issue: 5/12/2022

Date: 4/15/2022

PSI Representative: Gary Brooks



SOIL DATA

Source	Sample No.	Percentages From Material Passing a #10 Sieve			Classification
		Sand	Silt	Clay	
61 East Belcher Rd., Foxboro MA (TP #4 - 60"	S1	71	24	5	Sandy Loam

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Norfolk and Suffolk Counties, Massachusetts

April 4, 2022

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

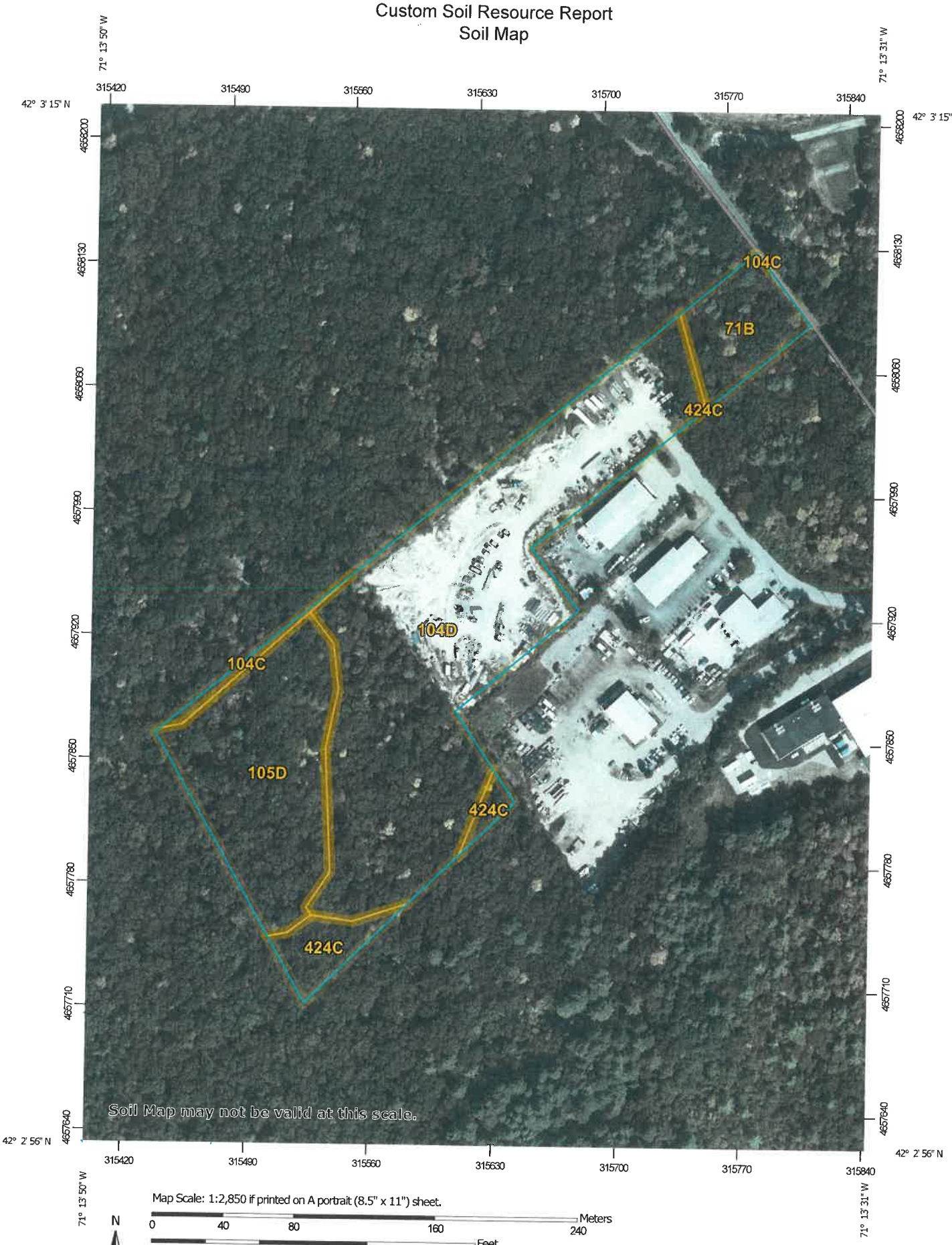
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:2,850 if printed on A portrait (8.5" x 11") sheet.

N

0 40 80 160 240 Meters

0 100 200 400 600 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
Survey Area Data: Version 17, Sep 3, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 25, 2020—Oct 4, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	0.8	7.7%
104C	Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes	0.1	1.0%
104D	Hollis-Rock outcrop-Charlton complex, 15 to 35 percent slopes	6.9	62.2%
105D	Rock outcrop-Hollis complex, 3 to 25 percent slopes	2.7	24.1%
424C	Canton fine sandy loam, 8 to 15 percent slopes, extremely bouldery	0.5	5.0%
Totals for Area of Interest		**11.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor

components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Norfolk and Suffolk Counties, Massachusetts

71B—Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w69c
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drumlins, depressions, ground moraines, hills, drainageways
Landform position (two-dimensional): Footslope, toeslope
Landform position (three-dimensional): Head slope, base slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY009CT - Wet Till Depressions
Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 10 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Whitman, extremely stony

Percent of map unit: 8 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton, extremely stony

Percent of map unit: 2 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Linear, convex
Hydric soil rating: No

104C—Hollis-Rock outcrop-Charlton complex, 0 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w69p
Elevation: 0 to 1,270 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis, extremely stony, and similar soils: 35 percent
Charlton, extremely stony, and similar soils: 25 percent
Rock outcrop: 25 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis, Extremely Stony

Setting

Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest

Down-slope shape: Convex
Across-slope shape: Linear, convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oi - 0 to 2 inches: slightly decomposed plant material
A - 2 to 7 inches: gravelly fine sandy loam
Bw - 7 to 16 inches: gravelly fine sandy loam
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 0 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 8 to 23 inches to lithic bedrock
Drainage class: Somewhat excessively drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Charlton, Extremely Stony

Setting

Landform: Hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Parent material: Coarse-loamy melt-out till derived from granite, gneiss, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 4 inches: fine sandy loam
Bw - 4 to 27 inches: gravelly fine sandy loam
C - 27 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Maximum salinity: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: B
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Ridges, hills
Parent material: Igneous and metamorphic rock

Typical profile

R - 0 to 79 inches: bedrock

Properties and qualities

Slope: 0 to 15 percent
Depth to restrictive feature: 0 inches to lithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Canton, extremely stony

Percent of map unit: 7 percent
Landform: Moraines, hills, ridges
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Chatfield, extremely stony

Percent of map unit: 6 percent
Landform: Ridges, hills
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Nose slope, side slope, crest
Down-slope shape: Convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Montauk, extremely stony

Percent of map unit: 1 percent

Landform: Hills, recessionial moraines, ground moraines, drumlins
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

Scituate, extremely stony

Percent of map unit: 1 percent
Landform: Ground moraines, hills, drumlins
Landform position (two-dimensional): Summit, backslope, footslope
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Convex, linear
Across-slope shape: Convex
Hydric soil rating: No

104D—Hollis-Rock outcrop-Charlton complex, 15 to 35 percent slopes

Map Unit Setting

National map unit symbol: vkvh
Elevation: 20 to 610 feet
Mean annual precipitation: 32 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 120 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Hollis and similar soils: 35 percent
Rock outcrop: 30 percent
Charlton and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hollis

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Shallow, friable loamy ablation till derived from igneous and metamorphic rock

Typical profile

H1 - 0 to 3 inches: fine sandy loam
H2 - 3 to 14 inches: gravelly fine sandy loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Description of Rock Outcrop

Setting

Parent material: Igneous and metamorphic rock

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Description of Charlton

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Friable coarse-loamy ablation till derived from granite

Typical profile

H1 - 0 to 6 inches: fine sandy loam
H2 - 6 to 36 inches: fine sandy loam
H3 - 36 to 60 inches: fine sandy loam

Properties and qualities

Slope: 15 to 35 percent
Surface area covered with cobbles, stones or boulders: 1.6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 6.00 in/hr)

Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Chatfield

Percent of map unit: 5 percent
Hydric soil rating: No

Canton

Percent of map unit: 5 percent
Hydric soil rating: No

105D—Rock outcrop-Hollis complex, 3 to 25 percent slopes

Map Unit Setting

National map unit symbol: vkxr
Elevation: 0 to 620 feet
Mean annual precipitation: 32 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 120 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Rock outcrop: 65 percent
Hollis and similar soils: 25 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rock Outcrop

Setting

Parent material: Igneous and metamorphic rock

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 0 inches to lithic bedrock

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8s
Hydric soil rating: Unranked

Description of Hollis

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Shallow, friable loamy ablation till

Typical profile

H1 - 0 to 3 inches: fine sandy loam
H2 - 3 to 14 inches: gravelly fine sandy loam
H3 - 14 to 18 inches: unweathered bedrock

Properties and qualities

Slope: 3 to 25 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: F144AY033MA - Shallow Dry Till Uplands
Hydric soil rating: No

Minor Components

Chatfield

Percent of map unit: 7 percent
Hydric soil rating: No

Swansea

Percent of map unit: 2 percent
Landform: Bogs
Hydric soil rating: Yes

Whitman

Percent of map unit: 1 percent
Landform: Depressions
Hydric soil rating: Yes

424C—Canton fine sandy loam, 8 to 15 percent slopes, extremely bouldery

Map Unit Setting

National map unit symbol: vkq7
Elevation: 0 to 1,000 feet
Mean annual precipitation: 45 to 54 inches
Mean annual air temperature: 43 to 54 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Canton and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Ice-contact slopes
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Friable coarse-loamy eolian deposits over loose sandy and gravelly ablation till

Typical profile

H1 - 0 to 3 inches: fine sandy loam
H2 - 3 to 18 inches: fine sandy loam
H3 - 18 to 60 inches: gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 9.0 percent
Depth to restrictive feature: 18 to 36 inches to strongly contrasting textural stratification
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: F144AY034CT - Well Drained Till Uplands
Hydric soil rating: No

Minor Components

Montauk
Percent of map unit: 4 percent
Hydric soil rating: No

Scituate
Percent of map unit: 2 percent
Hydric soil rating: No

Chatfield
Percent of map unit: 2 percent
Hydric soil rating: No

Charlton
Percent of map unit: 2 percent
Hydric soil rating: No

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APPENDIX D

*Natural Heritage and Endangered Species Program (NHESP) Permit

*Oxbow Associates, Inc. – Blanding's Turtle Protection Plan

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

September 30, 2022

Frank Mahoney
Blue Diamond Equipment Corp, LLC
73 E. Belcher Road
Foxboro MA 02035

RE:	Applicant:	Frank Mahoney, Blue Diamond Equipment Corp, LLC
	Project Location:	East Belcher Road, Foxborough
	Project Description:	Commercial Building Improvements: Construction of stormwater management, additional commercial building, access road, and equipment storage
	NHESP File No.:	**15-34673**

Dear Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received the MESA Project Review Checklist, plans (dated 4/15/2022) and other required materials for review pursuant to the Massachusetts Endangered Species Act (MESA) (MGL c.131A) and its implementing regulations (321 CMR 10.00).

The MESA is administered by the Division, and prohibits the Take of state-listed species. The Take of state-listed species is defined as "in reference to animals...harm...kill...disrupt the nesting, breeding, feeding or migratory activity...and in reference to plants...collect, pick, kill, transplant, cut or process...Disruption of nesting, breeding, feeding, or migratory activity may result from, but is not limited to, the modification, degradation, or destruction of Habitat" of state-listed species (321 CMR 10.02).

The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the Blanding's Turtle (*Emydoidea blandingii*), a species state-listed as Threatened. This species and their habitats are protected in accordance with the MESA.

Based on the information provided and the information contained in our database, the Division finds that a portion of this project, as currently proposed, **must be conditioned** in order to avoid a prohibited Take of state-listed species (321 CMR 10.18(2)(a)). To avoid a prohibited Take of state-listed species, the following condition must be met:

- Turtle Protection: Prior to the start of Work, the Applicant shall submit a Blanding's Turtle Protection Plan to the Division for review and written approval. Said plan shall detail procedures for protecting state-listed turtles and habitat features during construction, and be prepared and implemented by a qualified biologist pre-approved by the Division. The Division is available for consultation regarding this protection plan.

Provided the above-noted condition is fully implemented and there are no changes to the project plans, this project will not result in a Take of state-listed species. We note that all work is subject to the anti-segmentation provisions (321 CMR 10.16) of the MESA. This determination is a final decision of the Division of Fisheries and 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 Lauren Glorioso, Endangered Species Review Biologist, at lauren.glorioso@mass.gov.

Sincerely,

Everose Schlüter

Everose Schlüter, Ph.D.
Assistant Director

cc: Brian Butler, Oxbow Associates, Inc.
Foxborough Conservation Commission

Blanding's Turtle Protection Plan for:
E. Belcher Road Parcels
122-2, 122-6, 135-2, 135-1

NHESP File # 15-34673

November 1, 2022

Prepared for:

Blue Diamond Equipment Company, LLC
Francis A. Mahoney, Tr.
73 E. Belcher Road, Foxboro, MA 02035

Prepared by:

Oxbow Associates, Inc.
P.O. Box 971
Acton, MA 01720

Oxbow Associates, Inc. (OA) has prepared this Turtle Protection Plan to avoid incidental mortality (prohibited "take";321 CMR 10.02 under the MA Endangered Species Act (MESA) to Blanding's turtle (*Emydoidea blandingii*) at the subject site during the course of site work for construction of storage space, commercial facilities and access roadways within the referenced parcels. A MESA Checklist and Habitat Assessment was submitted to NHESP and a conditional "no-take" determination was issued by the Program on September 30, 2022.

The "no-take" finding was conditioned upon an acceptable mortality avoidance plan, or Turtle Protection Plan (TPP) being in place prior to site work. Below we detail the elements of the TPP, in keeping with the conventions for similar applications for Blanding's and other turtle species.

Whereas the site work will commence in the near future, beyond the active season for Blanding's turtle we believe there is no need for active TPP measures to be implemented between October 15 (2022) and April 15, 2023. The measures prescribed below will be commenced in March, 2023, or as soon as conditions for animal exclusion materials to be installed are present. There are no active measures to be applied during the 2022-2023 winter construction season.

This protection plan is comparable to similar measures required by NHESP for analogous projects in the Commonwealth. OA will obtain a Scientific Collecting Permit (for 2023)

from Massachusetts Division of Fisheries and Wildlife (MDFW) prior to implementation of the active (spring, 2023) of this plan. Provided the exclusion barrier is installed in advance of April 15, 2023, no site "clearing" (of turtles) is anticipated. A brief memorandum will be provided to NHESP within 5 days of completion of the turtle exclusion barrier and contractor education (see below). If the project is delayed, or the barrier is not fully installed prior to April 15, 2023, a site-clearing protocol may be required.

Blanding's Turtle Protection Precautions

At the project site, OA will conduct an inspection in March or early April, 2023, including an evaluation of the equipment access routes to determine construction methods that will minimize the likelihood of harming any Blanding's turtles.

There are five general components to the turtle protection plan:

1. **Administration of a worker training program**
   Prior to construction work in spring, 2023, the construction crew, project foreman, and site engineers, as applicable will be provided a brief (est. 20 minutes) introductory session on Blanding's turtle biology, behavior, and conservation. A laminated poster with images of turtles, contact information for a qualified biologist and instructions regarding proper protocol if a Blanding's turtle is encountered will be provided. These posters will be given to the construction supervisor and available for review by all workers.

2. **Installation of a Turtle Barrier Fence**
   Prior to April 15, 2023, the area will be partially sequestered with siltation fencing to function as turtle exclusion barriers at the limit of work as indicated (red dashed line) on the attached Figure 5 orthophotographic figure. Once installed, OA will confirm the barrier is installed properly (trenched-in, haybales [if required] on the work side of fence, secure and taut, etc.) and the fence will be inspected weekly by the contractor for the duration of the project. A moveable gate (*e.g.*, PVC half-culverts or equivalent) will be fitted the barrier between Lots 122-2 and 135-1, and at any temporary breeches not indicated in Figure 5, if needed. Gate(s) will be closed at the end of each work day.

   The barrier will consist of a standard; 36-inch, 300 lb burst, silt fence trenched-in the ground approximately 6 inches, staked approximately every 8 horizontal feet, and will be installed around the limit of work (Fig. 5). Use of a ditch-witch and chain saws will allow the turtle barrier (silt fence) to be installed with very low probability of injuring or killing individual animals; particularly during the inactive season. Any other methods using larger machinery during the active season must be approved by the NHESP. Moveable gates made with corrugated PVC 18-inch or larger, cut in half culverts, or wooden gates will be used at the construction access locations, only if deviation from the primary plan is required (See Photos).

PVC Culvert "Gate"

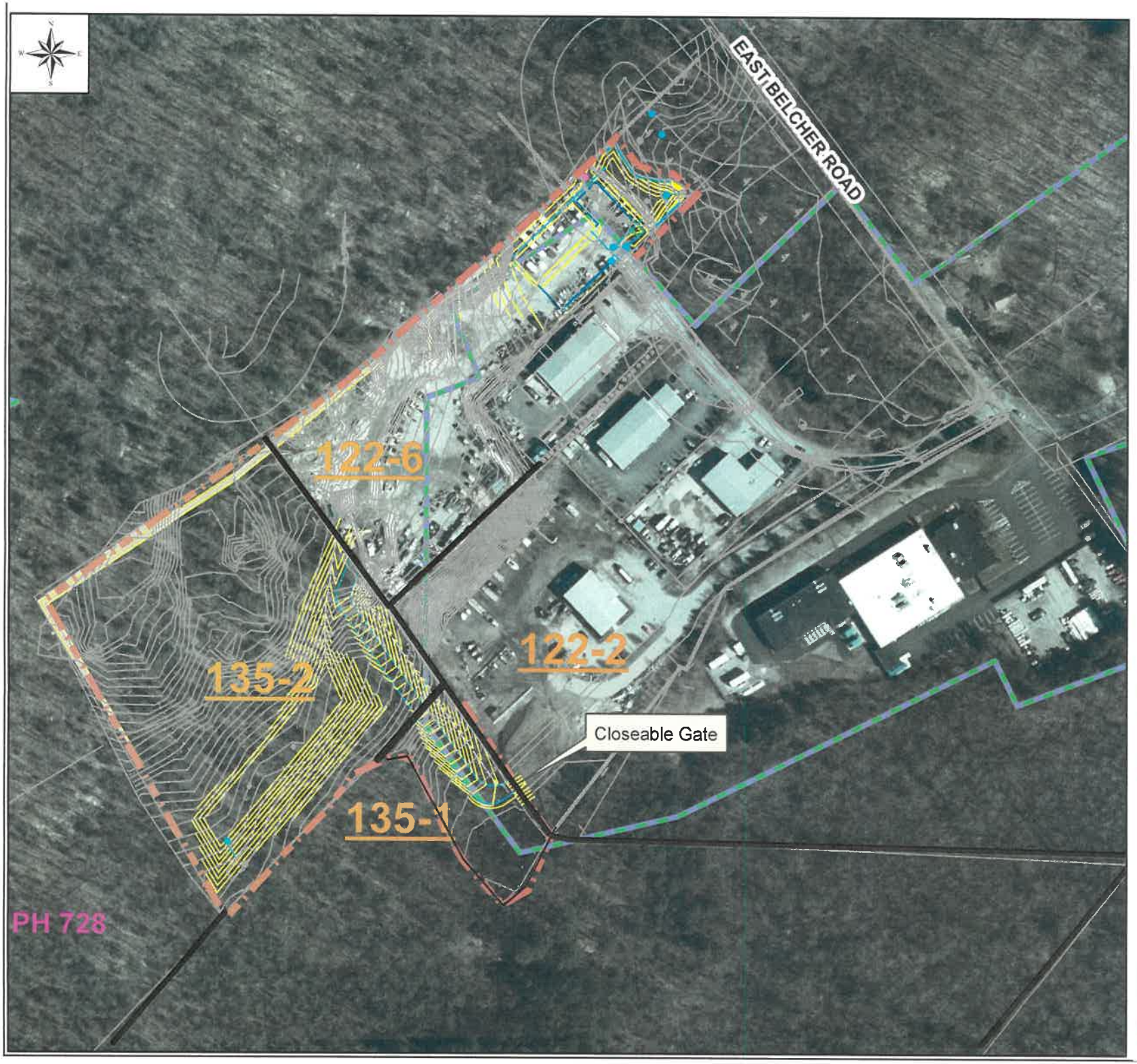

Wooden "Gate"

3. **Maintenance of Turtle Barrier Fence**
   The fence will be inspected weekly, once installed, by the contractor for the duration of the project. Construction access points at existing, shared roadways will not be closed. However, note (Fig. 5) that the areas where the fence is not closed are not adjacent to areas of likely habitat or migration paths for Blanding's turtles. If any damage occurs to the turtle barrier, it must be repaired immediately, with photo-documentation, and the turtle biologist notified.

4. **Clearing surveys immediately prior to initiating upland work**
   Whereas work is anticipated to commence in the inactive season for Blanding's turtles in 2022, no "clearing" of the premises is proposed under this TPP. Should the schedule be amended such that the barrier fence is <u>not</u> timely installed (<Apr. 15) a conventional site clearing of 4 hours per forested acre will be implemented under SCRA issued for the 2023 season. This is not anticipated.

5. **Turtle observations, relocations, and reporting**
   Any turtles encountered (state-listed or common) by contractors will be reported to the turtle biologist, and the turtle biologist shall relocate the turtle to a nearby location outside of the work area with similar conditions. This will be completed for Blanding's turtles under guidelines specified in the Scientific Collecting Permit from MDFW. Documentation will include standard morphometric data (mass, carapace length and depth), age as determined by annuli count, determination of sex, description of behavior and local environment at time of capture, and photographs taken of the animal. Any turtle encounter locus will be recorded using a hand-held GPS receiver with sub-meter accuracy.

Oxbow Associates, Inc.



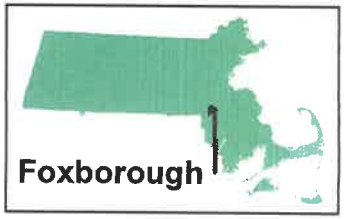


Figure 5.
Turtle Protection Plan
Turtle Barrier Layout
E. Belcher Rd Parcels
Foxborough, MA
2021 MASSGIS Imagery

November 1, 2022

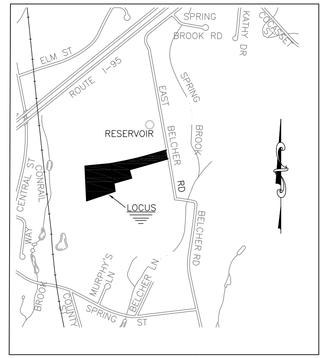
1:2,400

1 inch = 200 feet

0 100 200
Feet

Turtle Barrier
- Movable Gate
- Siltation Fence
- NHESP Estimated Habitat
- NHESP Priority Habitat

OXBOW ASSOCIATES, INC.



LOCUS MAP 1"=1,000'

SITE DEVELOPMENT PLAN OF

#61 East Belcher Road

FOXBOROUGH, MA

November 10, 2022 ——— SCALE: AS NOTED

BAY COLONY GROUP, Inc.
PROFESSIONAL CIVIL ENGINEERS & LAND SURVEYORS
FOUR SCHOOL STREET, P.O. BOX 9136
FOXBOROUGH, MA 02035
(508) 543-3939

ASSESSORS REF: MAP 122, PARCEL 006
MAP 135, PARCEL 002

ZONING: LIMITED INDUSTRIAL

SHEET NO.	DESCRIPTION	LAST REVISED
SHEET CV	COVER SHEET	11-10-2022
SHEET 1	LEGEND & GENERAL NOTES	11-10-2022
SHEET 2	EXISTING CONDITIONS PLAN	11-10-2022
SHEET 3	LAYOUT & GRADING PLAN	11-10-2022
SHEET 4	DRAINAGE & UTILITIES PLAN	11-10-2022
SHEET 5	CONSTRUCTION DETAILS	11-10-2022
SHEET 6	CONSTRUCTION DETAILS	11-10-2022
SHEET 7	CONSTRUCTION DETAILS	11-10-2022
SHEET 8	SWPPP & SNOW STORAGE PLAN	11-10-2022
SHEET A-1	BUILDING ELEVATIONS	11-10-2022

THE LAST REVISED DATE FOR PLANS IN THIS SET IS: **11-10-2022**

PROJECT:
61 East Belcher Road
Foxborough, MA

PREPARED FOR:
Blue Diamond Realty Trust
73 East Belcher Road
Foxborough, MA

OWNER:
Francis Mahoney
695 Winter Street
Walpole, MA

Bay Colony Group, Inc.
Professional Civil Engineers & Professional Land Surveyors

FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FOXBOROUGH PLANNING BOARD

STAMP

COMMONWEALTH OF MASSACHUSETTS
WILLIAM R. BUCKLEY, JR.
CIVIL
No. 35813
REGISTERED PROFESSIONAL ENGINEER

COMMONWEALTH OF MASSACHUSETTS
RICHARD J. LESLIE
No. 38384
REGISTERED PROFESSIONAL LAND SURVEYOR

DRAWING TITLE

Cover Sheet

SCALE: NTS

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	CV

GENERAL NOTES

TOPOGRAPHICAL INFORMATION OBTAINED FROM AN ON THE GROUND SURVEY BY THIS OFFICE IN SEPTEMBER, 2021. HORIZONTAL DATUM IS NAVD 1988 AND VERTICAL DATUM IS NAVD 88. SITE DOES NOT LIE WITHIN A FEMA DESIGNATED FLOOD ZONE (A OR V ZONES).

LOT IS SUBJECT TO A VARIANCE GRANTED BY THE FOXBOROUGH ZONING BOARD OF APPEALS TO ALLOW ACCESS OVER A COMMON DRIVEWAY (VARIANCE 00-25 GRANTED JANUARY, 2001).

UNDERGROUND UTILITIES ARE SHOWN HEREON AS COMPILED FROM RECORD PLANS AND VISIBLE UTILITY STRUCTURES. BAY COLONY GROUP DOES NOTE WARRANT THE ACTUAL DEPTH AND LOCATIONS OF ANY UTILITIES SHOWN HEREON. CONTACT DIGSAFE AT 1-800-322-4844 AT LEAST 72 HOURS, SATURDAYS, SUNDAYS AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY LOCATION. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.

WHERE AN EXISTING UNDERGROUND UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER IMMEDIATELY.

TEST PITS TO LOCATED EXISTING UTILITIES MAY BE ORDERED BY THE ENGINEER.

THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE RESPECTIVE COMPANIES.

AREAS OUTSIDE THE LIMITS OF THE PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE.

STONE WALLS, FENCES, MAIL BOXES, SIGNS, CURBS, LIGHT POLES ETC.. SHALL BE REMOVED AND REPLACED AS NECESSARY TO PERFORM THE WORK.

ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

OPENINGS FOR PIPE IN PRECAST CONCRETE STRUCTURES SHALL BE CAST IN THE REQUIRED LOCATIONS DURING MANHOLE MANUFACTURE. FIELD CUT OPENINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER.

IN PAVED AND GRAVEL AREAS THE TOP OF THE STRUCTURE COVERS SHALL BE SET FLUSH WITH THE PAVED SURFACE. IN CROSS-COUNTRY AREAS THE TOP OF THE COVER SHALL EXTEND 2 INCHES ABOVE FINISHED GRADE, OR AS SHOWN ON THE DRAWINGS, OR AS DIRECTED BY THE ENGINEER.

ALL DRAINAGE STRUCTURES SHALL BE ABLE TO ACCOMMODATE HS-20 LOADING UNLESS OTHERWISE SPECIFIED.

ALL CONTRACTORS MUST CONTACT THE FOXBOROUGH PLANNING BOARD AT 508.543.1250 PRIOR TO THE INITIATION OF ANY CONSTRUCTION.

THIS PLAN IS ACCOMPANIED BY AN APPROVAL LETTER DATED XXXXX BY THE FOXBOROUGH PLANNING BOARD. SAID LETTER SHALL BE CONSIDERED A PART OF THIS PLAN.

THIS PLAN IS SUBJECT TO AN ORDER OF CONDITIONS (SE157-XXXX) ISSUED BY THE FOXBOROUGH CONSERVATION COMMISSION. SAID ORDER SHALL BE CONSIDERED A PART OF THIS PLAN.

PAVEMENT MARKINGS

SWL	SWL – SOLID WHITE LINE – 6" STATE HIGHWAY, 4" LOCAL STREETS
SYL	SYL – SOLID YELLOW LINE – 6" STATE HIGHWAY, 4" LOCAL STREETS
DWL	DWL – DOTTED WHITE LINE – 6" (2' STRIPE w/4' GAP) STATE HIGHWAY
	DOTTED WHITE LINE – 4" (2' STRIPE w/4' GAP) LOCAL STREETS
WLDL	WHITE LANE DELINEATION LINE – 6" (3' STRIPE w/9' GAP) STATE HIGHWAY
	WHITE LANE DELINEATION LINE – 4" (3' STRIPE w/9' GAP) LOCAL STREETS
DDYL	DOUBLE DOTTED YELLOW LINE – 6" (2' STRIPE w/4' GAP) STATE HIGHWAY
	DOUBLE DOTTED YELLOW LINE – 4" (2' STRIPE w/4' GAP) LOCAL STREETS
BWLL	BROKEN WHITE LANE LINE – 6" (10' STRIPE w/30' GAP) STATE HIGHWAY
	BROKEN WHITE LANE LINE – 4" (10' STRIPE w/30' GAP) LOCAL STREETS
SWLL	SOLID WHITE LANE LINE – 6" STATE HIGHWAY, 4" LOCAL STREETS
SWEL	SOLID WHITE EDGE LINE – 6" STATE HIGHWAY, 4" LOCAL STREETS
SWGL	SOLID WHITE GORE LINE – 12"
SYEL	SOLID YELLOW EDGE LINE – 6" STATE HIGHWAY, 4" LOCAL STREETS
SYGL	SOLID YELLOW GORE LINE – 12"
DYL	DOUBLE YELLOW LINE – 2-6" LINES STATE HIGHWAY
	DOUBLE YELLOW LINE – 2-4" LINES LOCAL STREETS
	PAVEMENT ARROW AND LEGEND

SYMBOLS & LEGEND

EXISTING

n.t.s.	NOT TO SCALE
T.B.M.	TEMPORARY BENCH MARK
⊡	BOUND (TYPE NOTED)
	STAKE & STONE
DH ⦿	DRILL HOLE
IP ○	IRON PIPE/PIN
⊡MHB	MASS HIGHWAY BOUND
△s/n	STAKE & NAIL
(fd)	FOUND
(set)	SET IN PLACE
	UTILITY POLE
UPLP	UTILITY POLE/LIGHT POLE
UP	UTILITY POLE
Ⓦ	WELL
n/f	NOW OR FORMERLY
	TREE (SIZE NOTED)
(rec)	RECORD
Ⓓ	DRAIN MANHOLE
Ⓣ	TELEPHONE MANHOLE
Ⓔ	ELECTRIC MANHOLE
Ⓢ	SEWER MANHOLE
□	CATCH BASIN
WG ⋈	WATER GATE
WS ⋈	WATER SERVICE
GG ⋈	GAS GATE
	EXISTING HYDRANT
SGC	SLOPED GRANITE CURBING
VGC	VERTICAL GRANITE CURBING
PVC	POLYVINYL CHLORIDE PIPE
CMP	CORRUGATED METAL PIPE
VCP	VITREOUS CLAY PIPE
CLF	CHAIN LINK FENCE
OHW	OVERHEAD WIRE
SIGN —o—	SIGN (SIZE & TYPE NOTED)
TP	TEST PIT
——— D ———	DRAIN PIPE (SIZE & TYPE NOTED)
——— S ———	SEWER PIPE (SIZE & TYPE NOTED)
——— E ———	ELECTRIC DUCT (SIZE & TYPE NOTED)
——— G ———	GAS MAIN (SIZE & TYPE NOTED)
——— W ———	WATER MAIN (SIZE & TYPE NOTED)
——— T ———	TELEPHONE DUCT
	STONE WALL
	EDGE OF TREELINE
	GUARD-RAIL (TYPE NOTED)
	RAILROAD TRACKS
	RETAINING WALL (SIZE & TYPE NOTED)
—x—x—x—x—x—	BARBED WIRE FENCE
	STOCKADE FENCE
	CHAIN-LINK FENCE

PROPOSED

n.t.s.	NOT TO SCALE
T.B.M.	TEMPORARY BENCH MARK
⊡	BOUND (TYPE NOTED)
	STAKE & STONE
DH ⦿	DRILL HOLE
IP ○	IRON PIPE/PIN
⊡MHB	MASS HIGHWAY BOUND
△s/n	STAKE & NAIL
(fd)	FOUND
(set)	SET IN PLACE
	UTILITY POLE
UPLP	UTILITY POLE/LIGHT POLE
UP	UTILITY POLE
Ⓦ	WELL
n/f	NOW OR FORMERLY
	TREE (SIZE NOTED)
(rec)	RECORD
Ⓓ	DRAIN MANHOLE
Ⓣ	TELEPHONE MANHOLE
Ⓔ	ELECTRIC MANHOLE
Ⓢ	SEWER MANHOLE
□	CATCH BASIN
WG ⋈	WATER GATE
WS ⋈	WATER SERVICE
GG ⋈	GAS GATE
	PROPOSED HYDRANT
SGC	SLOPED GRANITE CURBING
MBC	MONOLITHIC BITUMINOUS CURBING
VCC	VERTICAL CONCRETE CURBING
CMP	CORRUGATED METAL PIPE
VCP	VITREOUS CLAY PIPE
CLF	CHAIN LINK FENCE
OHW	OVERHEAD WIRE
R&R	REMOVE AND RE-USE
R&S	REMOVE AND STACK
SIGN —o—	SIGN (SIZE & TYPE NOTED)
——— D ———	DRAIN PIPE (SIZE & TYPE NOTED)
——— S ———	SEWER PIPE (SIZE & TYPE NOTED)
——— E ———	ELECTRIC DUCT (SIZE & TYPE NOTED)
——— G ———	GAS MAIN (SIZE & TYPE NOTED)
——— W ———	WATER MAIN (SIZE & TYPE NOTED)
——— T ———	TELEPHONE DUCT
	STONE WALL
	EDGE OF TREELINE
	GUARD-RAIL (TYPE NOTED)
	RETAINING WALL (SIZE & TYPE NOTED)
—x—x—x—x—x—	BARBED WIRE FENCE
	STOCKADE FENCE
	CHAIN-LINK FENCE

PROJECT:

61 East Belcher Road
Foxborough, MA

PREPARED FOR:

Blue Diamond Realty Trust
73 East Belcher Road
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OWNER:

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FOUR SCHOOL STREET
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FOXBOROUGH, MA 02035
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DATE APPROVED: _____
DATE ENDORSED: _____
FOXBOROUGH PLANNING BOARD

STAMP

COMMONWEALTH OF MASSACHUSETTS
WILLIAM R. BUCKLEY, JR.
CIVIL
No. 35813
REGISTERED PROFESSIONAL ENGINEER

DRAWING TITLE

Legend & General Notes

SCALE: NTS

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	1

PROJECT:

61 East Belcher Road
Foxborough, MA

PREPARED FOR:

Blue Diamond Realty Trust
73 East Belcher Road
Foxborough, MA

OWNER:

Francis Mahoney
695 Winter Street
Walpole, MA

Bay Colony Group, Inc.
Professional Civil Engineers & Professional Land Surveyors

FOUR SCHOOL STREET
P.O. BOX 9136
FOXBOROUGH, MA 02035
508-543-3939

DATE APPROVED: _____
DATE ENDORSED: _____
FOXBOROUGH PLANNING BOARD

STAMP

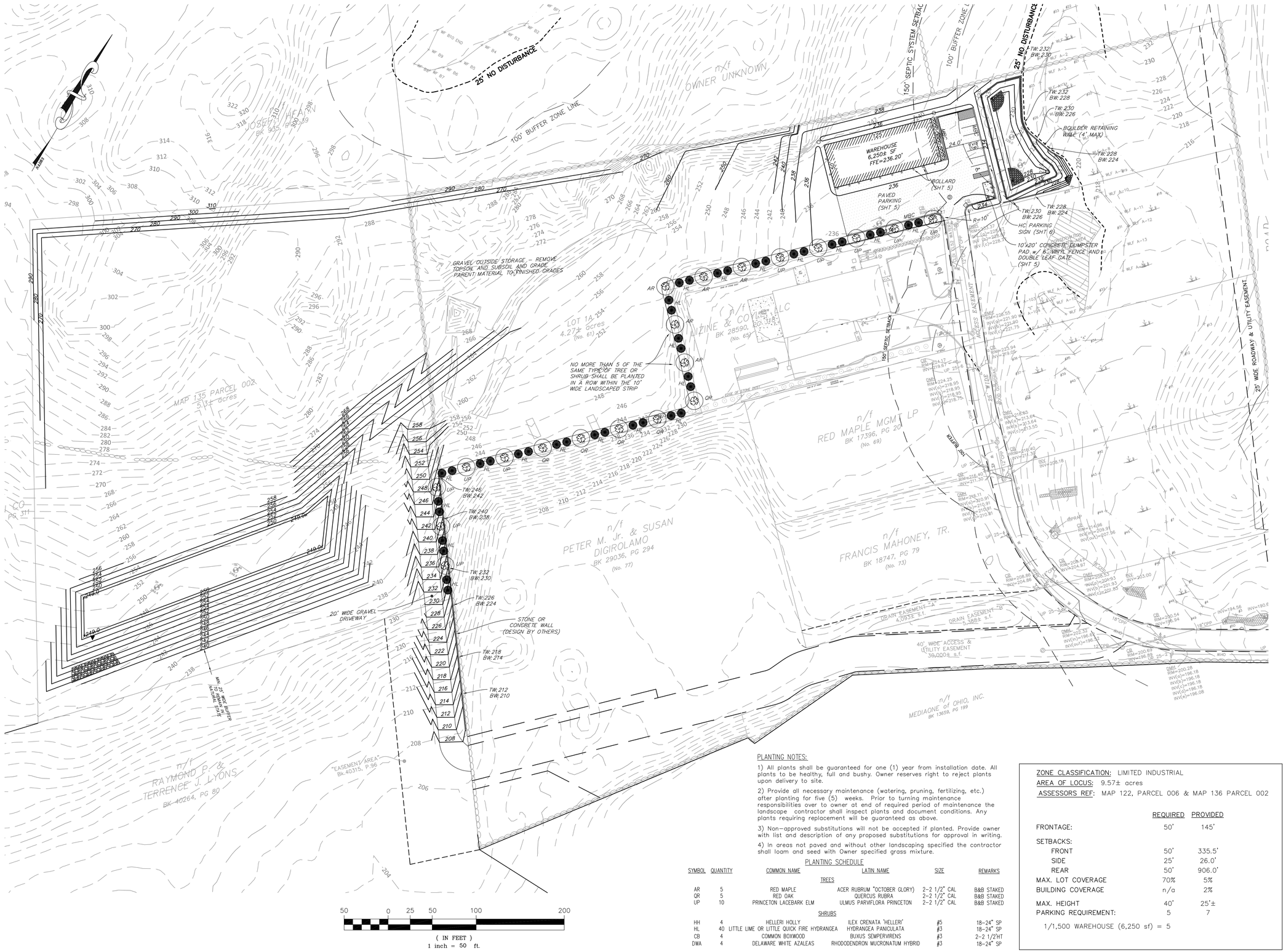
COMMONWEALTH OF MASSACHUSETTS
RICHARD J. LESLIE
No. 38384
REGISTERED PROFESSIONAL LAND SURVEYOR

DRAWING TITLE

Existing Conditions

SCALE: 1" = 50'

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	**2**



PLANTING NOTES:

1) All plants shall be guaranteed for one (1) year from installation date. All plants to be healthy, full and bushy. Owner reserves right to reject plants upon delivery to site.

2) Provide all necessary maintenance (watering, pruning, fertilizing, etc.) after planting for five (5) weeks. Prior to turning maintenance responsibilities over to owner at end of required period of maintenance the landscape contractor shall inspect plants and document conditions. Any plants requiring replacement will be guaranteed as above.

3) Non-approved substitutions will not be accepted if planted. Provide owner with list and description of any proposed substitutions for approval in writing.

4) In areas not paved and without other landscaping specified the contractor shall loam and seed with Owner specified grass mixture.

PLANTING SCHEDULE

SYMBOL	QUANTITY	COMMON NAME	LATIN NAME	SIZE	REMARKS
		TREES			
AR	5	RED MAPLE	ACER RUBRUM "OCTOBER GLORY"	2-2 1/2" CAL	B&B STAKED
QR	5	RED OAK	QUERCUS RUBRA	2-2 1/2" CAL	B&B STAKED
UP	10	PRINCETON LACEBARK ELM	ULMUS PARVIFLORA PRINCETON	2-2 1/2" CAL	B&B STAKED
		SHRUBS			
HH	4	HELLERI HOLLY	ILEX CRENATA 'HELLERI'	#5	18-24" SP
HL	40	LITTLE LIME OR LITTLE QUICK FIRE HYDRANGEA	HYDRANGEA PANICULATA	#3	18-24" SP
CB	4	COMMON BOXWOOD	BUXUS SEMPERVIRENS	#3	2-2 1/2'HT
DWA	4	DELAWARE WHITE AZALEAS	RHODODENDRON MUCRONATUM HYBRID	#3	18-24" SP

ZONE CLASSIFICATION: LIMITED INDUSTRIAL
AREA OF LOCUS: 9.57± acres
ASSESSORS REF: MAP 122, PARCEL 006 & MAP 136 PARCEL 002

	REQUIRED	PROVIDED
FRONTAGE:	50'	145'
SETBACKS:		
FRONT	50'	335.5'
SIDE	25'	26.0'
REAR	50'	906.0'
MAX. LOT COVERAGE	70%	5%
BUILDING COVERAGE	n/a	2%
MAX. HEIGHT	40'	25'±
PARKING REQUIREMENT:	5	7

1/1,500 WAREHOUSE (6,250 sf) = 5

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COMMONWEALTH OF MASSACHUSETTS
WILLIAM R. BUCKLEY, JR.
CIVIL
No. 35813
REGISTERED PROFESSIONAL ENGINEER

DRAWING TITLE

Layout & Grading

SCALE: 1" = 50'

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	**3**

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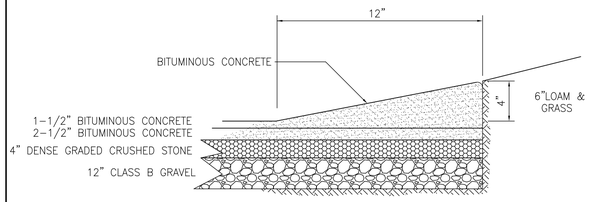
DRAWING TITLE

Drainage & Utilities

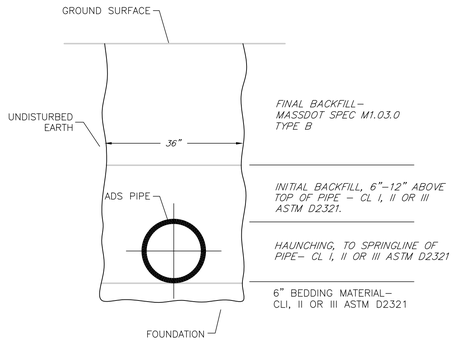
SCALE: 1" = 50'

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	4



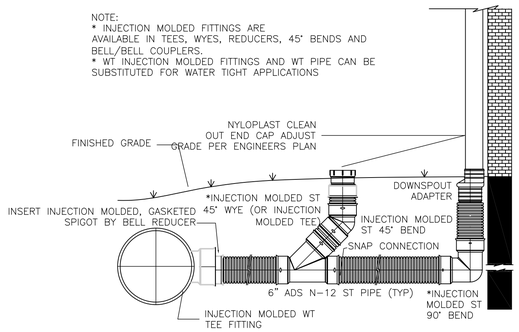
MONOLITHIC BITUMINOUS CURBING

N.T.S.



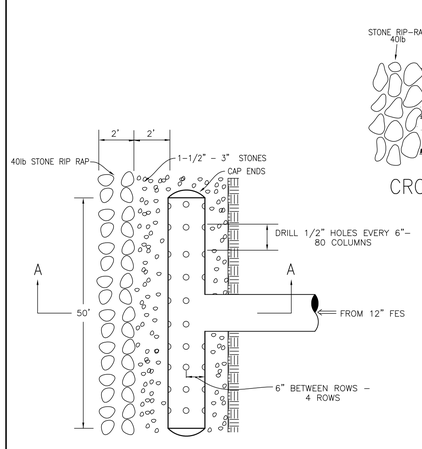
ADS ROOF DRAIN TRENCH DETAIL

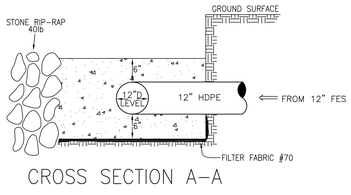
N.T.S.



ROOF DRAIN DETAIL WITH CLEANOUT

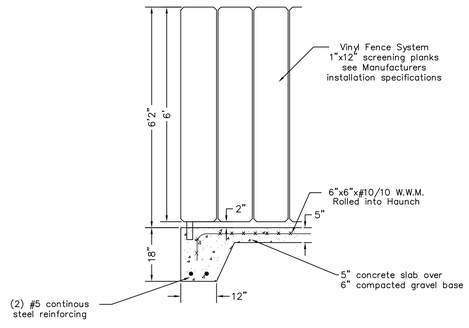
N.T.S.





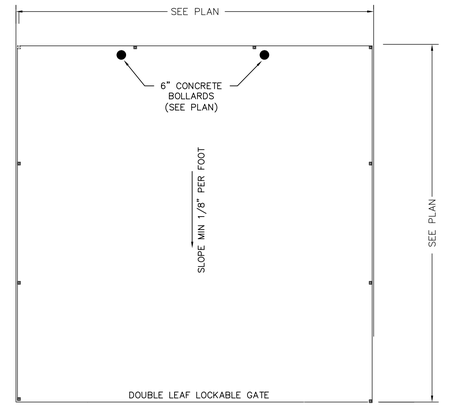
DETAIL OF LEVEL SPREADER

N.T.S.



DUMPSTER FENCE SECTION

N.T.S.



DUMPSTER PAD PLAN

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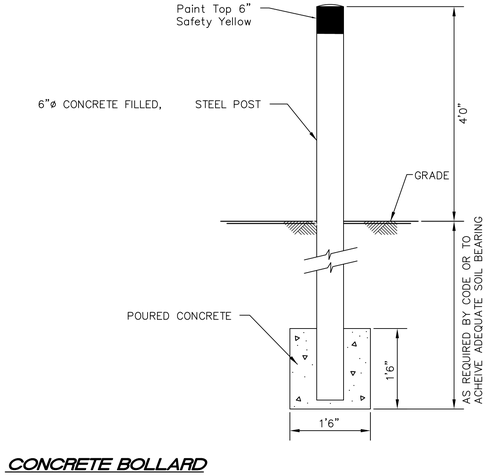

CONCRETE BOLLARD

N.T.S.

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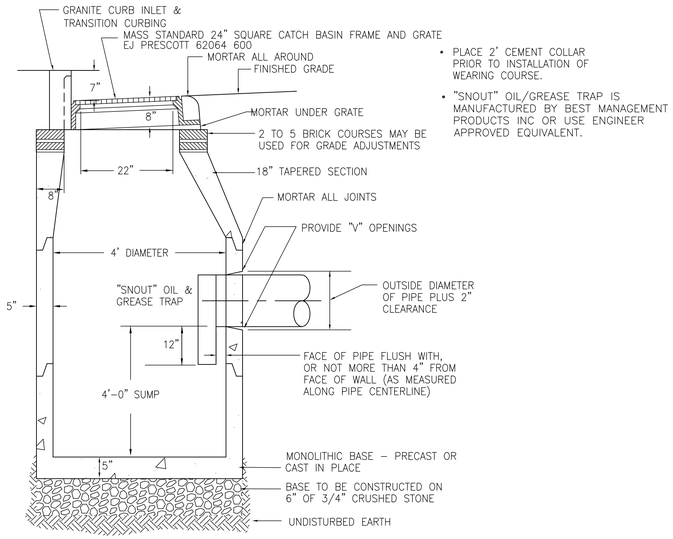
DRAWING TITLE

Construction Details

SCALE: N.T.S.

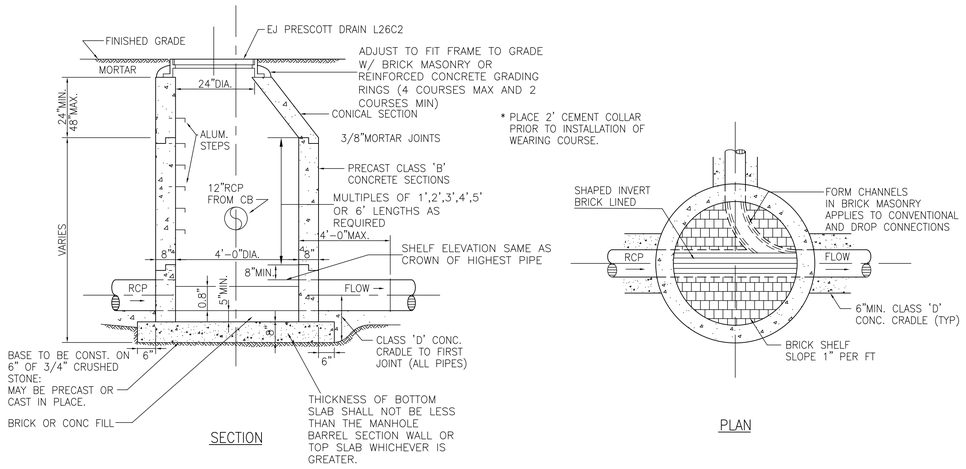
NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	5



- PLACE 2' CEMENT COLLAR PRIOR TO INSTALLATION OF WEARING COURSE.
- "SNOUT" OIL/GREASE TRAP IS MANUFACTURED BY BEST MANAGEMENT PRODUCTS INC OR USE ENGINEER APPROVED EQUIVALENT.

PRECAST CONCRETE CATCH BASIN

N.T.S.

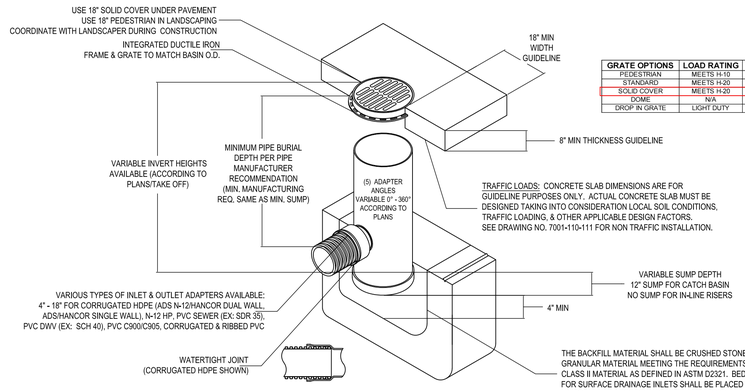


* PLACE 2' CEMENT COLLAR PRIOR TO INSTALLATION OF WEARING COURSE.

PRECAST CONCRETE DRAIN MANHOLE

N.T.S.

NYLOPLAST 18" DRAIN BASIN: 2818AG _ _ X (or equivalent)



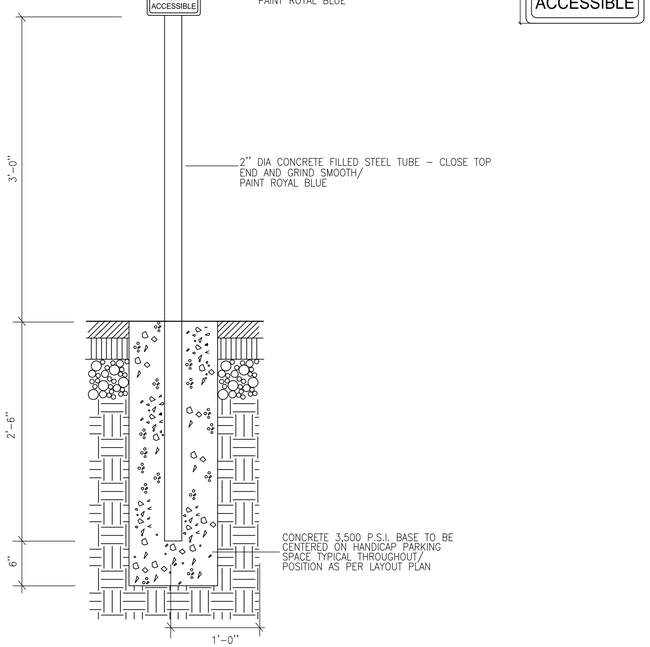
GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1899CGP	7001-110-212
STANDARD	MEETS H-20	1899CGS	7001-110-213
SOLID COVER	MEETS H-20	1899CGC	7001-110-214
DOME	N/A	1899CGD	7001-110-215
DROP IN GRATE	LIGHT DUTY	1801DI	7001-110-074

TRAFFIC LOADS: CONCRETE SLAB DIMENSIONS ARE FOR GUIDELINE PURPOSES ONLY. ACTUAL CONCRETE SLAB MUST BE DESIGNED TAKING INTO CONSIDERATION LOCAL SOIL CONDITIONS, TRAFFIC LOADING, & OTHER APPLICABLE DESIGN FACTORS. SEE DRAWING NO. 7001-110-111 FOR NON TRAFFIC INSTALLATION.

NYOPLAST RISER (RDMH) INSTALLATION DETAIL

N.T.S.

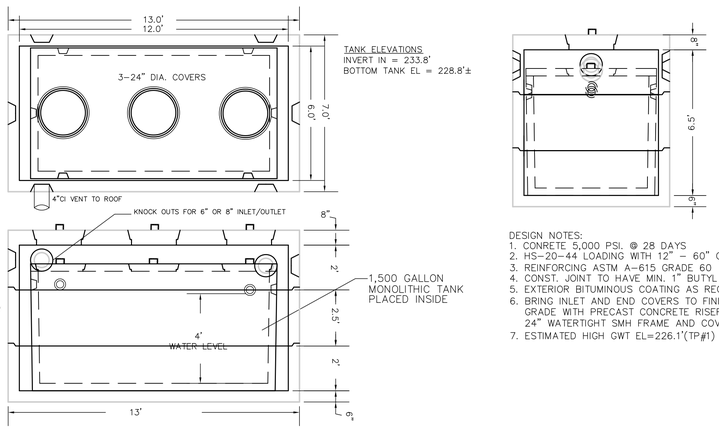
NOTE: THE SIGN MUST BE SUPPLEMENTED WITH A "VAN ACCESSIBLE" SIGN AS APPLICABLE CONFIRM WITH LOCAL REGULATIONS.



HANDICAP PARKING SIGN

N.T.S.

- *THE CONTRACTOR SHALL SUPPLY FINAL CONSTRUCTION DRAWINGS TO THE ENGINEER AND THE BUILDING COMMISSIONER THAT INCLUDES ALL DETAILS OF THE TANK, PIPING, TIE DOWNS, AND COVERS.*
- *UST SHALL BE CONSTRUCTED IN ACCORDANCE WITH 314 CMR 18.08. IN ACCORDANCE WITH THAT REGULATION THE TANK SHALL HAVE:*
- *THE TANK MANUFACTURER SHALL CONFIRM THAT THE HOLDING TANK IS COMPATIBLE WITH THE WASTEWATER PRODUCED.*
- *THE TANK SHALL BE LEAKPROOF AND SHALL BE H-20 LOADING CAPABLE.*
- *THE BASE OF THE TANK SHALL BE 6" OF 1-1/2" CRUSHED STONE..*
- *THERE IS NO ENTRY FOR SURFACE STORM WATER INTO THE TANK.*
- *THE TANK SHALL CONTAIN A LIQUID LEVEL MEASURING DEVICE CONNECTED TO AN AUDIO AND LIGHT ALARM SYSTEM MOUNTED WITHIN THE BUILDING THAT WILL BE ACTIVATED WHEN THE INDUSTRIAL WASTEWATER REACHES 1,000 GALLONS.*
- *ODOR CONTROL MEASURES SHALL BE INSTALLED AND THE TANK SHALL BE CLOSED AT ALL TIMES EXCEPT FOR WHEN THE WASTEWATER IS BEING REMOVED.*
- *PLACE A LEGIBLE SIGN ON THE WALL OF THE BUILDING IMMEDIATELY ADJACENT TO THE TO HOLDING TANK WITH THE WORDS "NON-HAZARDOUS INDUSTRIAL WASTEWATER"*



DESIGN NOTES:
1. CONRETE 5,000 PSI. @ 28 DAYS
2. HS-20-44 LOADING WITH 12" - 60" OF COVER
3. REINFORCING ASTM A-615 GRADE 60
4. CONST. JOINT TO HAVE MIN. 1" BUTYL SEALANT
5. EXTERIOR BITUMINOUS COATING AS REQUIRED
6. BRING INLET AND END COVERS TO FINISHED GRADE WITH PRECAST CONCRETE RISER AND 24" WATERTIGHT SMH FRAME AND COVER
7. ESTIMATED HIGH GWT EL=226.1'(TP#1)

PRECAST HOLDING TANK

N.T.S.

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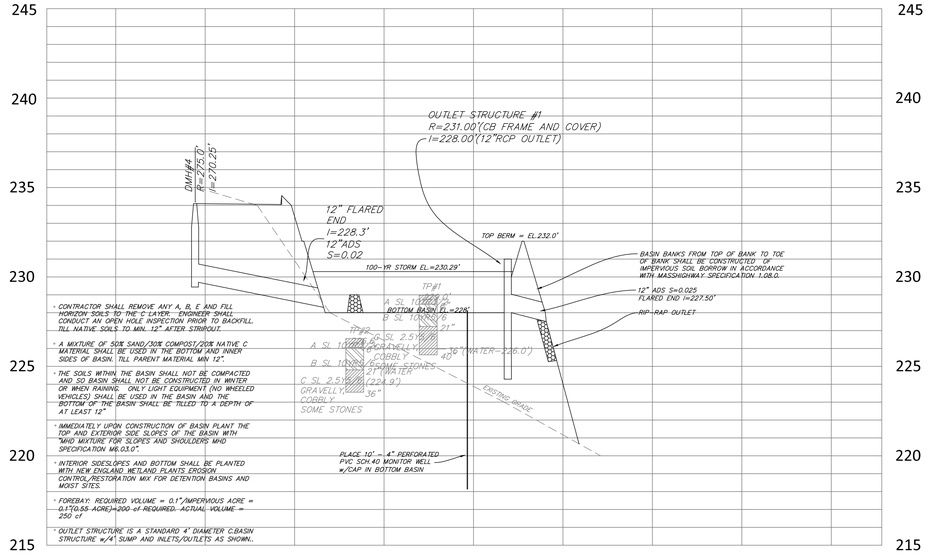
Construction Details

SCALE: N.T.S.

NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	6

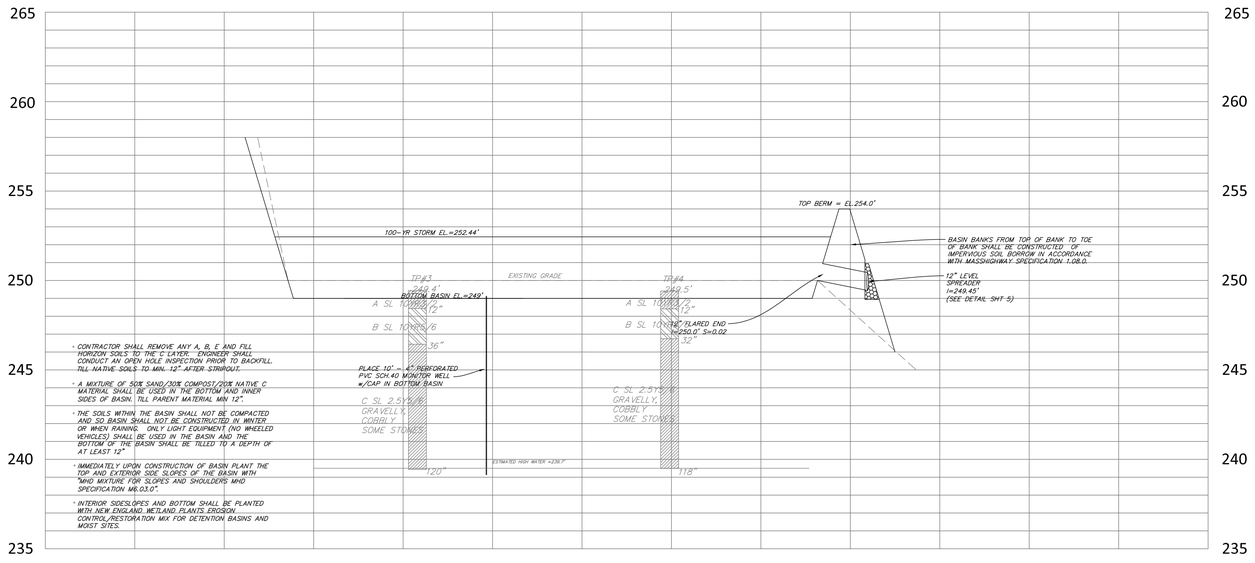


Basin #1

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

TEST PIT #1	
DATE: 2/23/2022	GND ELEV: 229.1' TOP WELL EL:
Depth (Elevation)	Soil Description
6" (228.6')	A SL; 10YR3/2
21" (227.4')	B SL; 10YR5/6
40" (225.8')	C SL; 2.5Y5/6 GRAVELLY, COBBLY, SOME STONES
	WATER STANDING @ 36" (226.1')
BASIS OF GNDWTR ADJUSTMENT:	IN-SEASON READING
SCS SOIL TYPE:	HOLLIS ROCK OUTCROP CHARLTON
SOIL EVALUATOR:	CAMERON GRAY

TEST PIT #2	
DATE: 2/23/2022	GND ELEV: 226.6' TOP WELL EL:
Depth (Elevation)	Soil Description
6" (226.1')	A SL; 10YR3/2
21" (224.9')	B SL; 10YR5/6
36" (223.6')	C SL; 2.5Y5/6 GRAVELLY, COBBLY, SOME STONES
	WATER STANDING @ 21" (224.9')
BASIS OF GNDWTR ADJUSTMENT:	IN-SEASON READING
SCS SOIL TYPE:	HOLLIS ROCK OUTCROP CHARLTON
SOIL EVALUATOR:	CAMERON GRAY



Basin #2

Horizontal Scale: 1" =40'
Vertical Scale: 1" = 4'

TEST PIT #3	
DATE: 4/15/2022	GND ELEV: 249.4' TOP WELL EL:
Depth (Elevation)	Soil Description
12" (248.4')	A SL; 10YR3/2
36" (246.4')	B SL; 10YR5/6
120" (239.4')	C SL; 2.5Y5/3 GRAVELLY, COBBLY, MANY STONES
	NO MOTTLING / NO WATER
BASIS OF GNDWTR ADJUSTMENT:	IN-SEASON READING
SCS SOIL TYPE:	HOLLIS ROCK OUTCROP CHARLTON
SOIL EVALUATOR:	CAMERON GRAY

TEST PIT #4	
DATE: 4/15/2022	GND ELEV: 249.5' TOP WELL EL:
Depth (Elevation)	Soil Description
12" (248.5')	A SL; 10YR3/2
32" (246.8')	B SL; 10YR5/6
118" (239.7')	C SL; 2.5Y5/3 GRAVELLY, COBBLY, FEW STONES
	NO MOTTLING / NO WATER
BASIS OF GNDWTR ADJUSTMENT:	IN-SEASON READING
SCS SOIL TYPE:	HOLLIS ROCK OUTCROP CHARLTON
SOIL EVALUATOR:	CAMERON GRAY

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Construction Details

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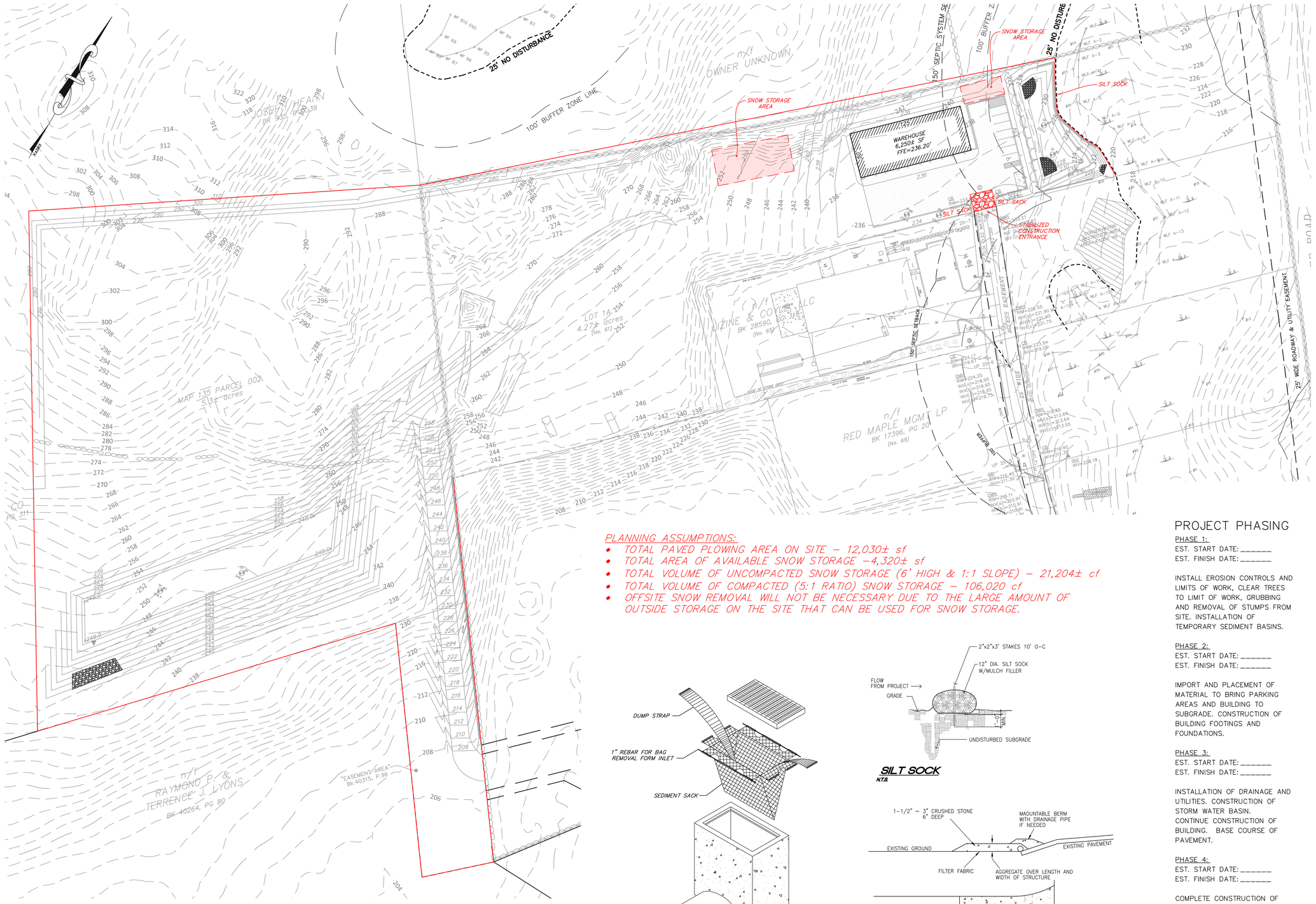
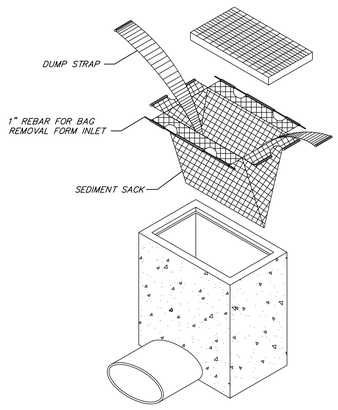
NOVEMBER 10, 2022	SHEET NUMBER
21-0183C	7



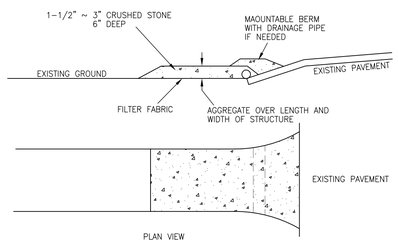
PLANNING ASSUMPTIONS:

- *TOTAL PAVED PLOWING AREA ON SITE – 12,030± sf*
- *TOTAL AREA OF AVAILABLE SNOW STORAGE –4,320± sf*
- *TOTAL VOLUME OF UNCOMPACTED SNOW STORAGE (6' HIGH & 1:1 SLOPE) – 21,204± cf*
- *TOTAL VOLUME OF COMPACTED (5:1 RATIO) SNOW STORAGE – 106,020 cf*
- *OFFSITE SNOW REMOVAL WILL NOT BE NECESSARY DUE TO THE LARGE AMOUNT OF OUTSIDE STORAGE ON THE SITE THAT CAN BE USED FOR SNOW STORAGE.*



SILT SACK
N.T.S.

SILT SOCK
N.T.S.



STABILIZED CONSTRUCTION ENTRANCE
N.T.S.

PROJECT PHASING

PHASE 1:
EST. START DATE: _____
EST. FINISH DATE: _____

INSTALL EROSION CONTROLS AND LIMITS OF WORK, CLEAR TREES TO LIMIT OF WORK, GRUBBING AND REMOVAL OF STUMPS FROM SITE. INSTALLATION OF TEMPORARY SEDIMENT BASINS.

PHASE 2:
EST. START DATE: _____
EST. FINISH DATE: _____

IMPORT AND PLACEMENT OF MATERIAL TO BRING PARKING AREAS AND BUILDING TO SUBGRADE. CONSTRUCTION OF BUILDING FOOTINGS AND FOUNDATIONS.

PHASE 3:
EST. START DATE: _____
EST. FINISH DATE: _____

INSTALLATION OF DRAINAGE AND UTILITIES. CONSTRUCTION OF STORM WATER BASIN. CONTINUE CONSTRUCTION OF BUILDING. BASE COURSE OF PAVEMENT.

PHASE 4:
EST. START DATE: _____
EST. FINISH DATE: _____

COMPLETE CONSTRUCTION OF BUILDING AND FINISHED COURSE OF PAVEMENT. COMPLETE LANDSCAPING OF DISTURBED AREAS. REMOVE EROSION CONTROLS ONCE SITE IS FULLY STABILIZED.

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SWPPP & Snow Storage Plan

SCALE: 1" = 50'

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Building Elevations

SCALE: NTS

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21-0183C	A-1