Conservation Commission
AGENDA

Thursday, March 26, 2026 - 6:00 PM

Regular Meeting
Agawam Senior Center
954 Main Street
Agawam, MA 01001

A. Conservation Commission

1) 6:00PM-PUBLIC HEARING-NOTICE OF INTENT-699 Silver Street-MSR Properties, LLC

2) 6:05PM-REQUEST FOR DETERMINATION-15 Barbara Lane-Cory & Typrowicz

3) PUBLIC HEARING CONT.-Abbreviated Notice of Resource Area Delineation-311 Shoemaker Lane-Ameresco, Inc.

4) REQUEST FOR DETERMINATION CONT.-769 Silver Street-Agawam Energy Center, LLC

5) Dicussion and Possible Vote-Conservation Commission Representative for CPA

6) APPROVAL OF MINUTES-March 12, 2026

7) Correspondence and Complaints

Notice of Intent

Under the Wetlands Protection Act 310 CMR 10.00

Proposed Storage Building

Project Location:

699 Silver Street
Agawam, Massachusetts 01001
(Parcel ID: G6-2-12)

Submitted to:

Town of Agawam Conservation Commission
1000 Suffield Street
Agawam, Massachusetts 01001

Applicant & Property Owner:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, Massachusetts 01001

RLA Project File No. 250903

March 5, 2026

R LEVESQUE ASSOCIATES, INC.

A LAND PLANNING SERVICES COMPANY

40 School Street, Westfield, MA 01085

p 413.568.0985 · f 413.568.0986 · www.rlaland.com

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LIST OF APPENDICES

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I. COVER LETTER

R LEVESQUE ASSOCIATES, INC.
40 School Street, P.O. BOX 640, Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com

March 5, 2026

Mr. Henry A. Kozloski, Chairman
Town of Agawam Conservation Commission
1000 Suffield Street
Agawam, Massachusetts 01001

RE: Notice of Intent
699 Silver Street
Agawam, Massachusetts 01001
(Parcel ID: G6-2-12)
RLA Project File No. 250903

Dear Chairman Kozloski and Commissioners:

On behalf of the applicant and property owner, MSR Properties, LLC c/o Rick Mahan, please find the requisite number of copies of a Notice of Intent application and supporting documentation. The applicant proposes the construction of a storage building with associated site improvements. Portions of the site improvements are within the buffer zone to a Bordering Vegetated Wetland (BVW).

Included within this submission package is the requisite filing fee. As required, a copy of this application has been submitted electronically via email to the Town of Agawam Conservation Commission and through eDEP to the Massachusetts Department of Environmental Protection, as well as mailed to the Natural Heritage for Endangered Species Program (NHESP).

We are requesting to be placed on the Commission's next available agenda. Should you have any questions or comments regarding this filing, please do not hesitate to contact our office at your earliest convenience.

Sincerely,
R LEVESQUE ASSOCIATES, INC.
Nina Fazio
Nina Fazio
Permitting Coordinator

2. ADMINISTRATIVE FORMS

2.1 WPA FORM 3 – NOTICE OF INTENT

2.2 NOI WETLAND FEE TRANSMITTAL FORM

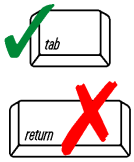
Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:
MassDEP File Number
Document Transaction Number
Agawam
City/Town

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



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

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

699 Silver Street — a. Street Address
Agawam — b. City/Town
01001 — c. Zip Code

Latitude and Longitude:
42.05353 — d. Latitude
72.65130 — e. Longitude

G6 — f. Assessors Map/Plat Number
2-12 — g. Parcel /Lot Number

2. Applicant:

Rick — a. First Name
Mahan — b. Last Name
MSR Properties, LLC — c. Organization
699 Silver Street — d. Street Address
Agawam — e. City/Town
MA — f. State
01001 — g. Zip Code
413-788-9529 — h. Phone Number
i. Fax Number
rick@mahanslate.com — j. Email Address

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

Same as applicant — a. First Name
b. Last Name
c. Organization
d. Street Address
e. City/Town
f. State
g. Zip Code
h. Phone Number
i. Fax Number
j. Email address

4. Representative (if any):

Robert — a. First Name
Levesque — b. Last Name
R Levesque Associates, Inc. — c. Company
40 School Street — d. Street Address
Westfield — e. City/Town
MA — f. State
01085 — g. Zip Code
(413) 568-0985 — h. Phone Number
i. Fax Number
robl@rlaland.com — j. Email address

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

$1,000.00 — a. Total Fee Paid
$487.50 — b. State Fee Paid
$512.50 — c. City/Town Fee Paid

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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Agawam
City/Town

A. General Information (continued)

6. General Project Description:

The applicant proposes the construction of a storage building with associated site improvements. Portions of the site improvements are within the buffer zone to a Bordering Vegetated Wetland (BVW). Please refer to the attached project narrative for greater detail.

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

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

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

1. ☐ Yes ☒ No

If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

a. County	b. Certificate # (if registered land)
Hampden	
c. Book	d. Page Number
20869	318

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

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

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ 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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
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	1. Name of Waterway (if available) - **specify coastal or inland**	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

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

4. Proposed alteration of the Riverfront Area:

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

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

6. Was the lot where the activity is proposed created prior to August 1, 1996? ☐ Yes ☐ No

3. ☐ Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f**. above.

Massachusetts Department of Environmental Protection
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WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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Agawam
City/Town

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. ☐ Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. ☐ Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. ☐ Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. ☐ Coastal Dunes	1. square feet	2. cubic yards dune nourishment

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
f. ☐ Coastal Banks	1. linear feet	
g. ☐ Rocky Intertidal Shores	1. square feet	
h. ☐ Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. ☐ Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. ☐ Land Containing Shellfish	1. square feet	
k. ☐ Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. ☐ Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement
If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

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C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

a. ☒ Yes ☐ No

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

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

02/23/2026
b. Date of map

If *yes*, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

c. Submit Supplemental Information for Endangered Species Review*

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

(a) within wetland Resource Area: 0% / 0 acres (percentage/acreage)

(b) outside Resource Area: 11,024 SF (percentage/acreage)

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

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

(a) ☒ Project description (including description of impacts outside of wetland resource area & buffer zone)

(b) ☒ Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see https://www.mass.gov/ma-endangered-species-act-mesa-regulatory-review).
Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

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

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WPA Form 3 – Notice of Intent

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Provided by MassDEP:
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C. Other Applicable Standards and Requirements (cont'd)

(c) ☒ MESA filing fee (fee information available at https://www.mass.gov/how-to/how-to-file-for-a-mesa-project-review).
Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

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

(d) ☐ Vegetation cover type map of site

(e) ☐ Project plans showing Priority & Estimated Habitat boundaries

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, 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 10.37 and 10.59.)

2. ☐ Separate MESA review ongoing. a. NHESP Tracking # b. Date submitted to NHESP

3. ☐ Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a. ☒ Not applicable – project is in inland resource area only b. ☐ Yes ☐ No

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

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

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: dmf.envreview-south@mass.gov

North Shore - Plymouth to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: dmf.envreview-north@mass.gov

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

c. ☐ Is this an aquaculture project? d. ☐ Yes ☒ No

If yes, include a copy of the Division of Marine Fisheries Certification Letter (M.G.L. c. 130, § 57).

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

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

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

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

   a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

   b. ACEC

5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

   a. ☐ Yes ☒ No

6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

   a. ☐ Yes ☒ No

7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

   a. ☒ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

      1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

      2. ☐ A portion of the site constitutes redevelopment

      3. ☒ Proprietary BMPs are included in the Stormwater Management System.

   b. ☐ No. Check why the project is exempt:

      1. ☐ Single-family house

      2. ☐ Emergency road repair

      3. ☐ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

☐ This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

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

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)

2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.

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WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

D. Additional Information (cont'd)

3. ☐ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.

4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.

"Proposed Storage Building"
a. Plan Title

R Levesque Associates, Inc.
b. Prepared By

Robert M. Levesque, RLA, ASLA & Filipe J. Cravo, P.E.

03-05-2026
d. Final Revision Date

As shown
e. Scale

f. Additional Plan or Document Title

g. Date

5. ☐ If there is more than one property owner, please attach a list of these property owners not listed on this form.

6. ☒ Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.

7. ☐ Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

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

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

1132
2. Municipal Check Number

02/24/2026
3. Check date

1133
4. State Check Number

02/24/2026
5. Check date

MSR Properties, LLC
6. Payor name on check: First Name

7. Payor name on check: Last Name

4. State Check Number | 5. Check date

6. Payor name on check: First Name | 7. Payor name on check: Last Name

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

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

Richard Gilbert — 2-24-2026

1. Signature of Applicant | 2. Date

3. Signature of Property Owner (if different) | 4. Date

Nina Fazio — 02-25-2026

5. Signature of Representative (if any) | 6. Date

Nina Fazio - R L evesques Associates, Inc.

For Conservation Commission:
Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

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

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

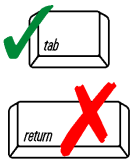
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

NOI Wetland Fee Transmittal Form

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

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:

699 Silver Street	Agawam
a. Street Address	b. City/Town
1133	$487.50
c. Check number	d. Fee amount

2. Applicant Mailing Address:

Rick		Mahan	
a. First Name		b. Last Name	
MSR Properties, LLC			
c. Organization			
699 Silver Street			
d. Mailing Address			
Agawam		MA	01001
e. City/Town		f. State	g. Zip Code
413-788-9529		rick@mahanslate.com	
h. Phone Number	i. Fax Number	j. Email Address	

3. Property Owner (if different):

Same as applicant			
a. First Name		b. Last Name	
c. Organization			
d. Mailing Address			
e. City/Town		f. State	g. Zip Code
h. Phone Number	i. Fax Number	j. Email Address	

B. Fees

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

Fee should be calculated using the following process & worksheet. ***Please see Instructions before filling out worksheet.***

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

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

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

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract $12.50. To calculate the city/town share of the fee, divide the total fee in half and add $12.50.

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 2b	1	$500.00	$500.00
Ctegory 2g	1	$500.00	$500.00

Step 5/Total Project Fee: $1,000.00

Step 6/Fee Payments:

Total Project Fee:	$1,000.00 a. Total Fee from Step 5
State share of filing Fee:	$487.50 b. 1/2 Total Fee **less $**12.50
City/Town share of filling Fee:	$512.50 c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

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

3. PROJECT NARRATIVE

PROJECT NARRATIVE TO NOTICE OF INTENT

For

PROPOSED STORAGE BUILDING
699 SILVER STREET
AGAWAM, MASSACHUSETTS 01001
(PARCEL ID: G6-2-12)

INTRODUCTION

On behalf of the applicant and property owner, MSR Properties, LLC c/o Rick Mahan, R Levesque Associates, Inc. is providing this Project Narrative as a supplement to the Notice of Intent application. The applicant proposes the construction of a storage building with associated site improvements. Portions of the proposed site improvements are within the buffer zone to a Bordering Vegetated Wetland (BVW).

PROPERTY DESCRIPTION

The subject property is located east of Silver Street and consists of approximately 3.17 ± acres as shown on the associated site plan prepared by R Levesque Associates, Inc. The subject property is owned by MSR Properties, LLC and is recorded in the Hampden County Registry of Deeds in Book 20869, Page 318.

Examination of GIS information from the Massachusetts Natural Heritage Atlas, revealed that a portion the subject property is located within Natural Heritage and Endangered Species Program jurisdiction. A copy of this Notice of Intent has been concurrently submitted to the NHESP office.

EXISTING CONDITIONS & TOPOGRAPHY

The subject property is currently improved with an existing 15,000 ± SF building with associated site improvements. The topography of the subject property generally varies, sloping from the west along Silver Street to the east towards the rear of the property. A USGS Topographic Map of the site is included within this application packet under Section 4, as Figure 1.

SOILS

According to the Web Soil Survey Map, the soil types mapped on the subject property consist of Merrimac fine sandy loam, 0 to 3 percent slopes (254A); Merrimac fine sandy loam, 3 to 8 percent slopes (254B); and Merrican fine sandy loam, 8 to 15 percent slopes). An NRCS Soils Map of the site is included within this application packet under Section 4, as Figure 3.

The Merrimac series consists of very deep, somewhat excessively drained soils formed in outwash. They are nearly level through very steep soils on outwash terraces and plains and other glaciofluvial landforms. Slope ranges from 0 through 35 percent.

PROJECT DESCRIPTION

The applicant proposes the construction of a storage building with associated site improvements. Associated site improvements include, but are not limited to, stormwater management, additional parking, utility connection, and site landscaping.

The proposed project work will proceed in the following general sequence:

1. Installation of erosion controls along the permitted limit of work;
2. Clear and grub the project area;
3. Demolition and removal of existing stormwater basin;
4. Construction of new subsurface stormwater management system;
5. Extension of existing utility connections;
6. Construction of a 7,440 ± SF building;
7. Expand and restripe parking area;
8. Installation of site landscaping; and
9. Site stabilization and removal of erosion controls at the direction of the Town of Agawam Conservation Commission.

WETLAND RESOURCE AREAS

Wetland resource areas were delineated by R Levesque Associates, Inc. in September 2025. The definition of each applicable resource area is presented below in *italic text* followed by an description of the project presented below in **boldface text**.

Please note any resource areas delineated off-site have been shown to accurately portray Riverfront Area onto the subject property and the determination of such is not the subject of this filing.

Bordering Vegetated Wetlands (BVW)

As defined in 310 CMR 10.55 (2) (a), "*Bordering Vegetated Wetlands are freshwater wetlands which border on creeks, rivers, streams, ponds, and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps, and bogs. Bordering Vegetated Wetlands are areas where the soils are saturated and/or inundated such that they support a predominance of wetland indicator plants…*".

A Bordering Vegetated Wetland (BVW) is present within an eastern portion of the subject property, east of the project site. The BVW has been flagged in the field and is shown on the accompanying filing plan with sequentially numbered flagging labeled "A-100" through "A-122". The wetland boundary was identified according to the provision of the Wetlands Protection Act (WPA), its associated regulations 310 CMR 10.00, and the "Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act" a Handbook, dated March 1995. The wetland can best be classified as a palustrine forested wetland. There are no proposed disturbances to the BVW.

Buffer Zone

Buffer Zone as defined in 310 CMR 10.04 is *"the area of land extending 100 feet horizontally outward from the boundary of any areas specified in 310 CMR 10.02(1)(a)".*

Buffer Zone associated with the Bordering Vegetated Wetland (BVW) has been shown offset 50' and 100' from the outermost boundary of the delineated resource area. Portions of the proposed site improvements are located within the buffer zone, including site grading, impervious surfaces, and stormwater management structures.

Bank

In 310 CMR 10.54(2) it states, "*A Bank is the portion of the land surface which normally abuts and confines a water body. It occurs between a water body and a vegetated bordering wetland and adjacent flood plain, or, in the absence of these, it occurs between a water body and an upland."*

Bank may be present associated with intermittent streams within the Bordering Vegetated Wetland (BVW). Such stream(s) would be intermittent since it is not shown on current USGS Topo mapping and does not meet criteria of a perennial stream per 310 CMR 10.58 using USGS StreamStats data. The BVW boundary delineated is the outermost resource area in relation to the project site. No disturbance to Bank is proposed.

Bordering Land Subject to Flooding (BLSF)

As stated in 310 CMR 10.57(2)(a), *"Bordering Land Subject to Flooding is an area with low, flat topography adjacent to and inundated by flood waters rising from creeks, rivers, streams, ponds, or lakes. It extends from the banks of these waterways and water bodies; where a bordering vegetated wetland occurs, it extends from said wetland."* .

The FEMA Flood Insurance Rate Map No. 25013C0392E, effective date July 16, 2013, illustrates that the subject property is not located within a special flood hazard area. Please refer to the attached FEMA Floodplain Map, which is included under Section 4, as Figure 2, of this application packet.

EROSION CONTROL

Erosion controls are proposed to protect the site against soil migration and to protect the Resource Area from siltation. All exposed soils on the site will be stabilized as soon as possible. Barrier controls will not be removed until a Certificate of Compliance has been issued by the Town of Agawam Conservation Commission. Please see the accompanying project plan which depicts the location of barrier controls in greater detail.

[END OF PROJECT NARRATIVE]

4. FIGURES

4.1 FIGURE 1 – USGS TOPOGRAPHIC MAP
4.2 FIGURE 2 – FEMA FLOODPLAIN MAP
4.3 FIGURE 3 – NRCS SOILS MAP
4.4 FIGURE 4 – NHESP

USGS Topographic Map



Property Tax Parcels
USGS Topographic Maps

National Flood Hazard Layer FIRMette

72°39'23"W 42°3'26"N



72°38'46"W 42°2'59"N

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

1:6,000

Basemap Imagery Source: USGS National Map 2023

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

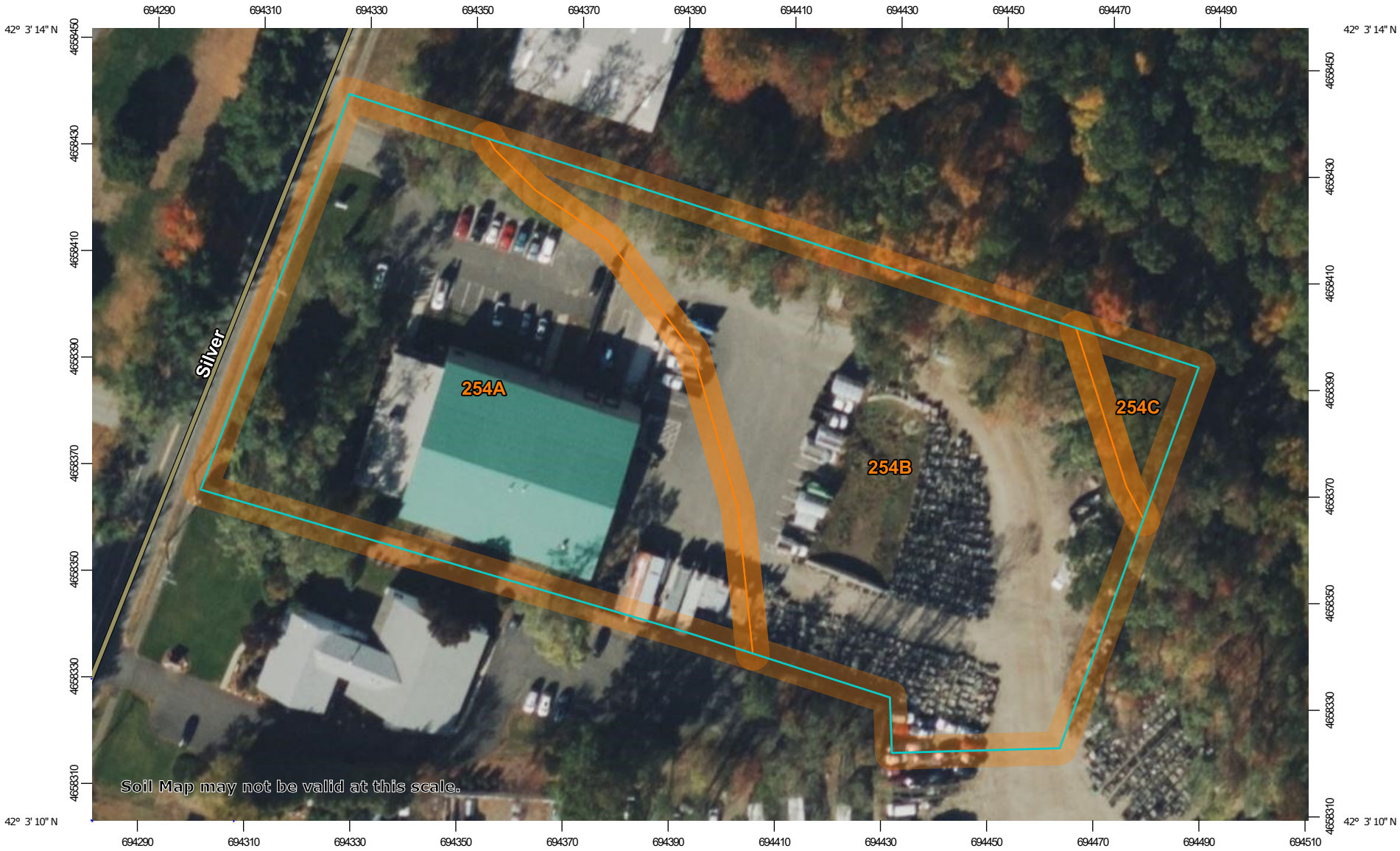
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

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 2/23/2026 at 4:58 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.

Soil Map—Hampden County, Massachusetts, Central Part
(GISDATA_L3_TAXPAR_POLY_ASSESSPolygon)



Map Scale: 1:1,050 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 15 30 60 90

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N 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 1:15,800.

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: Hampden County, Massachusetts, Central Part
Survey Area Data: Version 19, Sep 5, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

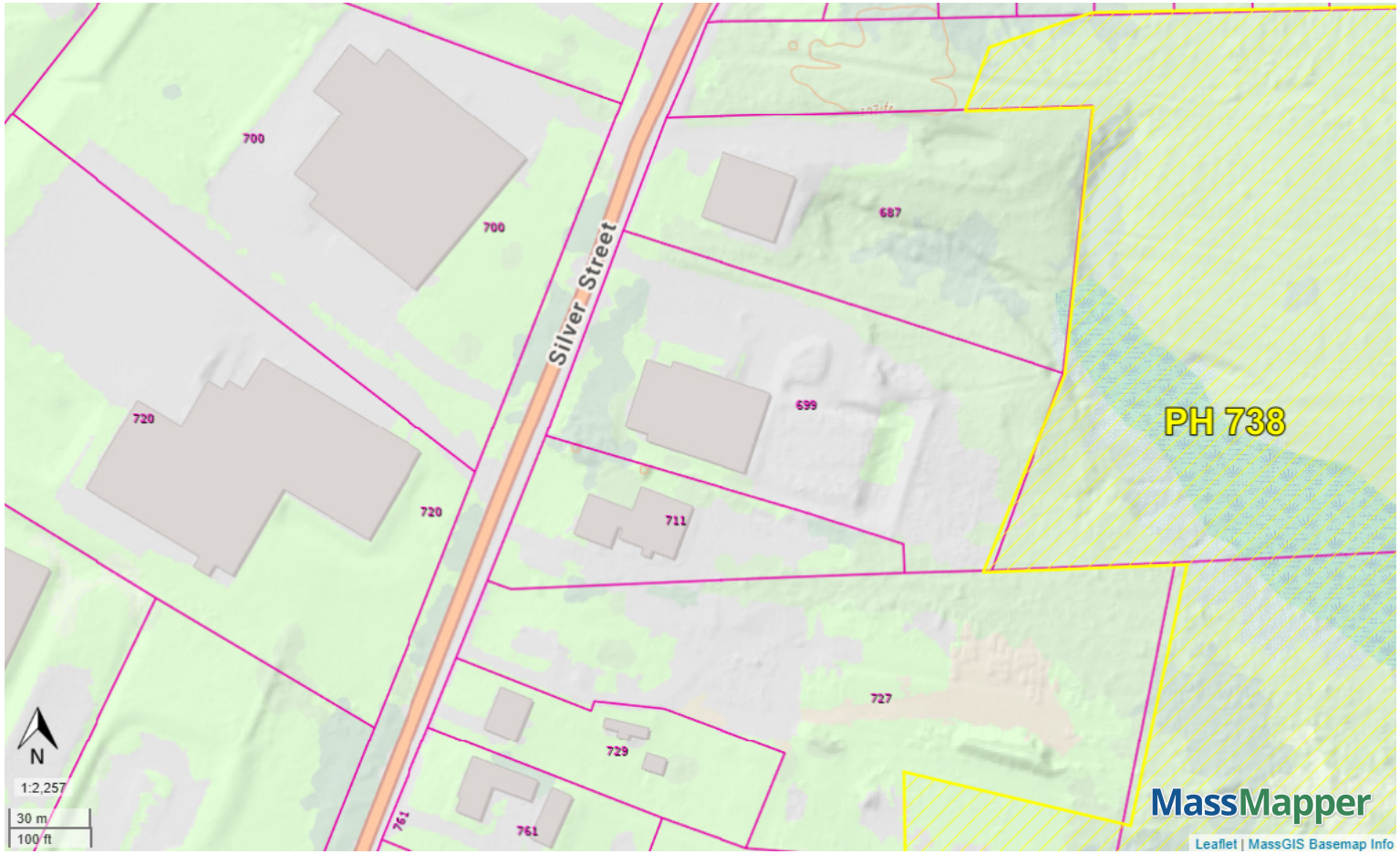
Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

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
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	1.6	47.9%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	1.6	49.1%
254C	Merrimac fine sandy loam, 8 to 15 percent slopes	0.1	2.9%
Totals for Area of Interest		**3.3**	**100.0%**

NHESP



NHESP Priority Habitats of Rare Species

Property Tax Parcels

5. PUBLIC NOTICE

5.1 ABUTTER NOTIFICATION LIST – 100'

5.2 ABUTTER NOTIFICATION LETTER

G6 2 2
711 SILVER LLC
711 SILVER ST
AGAWAM, MA 01001

G6 2 3
AGAWAM SELF STORAGE
727 SILVER ST
AGAWAM, MA 01001

H6 1 21
ASPENWOOD ASSOC, LLC
P.O. BOX 270
EAST GRANBY, CT 06026

G6 1 3
FERRY WILLIAM
720 SILVER ST
AGAWAM, MA 01001 2907

G6 1 1
IGLOO CELLULOSE REALTIES
700 SILVER ST
AGAWAM, MA 01001

G6 2 12
MSR PROPERTIES LLC
699 SILVER ST
AGAWAM, MA 01001

G6 2 12
MSR PROPERTIES LLC
699 SILVER ST
AGAWAM, MA 01001

G6 2 8
SANDY DOLLAR LLC
687 SILVER ST
AGAWAM, MA 01001

Notification to Abutters

By Hand Delivery, Certified Mail (return receipt requested), or Certificates of Mailing

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

A. A Notice of Intent was filed with the Town of Agawam Conservation Commission on or about March 5, 2026 seeking permission to remove, fill, dredge, or alter an area subject to protection under M.G.L. c. 131 §40. The following is a description of the proposed activity/activities:

The applicant proposes the construction of a storage building with associated site improvements. Portions of the proposed site improvements are within the buffer zone to a Bordering Vegetated Wetland (BVW).

B. The name of the applicant is: MSR Properties, LLC c/o Rick Mahan

C. The address of the land where the activity is proposed is: 699 Silver Street, Agawam, MA 01001 (Parcel ID: G6-2-12)

D. Copies of the Notice of Intent may be examined or obtained at the office of the Town of Agawam Conservation Commission office, located at 1000 Suffield Street, Agawam, MA 01001. The regular business hours of the Commission are Monday-Friday 8:30am-4:30pm, and the Commission may be reached at 413-786-0400.

E. Copies of the Notice of Intent may be obtained from the applicant or their representative by calling R Levesque Associates, Inc. at 413-569-0985. An administrative fee of $95.00 is applied for providing copies of the application materials and site plans.

F. Information regarding the date, time, and location of the public hearing regarding the Notice of Intent may be obtained from the Town of Agawam Conservation Commission. Notice of the public hearing will be published at least five business days in advance, in the local newspaper.

Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4.

APPENDIX A: SITE PLAN SET

SITE PLAN SET ENTITLED “PROPOSED STORAGE BUILDING”

PREPARED FOR MSR PROPERTIES, LLC

PREPARED BY R LEVESQUE ASSOCIATES, INC.

DATED MARCH 5, 2026

APPENDIX B: STORMWATER REPORT

STORMWATER DRAINAGE REPORT

PREPARED FOR MSR PROPERTIES, LLC

PREPARED BY R LEVESQUE ASSOCIATES, INC.

DATED MARCH 5, 2026

Stormwater Drainage Report

Proposed Storage Building

699 Silver Street
Agawam, MA 01001
(Parcel ID: G6-2-12)



Applicant/Property Owner:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

RLA Project File: 250903

March 5, 2026

R LEVESQUE ASSOCIATES, INC
A LAND PLANNING SERVICES COMPANY
40 School Street · Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com

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APPENDIX B: SOILS INFORMATION
APPENDIX C: PRE- AND POST- DEVELOPMENT HYDROLOGIC ANALYSIS (2, 10, & 100 YEAR STORM EVENTS)
APPENDIX D: HYDRAULIC ANALYSIS
APPENDIX E: MASSDEP CALCULATIONS
APPENDIX F: CONSTRUCTION PERIOD EROSION CONTROL PLAN
APPENDIX G: LONG-TERM OPERATION AND MAINTENANCE PLAN
APPENDIX H: ILLICIT DISCHARGE COMPLIANCE STATEMENT
APPENDIX I: LOW IMPACT DEVELOPMENT CONSIDERATIONS

I. INTRODUCTION

The applicant, MSR Properties, LLC, is proposing to construct a storage building on a parcel identified as lot G6-2-12 in Agawam, Massachusetts. The proposed project will include the construction of a storage building, paved parking areas, and the construction of a stormwater management system. Currently, the majority of stormwater runoff from the property sheet flows to an existing stormwater basin and wetlands off-site to the east. The proposed development will generally maintain the existing drainage patterns of the site and direct treated stormwater towards the same design points as in pre-development conditions.

The proposed project involves the following:

1. Construction of a storage building;
2. Construction of paved parking areas;
3. Construction of a new stormwater management system including deep sump hooded catch basins, proprietary sedimentation devices, and a subsurface infiltration basin.

The purpose of this report is to present information regarding the technical aspects of the stormwater management system for the proposed project. All work is intended to be in full compliance with the Town of Agawam Stormwater Management Permit requirements as well as the Massachusetts Department of Environmental Protection Stormwater Management Handbook.

2. SITE DESCRIPTION

2.1 Predevelopment Conditions

The property to be developed is located at 699 Silver Street and is listed as Parcel G6-2-12 by the Town of Agawam Assessor's Office. The property is zoned Industrial B, as referenced from Agawam GIS. The property is bounded to the north by an industrial warehouse, to the east by a vacant parcel containing wetlands, to the south by a commercial office, and to the west by Silver Street. The parcel to be developed is approximately 3.13 acres in size. Figure 1 – USGS Map illustrates the location of the project.

The project site currently contains an existing industrial-use building with associated parking areas in the westerly portion of the parcel. The easterly portion of the parcel contains paved and gravel areas, and an existing stormwater basin. Stormwater runoff from the westerly portion of the site is collected in existing catch basins located at low points in the parking area. The runoff is then conveyed to the existing stormwater basin through underground pipe. The stormwater basin is equipped with an outlet pipe that directs stormwater downgradient towards wetlands to the east. Stormwater runoff from the easterly portion of the parcel sheet flows downgradient towards the wetlands to the east. The existing topography of the parcel slopes down moderately from west to east. The grade at the westerly edge of the property is approximately 194 feet and slopes to approximately 184 feet at the easterly edge. The northeasterly corner of the parcel is wooded and slopes steeply down to approximately 175 feet. Please refer to the existing conditions plan submitted herewith for more detailed topographical information and Figure 4 "Pre-Development Watershed Plan" for sub-catchment area boundaries.

2.2 Resource Areas

Portions of the proposed site improvements are located within the 100' and 50' jurisdictional wetland buffer zone areas associated with off-site bordering vegetated wetlands. Please refer to the Notice of Intent filing with the conservation commission for additional information regarding resource areas.

2.2.1 Floodplain

R. Levesque Associates, Inc. performed due diligence research on the property in regard to FEMA flood zone mapping. As demonstrated by the most recent FEMA Flood Insurance Rate Maps, the property is not located within any flood hazard areas, see Figure 2 – FEMA FIRM Map.

2.2.2 Natural Heritage and Endangered Species Program

R. Levesque Associates, Inc. performed due diligence research on the property in regard to Natural Heritage and Endangered Species Program (NHESP) areas. A portion of the property is

located within an NHESP priority habitat of endangered species, see Figure 3 – NHESP Map & Zone II Map.

2.2.3 Aquifer Protection District

R. Levesque Associates, Inc. performed due diligence research on the property in regard to wellhead protection overlay districts. The property is not located within a Zone II Wellhead Protection Area; see Figure 3 – NHESP & Zone II Map.

2.3 Soils

R. Levesque Associates, Inc. researched the soils located on site with information readily available by the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Based on a review of the USDA Soil Survey of Hampden County, Massachusetts, Central Part, the site is comprised of the following soil types:

Table 2.4: Hydrologic Soil Group Classification

Soil Description	Map Unit Symbol	Hydrologic Soil Group
Merrimac fine sandy loam	254A	A
Merrimac fine sandy loam	254B	A
Merrimac fine sandy loam	254C	A

A total of four (4) test pits were conducted by Dennis Lacourse SE# 1297 to verify the existing site soil characteristics and evaluate the ability of the site to support the proposed stormwater drainage system components. The test pits were spread out across the areas of the proposed subsurface infiltration basin to establish the elevation of the estimated seasonal high groundwater and soil conditions. Groundwater was encountered in some of the test pits and was estimated to be at a depth of 122 inches to 130 inches below grade. The depth of the test pits ranged from 120 inches to 130 inches below grade. In general, the soil evaluations confirmed the NRCS mapping. See Appendix B for additional soils information.

2.4 Post Development Conditions

The proposed site improvements include a number of stormwater management features to properly meet the requirements set forth by the Town of Agawam Stormwater Management Permit requirements. The proposed stormwater features include:

- Deep-sump hooded catch basins
- Proprietary sedimentation devices
- Subsurface infiltration basin

The applicant is proposing to construct a storage building on the subject property. The proposed development includes the construction of a storage building, impervious parking areas, and a stormwater management system. No changes to the existing building are proposed.

The proposed stormwater management system will collect runoff from the impervious surfaces via deep sump catch basins strategically located at low points across the site. The inlet structures will be connected via a network of underground infrastructure which will convey the runoff towards proprietary sedimentation devices for additional water quality treatment. Runoff will then be conveyed to a subsurface infiltration basin for groundwater recharge and peak discharge rate attenuation. Roof runoff from the proposed storage building will be collected via underground piping and conveyed to the subsurface infiltration basin. The subsurface infiltration basin was designed to accommodate peak discharge rates for storm events up to and including the 100-year 24-hour storm event. The system has been equipped with an outlet control structure designed such that runoff will discharge downgradient to a level spreader. Overall, the proposed site improvements will maintain the general drainage patterns of the site while improving water quality and reducing/maintaining peak discharge rates. See Figure 5 – Post-Development Watershed Plan for delineation of sub-catchment areas.

3. STORMWATER MANAGEMENT SYSTEM

R. Levesque Associates, Inc. has prepared the following drainage system calculations for the proposed project site. These calculations were performed to document compliance with the guidelines set forth by the Town of Agawam Stormwater Management Permit requirements and the Massachusetts Department of Environmental Protection Stormwater Management Handbook (MassDEP Handbook). A detailed hydrologic analysis of the system was completed in order to evaluate the performance of the stormwater management system components, see Appendix C – Pre- and Post-Development Hydrologic Analysis. The proposed stormwater management system will collect runoff from on-site impervious areas and utilize stormwater best management practices to provide water quality treatment, groundwater recharge, and peak discharge rate attenuation.

3.1 Drainage Calculations

R. Levesque Associates, Inc. utilized the HydroCAD software program, Version 10.20-7a, developed by HydroCAD Software Solutions LLC, in order to create and analyze the site hydrology. The HydroCAD software is based upon the Soil Conservation Service (SCS) "Technical Release 20 – Urban Hydrology for Small Watersheds" and "Technical Release 55 – Urban Hydrology for small Watersheds" which are generally accepted industry standard methodologies. The analysis was conducted in order to establish the peak discharge rates and estimated run-off volume from the project site. This was accomplished to properly evaluate pre- and post-development conditions during various storm events. Contributing drainage areas were identified and soils, surface cover, watershed slope, and flow paths were evaluated to develop the necessary HydroCAD model input parameters.

Drainage calculations were performed for the Pre- and Post-Development conditions for the 24-hour, 2, 10, and 100-year Type III storm events. The total rainfall for each of the storm events was based upon data provided by the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 point precipitation frequency estimates. The total rainfall values used in the hydrologic modeling for each event are shown in the following table:

Table 3.1: Design Rainfall Data – Hampden County		
2-year, 24-hour storm	10-year, 24-hour storm	100-year, 24-hour storm
3.22 inches	5.18 inches	8.31 inches

3.1.1 Design Points

In order to compare the difference between pre- and post-development peak flows, existing and proposed watersheds were delineated. Two Design Points (DP) were established with a flow path representing the longest time of concentration of run-off in each tributary watershed. For this analysis, the design points were determined as follows:

- DP-1 – Offsite Wetland: This design point represents runoff from the project area which flows to the wetlands on the adjacent parcel.
- DP-2 – Silver Street: This design point represents runoff from the project area which flows to Silver Street.

3.1.2 Pre-Development Hydrology

The project area under existing conditions contains three (3) sub-catchments tributary to the design points described above. The sub-catchments were delineated based on the existing topography of the parcel and surrounding areas. The existing watershed area is shown on the attached Figure 4 entitled "Pre-Development Watershed Plan". Peak discharge rates for the design point are depicted in Table 3.1.4 on the following page.

3.1.3 Post-Development Hydrology

The project area under proposed conditions was broken down into three (3) sub-catchments discharging to the design points as described in existing conditions. The proposed watershed areas are shown on the attached Figure 5 entitled "Post-Development Watershed Plan". Peak discharge rates for the design point are depicted in Table 3.1.4 below.

3.1.4 Peak Discharge Rates

The table below summarizes the Pre- and Post-Development peak discharge rates for each Design Point:

Table 3.1.4 Pre- and Post-Development Peak Discharge Rates

	2-year storm (cfs)		10-year storm (cfs)		100-year storm (cfs)	
	Pre-	Post-	Pre-	Post-	Pre-	Post-
Design Point 1	3.4	3.3	5.2	5.1	8.2	6.8
Design Point 2	0.0	0.0	0.0	0.0	0.1	0.1

As depicted in table 3.1.4, the post-development peak discharge rates do not increase over pre-development peak discharge rates for each of the storm events presented. This is accomplished by providing on-site attenuation through the proposed subsurface infiltration basin.

3.2 Hydraulic Analysis

R. Levesque Associates, Inc. utilized the Hydraflow Storm Sewer Extension for AutoCAD Civil 3D 2024 software program, developed by Autodesk, Inc., to analyze the hydraulic capacity of the proposed underground infrastructure. The analysis was conducted to verify that the proposed conveyance piping has sufficient capacity to convey up to and including the 24-hour, 10-year storm event. The data from the analysis was used to properly size the conveyance piping such that there is no or minimal surcharge of stormwater above the rim elevations within the paved areas. As part of the input parameters required for the hydraulic analysis, the tributary inlet areas were delineated based on topography, any additional connected discharges, characteristic land use coverages and flow paths, see Figure 6 – Inlet Area Plan. A minimum Time of Concentration (Tc) of (6) minutes was used in the calculations. Please refer to Appendix D for the hydraulic analysis of the proposed stormwater management system.

3.3 MassDEP Stormwater Management Standards

R. Levesque Associates, Inc. has designed the proposed stormwater management system to be in compliance with the MassDEP Stormwater Management Standards. Chapter 1, Volume 3 of the MassDEP Handbook outlines specific calculations, and other information, that must be submitted with each report to document compliance. The following summary highlights elements of the proposed project and how they apply to each standard.

- *Standard #1 - No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

  The proposed project provides best management practices designed to the guidelines of the MassDEP Handbook. Therefore, no new untreated stormwater is discharged.

- *Standard #2 – Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.*

  The proposed stormwater management system has been designed such that the post-development peak discharge rates do not exceed the pre-development peak discharge rates for the 2-year, 10-year, and 100-year 24-hour storms. See Appendix C for the Hydrologic Analysis.

- *Standard #3 - Loss of annual recharge to groundwater shall be eliminated or minimized through the use of environmentally sensitive site design, low impact development techniques, stormwater BMPs, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required volume as determined in accordance with the Massachusetts Stormwater Handbook.*

  The proposed subsurface infiltration basin has been designed with the capacity to infiltrate the required recharge volume for the tributary impervious areas. See Appendix E for the Required Recharge Volume Calculations.

- *Standard #4 – Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of TSS. It is presumed that this standard is met when:*

  a. *Suitable practices for source control and pollution prevention are identified in a long term pollution prevention plan, and thereafter are implemented and maintained;*

  b. *Structural stormwater BMPs practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*

  c. *Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook*

  The proposed stormwater management system has been designed to provide the required total suspended solids pre-treatment prior to discharge to the subsurface infiltration basin. See Appendix E for the Water Quality and Total Suspended Solids Removal Calculations.

- *Standard #5 - For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by MassDEP to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.*

  This standard is not applicable.

- *Standard #6 – Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater BMPs determined by MassDEP to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a)1 or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.*

  This standard is not applicable.

- *Standard #7 – A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural BMPs requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.*

  This standard is not applicable.

- *Standard #8 – A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention) shall be developed and implemented.*

  A Construction Period Erosion Control Plan has been provided in Appendix F.

- *Standard #9 – A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

  A Long-term Operation & Maintenance Plan has been provided in Appendix G.

- *Standard #10 - All illicit discharges to the stormwater management system are prohibited.*

  An illicit discharge statement will be provided prior to discharge of stormwater to post-construction BMPs. See Appendix H for a copy of the Illicit Discharge Statement.

3.4 Stormwater Best Management Practices

The proposed stormwater management system was designed utilizing stormwater best management practices (BMP) as set forth by the MassDEP Handbook. The BMPs utilized as part of the stormwater management system include deep-sump hooded catch basins, proprietary sedimentation devices, and a subsurface infiltration basin. All the BMPs were designed to meet the requirements of the MassDEP Handbook and will provide water quality treatment, groundwater recharge, and peak rate attenuation in order to mitigate the impacts of the proposed site improvements. See Appendix E – MassDEP Calculations for the calculations required to document compliance. The following section provides a description of the best management practices (BMPs) being utilized on site.

3.4.1 Deep Sump Catch Basins

Deep-sump catch basins equipped with oil/gas hoods are being utilized as structural pretreatment devices within the proposed stormwater management system. The catch basins will be constructed with a 4'-0" deep sump to act as a settling chamber and allow for adequate storage of collected sediments. Catch basins are typically first in the line of water quality treatment.

3.4.2 Proprietary Sedimentation Devices

A proprietary sedimentation device is being utilized on site for the pretreatment of stormwater runoff, in addition to the catch basins, prior to conveyance to the basin. The stormwater management system is utilizing a proprietary treatment device to ensure that the required water quality treatment is being performed prior to discharge to the subsurface infiltration basin.

3.4.3 Subsurface Infiltration Basin

Subsurface infiltration basins are well suited to provide groundwater recharge from watershed areas such as those associated with this project. The subsurface infiltration basin provides groundwater recharge by providing storage of runoff prior to discharge out of the system from the overflow device. The subsurface infiltration basin consists of underground stormwater chambers embedded in stone. Stormwater discharge is conveyed to the subsurface infiltration basins via up-gradient drainage infrastructure.

3.5 Protection of Stormwater Best Management Practices during Construction

Protection of the stormwater best management practices during construction will ensure the proper functioning of the stormwater management system and provide protection to the undisturbed areas until the site has been stabilized. Certain specific erosion and sedimentation controls and

good practices to be performed by the site contractor have been documented in a Construction Period Erosion Control Plan. See Appendix F – Construction Period Erosion Control Plan.

3.6 Inspection and Maintenance of Stormwater Best Management Practices

Frequent maintenance of the stormwater best management practices is essential to ensuring that the stormwater management system will function properly long-term. The MassDEP provides guidelines for the regular inspection and maintenance of the proposed stormwater best management practices. A Long-Term Stormwater Operation and Maintenance Plan has been prepared which dictates the inspection frequency and maintenance operations for each BMP. See Appendix G – Long-Term Operation and Maintenance Plan.

3.7 Illicit Discharge Compliance Statement

RLA has prepared an Illicit Discharge Compliance Statement to document compliance with the Massachusetts Department of Environmental Protection Stormwater Management Handbook, see Appendix H.

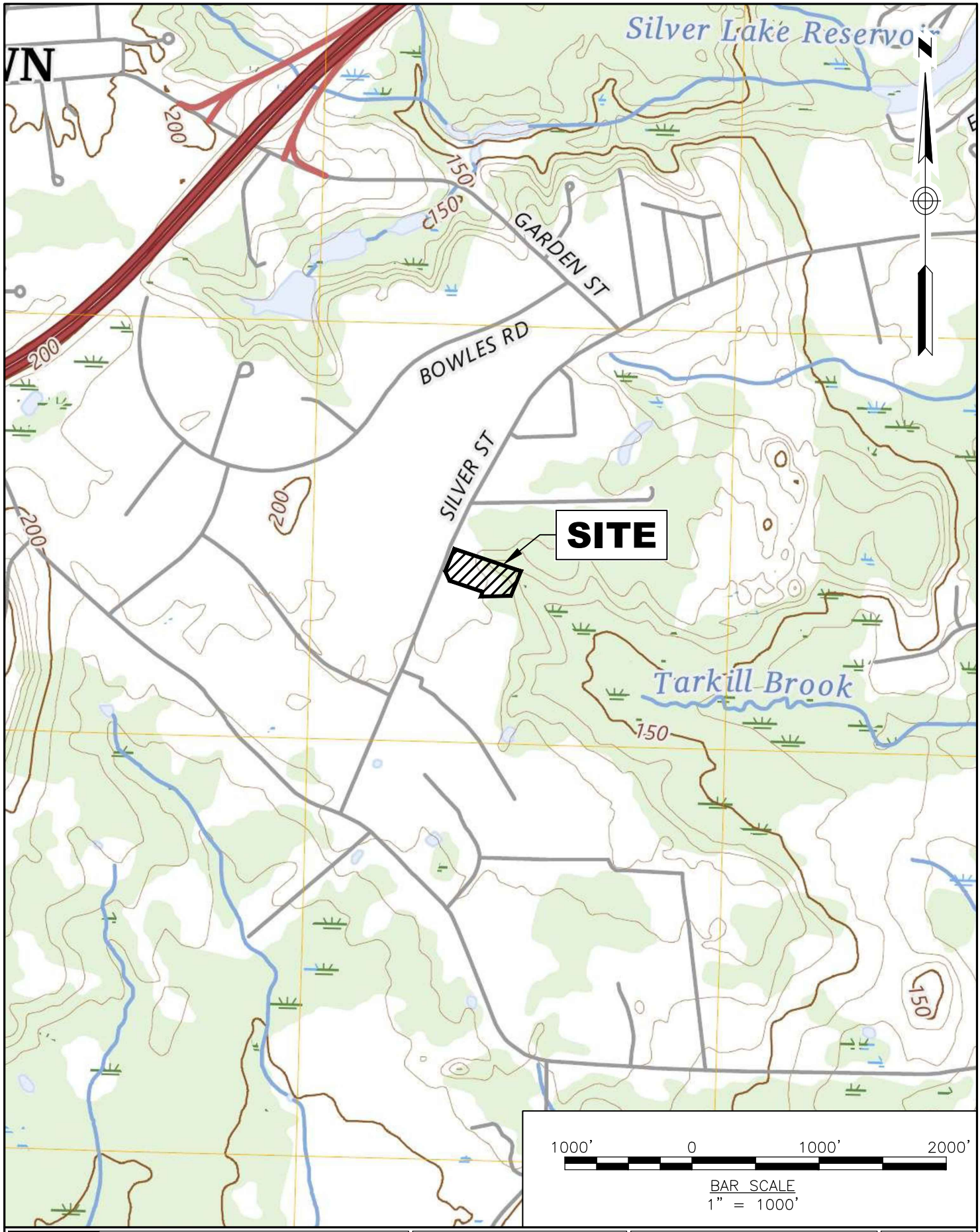
3.8 Low-Impact Development Alternatives Analysis Narrative

RLA has prepared a Low-Impact Development Alternatives Analysis Narrative as part of the Stormwater Drainage Report, see Appendix I.

4. CONCLUSION

The proposed stormwater management system has been designed to mitigate the impacts of the proposed site improvements by providing a control for runoff water quality and water quantity. Implementation of stormwater best management practices such as deep-sump hooded catch basins, proprietary sedimentation devices, and a subsurface infiltration basin allow for a stormwater drainage design that is in conformance with the criteria set forth in the Town of Agawam Stormwater Management Permit requirements and the Massachusetts Department of Environmental Protection Stormwater Management Handbook.

Figure 1: Site Locus – USGS Map



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ph: 413.568.0985 fax: 413.568.0986 rlaland.com

SITE LOCUS
USGS MAP

MSR Properties, LLC
699 Silver Street
Agawam, MA 01001

Proposed Storage Building
699 Silver Street
Agawam, MA 01001

JOB NO: 250903
DATE: 3/2/26
SCALE: AS NOTED

FIG-1

Figure 2: FEMA Flood Map



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FEMA
FLOOD MAP

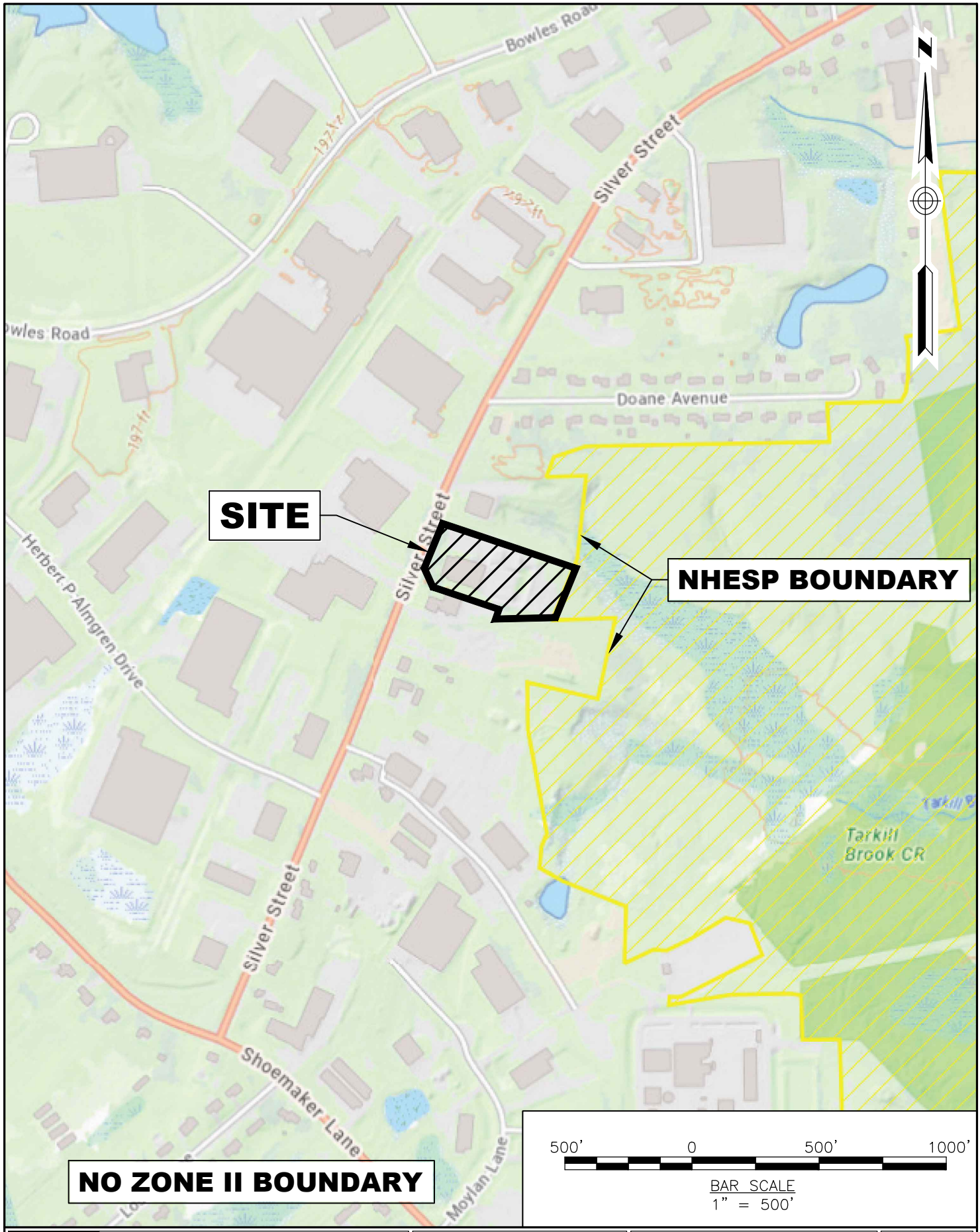
MSR Properties, LLC
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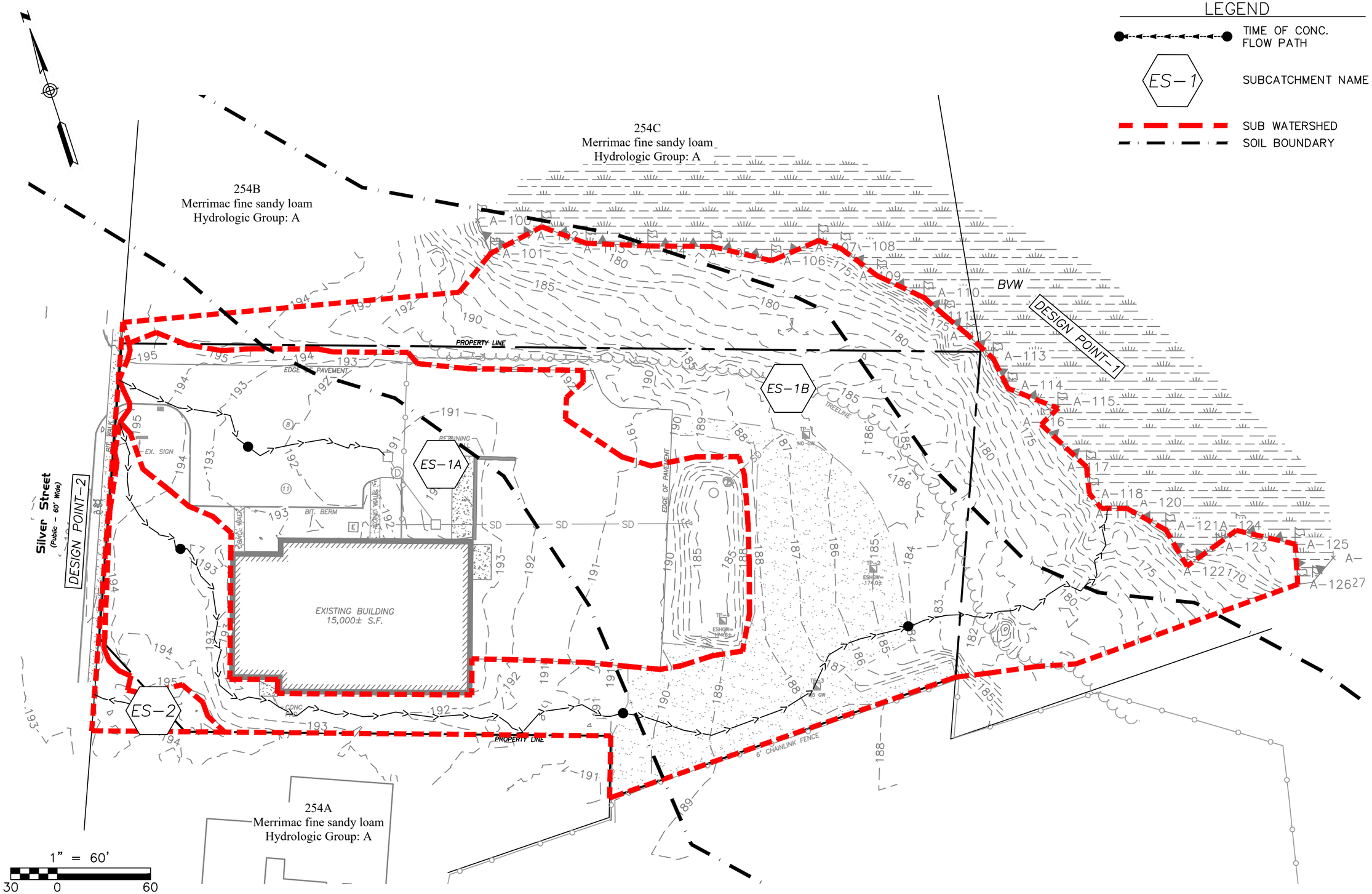
FIG-2

Figure 3: NHESP Map



R LEVESQUE ASSOCIATES, INC A Land Planning Services Company 40 School Street · P.O. Box 640 · Westfield, MA 01086 ph: 413.568.0985 fax: 413.568.0986 rlaland.com	NHESP & Zone II Map	MSR Properties, LLC 699 Silver Street Agawam, MA 01001 Proposed Storage Building 699 Silver Street Agawam, MA 01001	JOB NO: 250903 DATE: 3/2/26 SCALE: AS NOTED FIG-3

Figure 4: Pre-Development Watershed Plan



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Pre-Development Watershed Plan

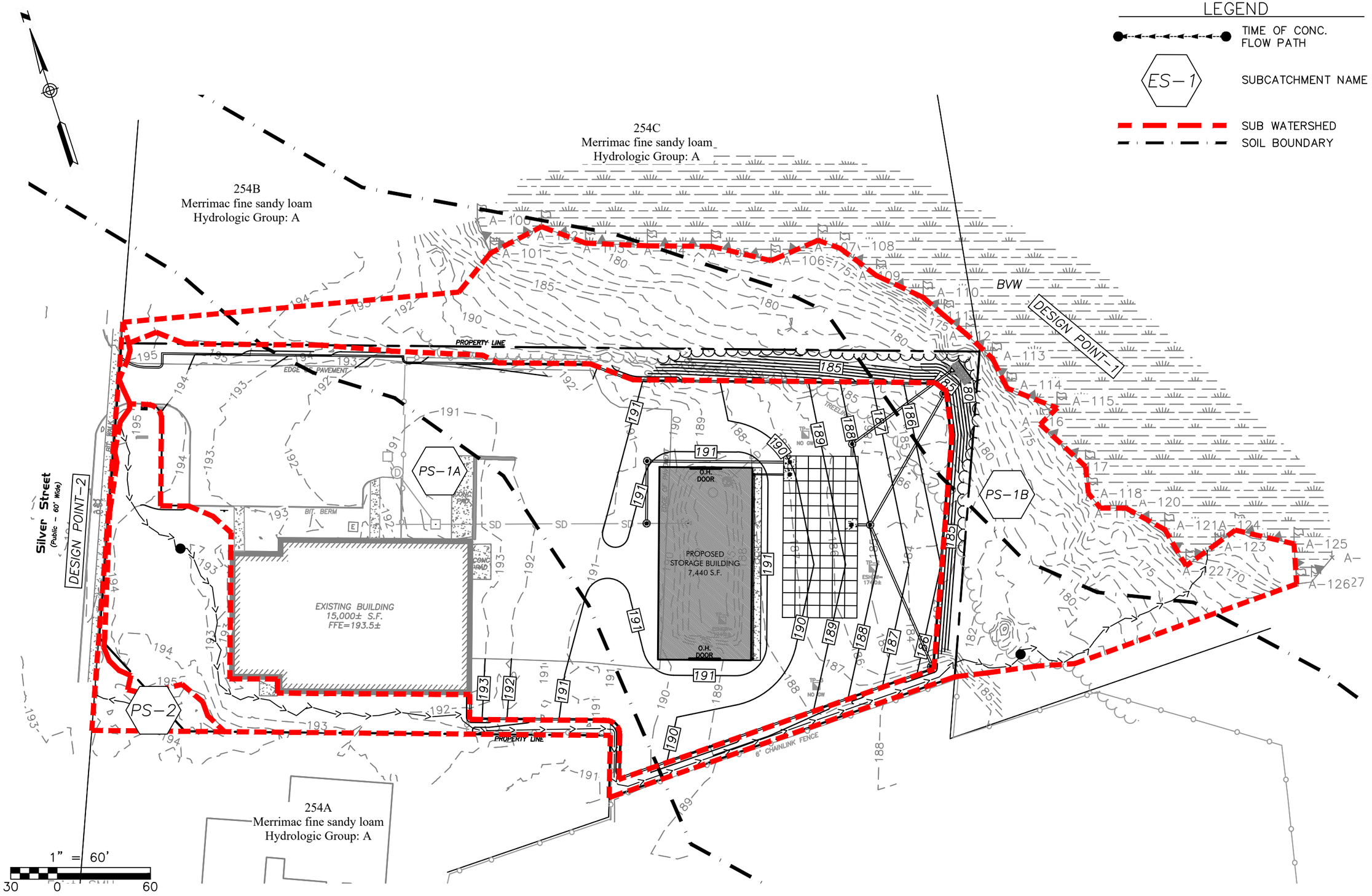
699 Silver Street
Agawam, MA
Parcel ID: G6-2-I2

MSR Properties, LLC
699 Silver Street
Agawam, MA. 01001

JOB NO.: 250903
DATE: 3/5/26
SCALE: As Noted

FIG-4

Figure 5: Post-Development Watershed Plan



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Post-Development Watershed Plan

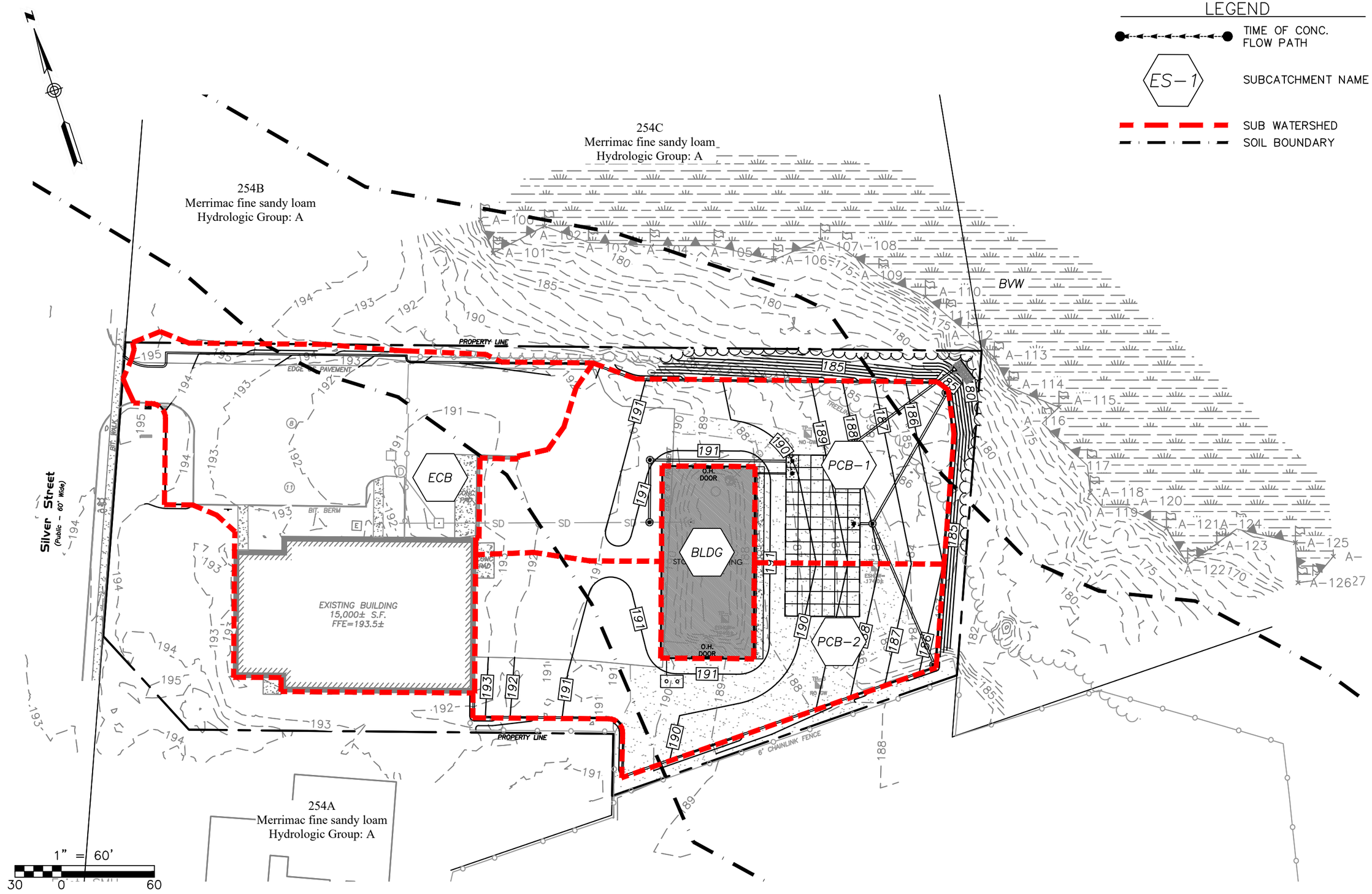
699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

MSR Properties, LLC
699 Silver Street
Agawam, MA. 01001

JOB NO.: 250903
DATE: 3/5/26
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FIG-5

Figure 6: Inlet Area Plan



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Inlet Area Plan

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

MSR Properties, LLC
699 Silver Street
Agawam, MA. 01001

JOB NO.: 250903
DATE: 3/5/26
SCALE: As Noted

FIG-6

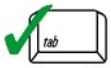
Appendix A: Checklist for Stormwater Report

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.

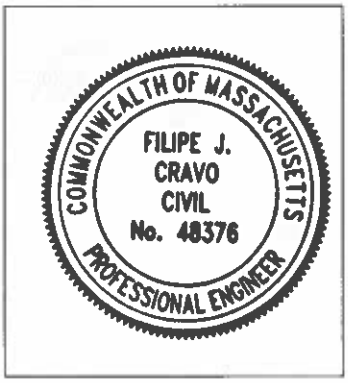
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the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



Signature and Date 3/5/26

Checklist

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

☒ New development

☐ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

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

☒ No disturbance to any Wetland Resource Areas

☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)

☐ Reduced Impervious Area (Redevelopment Only)

☐ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

- ☐ Credit 1
- ☐ Credit 2
- ☐ Credit 3

☐ Use of "country drainage" versus curb and gutter conveyance and pipe

☐ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☐ Grass Channel

☐ Green Roof

☒ Other (describe): Propietary Sedimentation Devices, Deep Sump Catch Basins, Subsurface Infiltration Basin

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

☒ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth

☒ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.

☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.

☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

☐ Required Recharge volume reduced through use of the LID site Design Credits.

☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[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.

Appendix B: Soils Information

- NRCS Soils Report
- Soil Evaluation Logs

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 Hampden County, Massachusetts, Central Part

699 Silver Street, Agawam MA



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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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.



Map Scale: 1:1,050 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 15 30 60 90

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N 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 1:15,800.

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: Hampden County, Massachusetts, Central Part
Survey Area Data: Version 19, Sep 5, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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
254A	Merrimac fine sandy loam, 0 to 3 percent slopes	1.6	47.9%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	1.6	49.1%
254C	Merrimac fine sandy loam, 8 to 15 percent slopes	0.1	2.9%
Totals for Area of Interest		**3.3**	**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.

Hampden County, Massachusetts, Central Part

254A—Merrimac fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2tyqr
Elevation: 0 to 1,100 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: All areas are prime farmland

Map Unit Composition

Merrimac and similar soils: 86 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Outwash plains, outwash terraces, moraines, eskers, kames
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash

Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Deltas, terraces, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Deltas, kames, eskers, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Windsor

Percent of map unit: 3 percent
Landform: Dunes, deltas, outwash terraces, outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Walpole

Percent of map unit: 1 percent
Landform: Depressions
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F144AY028MA - Wet Outwash
Hydric soil rating: Yes

254B—Merrimac fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2tyqs
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: All areas are prime farmland

Map Unit Composition

Merrimac and similar soils: 86 percent
Minor components: 14 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Outwash plains, outwash terraces, moraines, eskers, kames
Landform position (two-dimensional): Summit, shoulder, backslope, footslope
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Sudbury

Percent of map unit: 5 percent
Landform: Deltas, terraces, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Hinckley

Percent of map unit: 5 percent
Landform: Deltas, kames, eskers, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Windsor

Percent of map unit: 3 percent
Landform: Dunes, deltas, outwash terraces, outwash plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread, riser
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Hydric soil rating: No

Walpole

Percent of map unit: 1 percent
Landform: Depressions
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: F144AY028MA - Wet Outwash
Hydric soil rating: Yes

254C—Merrimac fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2tyqt
Elevation: 0 to 1,030 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: Farmland of statewide importance

Map Unit Composition

Merrimac and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Merrimac

Setting

Landform: Eskers, outwash plains, moraines, kames, outwash terraces
Landform position (two-dimensional): Backslope, footslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, riser, tread
Down-slope shape: Convex

Across-slope shape: Convex
Parent material: Loamy glaciofluvial deposits derived from granite, schist, and gneiss over sandy and gravelly glaciofluvial deposits derived from granite, schist, and gneiss

Typical profile

Ap - 0 to 10 inches: fine sandy loam
Bw1 - 10 to 22 inches: fine sandy loam
Bw2 - 22 to 26 inches: stratified gravel to gravelly loamy sand
2C - 26 to 65 inches: stratified gravel to very gravelly sand

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 99.90 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 2 percent
Maximum salinity: Nonsaline (0.0 to 1.4 mmhos/cm)
Sodium adsorption ratio, maximum: 1.0
Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: A
Ecological site: F145XY008MA - Dry Outwash
Hydric soil rating: No

Minor Components

Hinckley

Percent of map unit: 5 percent
Landform: Deltas, kames, eskers, outwash plains
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Head slope, nose slope, side slope, crest, rise
Down-slope shape: Convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Sudbury

Percent of map unit: 5 percent
Landform: Deltas, terraces, outwash plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Windsor

Percent of map unit: 5 percent
Landform: Outwash plains, dunes, deltas, outwash terraces

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, riser
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

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AAA ENVIRONMENTAL CONSULTING
238 Park Street
Easthampton, MA 01027
Tel.414-527-7861/Fax 413-527-7862

Site Suitability for On-site Sewage Disposal

Performed by: Dennis R. Lacourse **Health Agent** **Date:**

Site Address

699 Silver Street

Agawam MA 01001

Owner Name and Address

Mahan Slate Roofing

699 Silver Street

Agawam MA 01001

☒ **New Construction** ☐ **Repair**

Office Review

Published Soil Survey Available: ☐ No X Yes

Year Published:	Publication Scale:	Soil Map Unit:	Drainage Class:	Soil Limitations:
1978	**1 : 190,080**	**38**	**Merrimac sandy loam**	**None, Rapid Perc Rates**

Surficial Geological Report Available: ☐ No ☐ Yes

Year Published:	Publication Scale:	Geological Material (Map Unit):	Landform:

Flood Insurance Rate Map Above 500 yr flood boundary ☐ Within 500 yr flood boundary ☐ Within 100 yr flood boundary

Wetland Area: National Wetland Inventory Map (Map Unit): Wetlands Conservancy Program Map (Map Unit):

Current Water Resource Conditions (USGS): Month: ☐ Range: Above Normal ☐ Range: Normal ☐ Range: Below Normal

Other References Reviewed:

Percolation Test Results

	Time	Measurement
Begin Saturation		
End Saturation		
12" Depth Measurement		
9" Depth Measurement		
6" Depth Measurement		
Elapsed time 9"to 6"		

Percolation Rate:

Bottom of Percolation Test Hole:

	Time	Measurement
Begin Saturation		
End Saturation		
12" Depth Measurement		
9" Depth Measurement		
6" Depth Measurement		
Elapsed time 9"to 6"		

Percolation Rate:

Bottom of Percolation Test Hole:

Determination for Seasonal High Water Table

Method Used

☐ Depth observed standing on observation hole _____ inches ☐ Depth weeping from side of observation hole _____ inches

☒ Depth to soil mottles 122 &130 Inches ☐ Ground water adjustment _____ feet

Index Well Number: _____ Reading Date: _____ Index well level: _____

Adjustment Factor: _____ Adjusted Ground Water Level: _____

Depth of Naturally Occurring Pervious Material

Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system? Yes No

If not, what is the depth of naturally occurring pervious material? _____

On Site Review

Deep Hole Number; **1 & 2** Date: **10/24/2025** Time: **9 A.M.** Weather: **Partly Cloudy**

Location (identify on site plan): Landform: **Outwash Plain**

Land Use: **Commercial** Vegetation: **Parking Lot** Slope (%): **None** Surface Stones (%): **None**

Distance from:						
	Open Water Body:	200+ Feet	Drainage Way:	None Feet	Possible Wet Area:	None Feet
	Property Line:	200+ Feet	Drinking Water Well:	Town Feet	Other:	Feet

Deep Observation Hole Log One					
Depth From Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, boulders, consistency, % gravel)
0 to 18	Fill	Crushed	Stones	Gravel, Massive	Fill
18 to 21	Ap	SL	10 Yr. 3/2		Firm, Roots, Massive
21 to 41	Bw	LS	5 Yr. 4/6		Firm, Roots, Cobbles, Massive
41 to 120	C	FS	7.5 Yr. 4/4		Very Loose, No Gravel or stones, Massive
Deep Observation Hole Log Two					
0 to 12	Fill	Fill	Crushed	Stones	
12 to 26	Bw	MS	5 Yr. 4/6	5% 10 Yr. at 130"	Firm, Cobbles, Gravel, Roots
26 to 130	C	FS	7.5 Yr. 4/4		Very Loose, Massive, No Gravel or stones

Parent Material: **Outwash**

Depth to Groundwater: Standing Water in the Hole: **0 / 0** Depth to Bedrock: **120" / 130"**

Estimated Seasonal High Ground Water: **None / 130"** Weeping from Pit Face: **No / No**

Certification

I certify that I am currently approved by the Department of Environmental Protection Pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated on the attached soil evaluation form, are accurate and in accordance with 310 CMR 15.100 through 15.107

Signature: _____ Date: 12-24-2025

Depth of Naturally Occurring Pervious Material

Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system? Yes No

If not, what is the depth of naturally occurring pervious material? _____

On Site Review

Deep Hole Number; Date: Time: Weather:

Location (identify on site plan): Landform:

Land Use: Vegetation: Slope (%): Surface Stones (%):

Distance from:	Open Water Body:	Feet	Drainage Way:	Feet	Possible Wet Area:	Feet
	Property Line:	Feet	Drinking Water Well:	Feet	Other:	Feet

Deep Observation Hole Log Three					
Depth From Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, boulders, consistency, % gravel)
0 to 22	Fill	Fill	Crushed Stones	5% at 122"	Crushed Stones
22 to 38	Bw	SL	5 Yr. 4/6	10 Yr. 5/8	Firm, Roots
38 to 120	C	FS	7/5 Yr. 4/4		Very Loose, Massive, No Gravel or Stones
Deep Observation Hole Log Four					
0 to 32	Fill	Fill	Crushed Stones	5% at 122'	Fill
32 to 40	Bw	SL	5Yr. 4/6	10 Yr. 5/8	Firm, Roots
40 to 125	C	FS	7.5 Yr. 4/4		Very Loose, Massive, No Gravel Or Stones

Parent Material: **Outwash**

Depth to Groundwater: Standing Water in the Hole: **0 / 0** Depth to Bedrock: **125" / 125"**

Estimated Seasonal High Ground Water: **0 / 122"** Weeping from Pit Face: **No / No**

Certification

I certify that I am currently approved by the Department of Environmental Protection Pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated on the attached soil evaluation form, are accurate and in accordance with 310 CMR 15.100 through 15.107

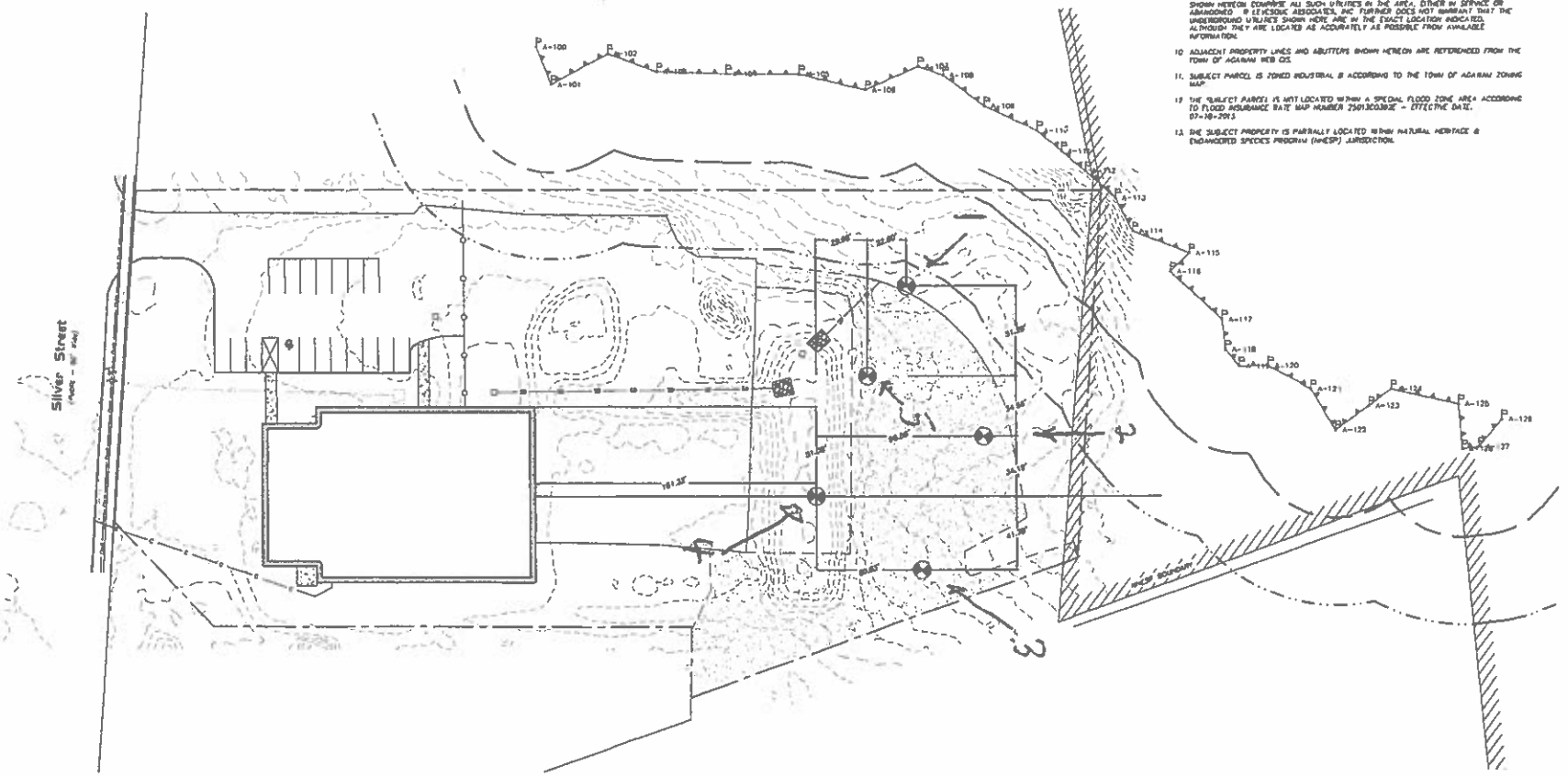
Signature: _____ **Date:** 10-24-2025

ZONING REVIEW - Industrial B (IB)

TYPE (MINIMUM)	REQUIRED	PROPOSED
AREA	1 ACRE	-
FRONTAGE	150 FT	-
WIDTH	-	-
FRONT YARD	30 FT	-
SIDE YARD	20 FT	-
REAR YARD	20 FT	-
HEIGHT MAX	40 FT / 3 STORIES	-
RESIDENTIAL CONTACT MAX	-	-

NOTES

1. THE RECORD OWNER OF THE SUBJECT PARCEL IS WSR PROPERTIES, LLC. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK 22411 PAGE 254 AND BOOK 20888 PAGE 318.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON AN UNRECORDED PLAN TITLED, "PLAN OF LAND IN AGAWAM, MASSACHUSETTS SURVEYED AND MAPPED FOR (OWNERS) AGAWAM SELF STORAGE CENTER, LLC, 711 SILVER, LLC, AND WSR PROPERTIES, LLC" PREPARED BY THIS OFFICE, DATED AUGUST 19, 2025.
3. THE EXISTING BUILDING(S) SHOWN HEREON ARE BASED ON AN APPROXIMATE MEASUREMENT OF THE OUTSIDE PERIMETER OF THE EXISTING STRUCTURES. THE ACTUAL LOCATION OF THE EXISTING BUILDING WALLS AND CORNERS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION WORK THAT WOULD ABUT OR TAKE PLACE ADJACENT TO THE EXISTING BUILDING(S). IF THE PLAN HEREON IS USED FOR CONSTRUCTION LAYOUT PURPOSES, THE PARTIES CONDUCTING LAYOUT SHALL CONTACT R LEVESQUE ASSOCIATES INC. PRIOR TO SAID LAYOUT TO DETERMINE PROPER CONTROL. PLEASE NOTE WHILE THE BUILDING(S) ARE SHOWN TO BE SQUARE, IT SHOULD NOT BE ASSUMED THAT THE WALLS ARE SQUARE OR PLUMB. R LEVESQUE ASSOCIATES TAKES NO RESPONSIBILITY FOR 3RD PARTY LAYOUT OF THE PLAN SHOWN HEREON.
4. THIS PLAN HAS BEEN PREPARED FOR SITE PLANNING PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE.
5. SUBJECT PARCEL CONTAINS 136,158.80 S.F. OR 3.128 ACRES
6. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
7. WETLANDS DELINEATED BY R LEVESQUE ASSOCIATES, INC. ON 08-12-2025
8. THE EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A SURVEY PERFORMED BY R LEVESQUE ASSOCIATES, INC. ON 09-15-2025, AN UNRECORDED EXISTING CONDITIONS SITE PLAN PREPARED BY SMITH ASSOCIATES SURVEYORS, INC., DATED DECEMBER 11, 2015, AND NOAA LIDAR.
9. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AVAILABLE RECORD DATA, AND THE TOWN OF AGAWAM MGIS. R LEVESQUE ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. R LEVESQUE ASSOCIATES, INC. FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HERE ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
10. ADJACENT PROPERTY LINES AND ABUTTERS SHOWN HEREON ARE REFERENCED FROM THE TOWN OF AGAWAM MGIS GIS.
11. SUBJECT PARCEL IS ZONED INDUSTRIAL B ACCORDING TO THE TOWN OF AGAWAM ZONING MAP
12. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 25013C0309E - EFFECTIVE DATE: 07-16-2013
13. THE SUBJECT PROPERTY IS PARTIALLY LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.



RLA

R LEVESQUE ASSOCIATES INC

Landscape Architects
Civil Engineers • Land Surveyors
Environmental Consultants

40 School Street
Westfield, MA 01085
rlainc.com

EXISTING CONDITIONS PLAN

699 Silver Street
Agawam, MA 01001
Parcel ID# 66 2 12

DRAFT

PREPARED FOR:

M. Pat Patel
699 Silver Street
Agawam, MA 01001

ORIGINAL DATE: September 7, 2025

REVISIONS:	DATE:

DRAFTED BY: JL

UNAUTHORIZED ALTERATION OF THIS DOCUMENT IS A VIOLATION OF MASSACHUSETTS STATE LAW

SCALE: As Noted

FILE NUMBER: 25-0143

EX-1 | -

S:\Projects\2025\25-0143\02 - Mitchell - 699 Silver St, Agawam\05 Civil\25-0143_EX1ST.dwg

Appendix C: Pre- and Post- Development Hydrologic Analysis (2, 10, 100 Year Storm Events)

NOAA Atlas 14, Volume 10, Version 3
Location name: Agawam, Massachusetts, USA*
Latitude: 42.0534°, Longitude: -72.6513°
Elevation: 193 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.341 (0.263-0.439)	0.410 (0.316-0.528)	0.523 (0.401-0.677)	0.616 (0.470-0.801)	0.744 (0.551-1.02)	0.841 (0.611-1.17)	0.942 (0.665-1.36)	1.05 (0.708-1.57)	1.21 (0.784-1.87)	1.34 (0.849-2.12)
10-min	0.483 (0.373-0.622)	0.581 (0.448-0.749)	0.740 (0.568-0.958)	0.872 (0.666-1.14)	1.05 (0.781-1.44)	1.19 (0.865-1.66)	1.34 (0.942-1.93)	1.49 (1.00-2.22)	1.72 (1.11-2.66)	1.90 (1.20-3.00)
15-min	0.569 (0.439-0.732)	0.683 (0.526-0.881)	0.870 (0.668-1.12)	1.03 (0.784-1.34)	1.24 (0.919-1.69)	1.40 (1.02-1.96)	1.57 (1.11-2.28)	1.76 (1.18-2.62)	2.02 (1.31-3.12)	2.24 (1.41-3.53)
30-min	0.768 (0.592-0.988)	0.925 (0.713-1.19)	1.18 (0.908-1.53)	1.40 (1.06-1.82)	1.69 (1.25-2.30)	1.91 (1.39-2.66)	2.14 (1.51-3.10)	2.40 (1.61-3.57)	2.76 (1.78-4.26)	3.05 (1.93-4.82)
60-min	0.967 (0.746-1.24)	1.17 (0.899-1.50)	1.49 (1.14-1.93)	1.76 (1.35-2.29)	2.14 (1.58-2.91)	2.42 (1.76-3.37)	2.71 (1.91-3.93)	3.04 (2.04-4.52)	3.49 (2.26-5.40)	3.86 (2.44-6.10)
2-hr	1.24 (0.963-1.59)	1.49 (1.15-1.91)	1.90 (1.47-2.44)	2.23 (1.72-2.89)	2.70 (2.01-3.66)	3.04 (2.23-4.24)	3.41 (2.44-4.96)	3.84 (2.59-5.70)	4.48 (2.91-6.90)	5.02 (3.18-7.89)
3-hr	1.42 (1.11-1.81)	1.71 (1.33-2.18)	2.18 (1.69-2.79)	2.57 (1.98-3.31)	3.11 (2.33-4.22)	3.51 (2.58-4.88)	3.94 (2.83-5.73)	4.46 (3.01-6.58)	5.24 (3.41-8.04)	5.91 (3.76-9.27)
6-hr	1.78 (1.40-2.25)	2.16 (1.70-2.74)	2.79 (2.18-3.55)	3.31 (2.57-4.23)	4.02 (3.04-5.44)	4.54 (3.38-6.32)	5.12 (3.72-7.46)	5.84 (3.96-8.60)	6.97 (4.54-10.6)	7.95 (5.07-12.4)
12-hr	2.18 (1.72-2.74)	2.70 (2.13-3.39)	3.54 (2.78-4.47)	4.24 (3.31-5.39)	5.20 (3.96-7.01)	5.91 (4.42-8.19)	6.69 (4.90-9.74)	7.69 (5.22-11.3)	9.28 (6.07-14.1)	10.7 (6.83-16.6)
24-hr	2.56 (2.03-3.19)	3.22 (2.55-4.02)	4.29 (3.39-5.38)	5.18 (4.08-6.54)	6.41 (4.91-8.61)	7.31 (5.51-10.1)	8.31 (6.14-12.1)	9.62 (6.56-14.0)	11.7 (7.70-17.8)	13.6 (8.74-21.0)
2-day	2.89 (2.31-3.59)	3.68 (2.94-4.56)	4.96 (3.95-6.18)	6.02 (4.76-7.55)	7.48 (5.77-10.0)	8.54 (6.48-11.8)	9.73 (7.26-14.2)	11.3 (7.76-16.4)	14.0 (9.20-21.1)	16.4 (10.5-25.2)
3-day	3.16 (2.54-3.90)	4.02 (3.22-4.97)	5.42 (4.33-6.73)	6.58 (5.23-8.22)	8.18 (6.34-10.9)	9.34 (7.12-12.8)	10.6 (7.97-15.5)	12.4 (8.51-18.0)	15.4 (10.1-23.1)	18.0 (11.6-27.6)
4-day	3.41 (2.74-4.19)	4.32 (3.47-5.33)	5.81 (4.66-7.20)	7.05 (5.62-8.79)	8.76 (6.80-11.7)	9.99 (7.64-13.7)	11.4 (8.55-16.5)	13.3 (9.12-19.2)	16.4 (10.8-24.6)	19.2 (12.4-29.4)
7-day	4.08 (3.30-4.99)	5.11 (4.13-6.27)	6.80 (5.48-8.37)	8.20 (6.57-10.2)	10.1 (7.90-13.4)	11.5 (8.84-15.7)	13.1 (9.84-18.8)	15.2 (10.5-21.8)	18.6 (12.4-27.8)	21.7 (14.1-33.1)
10-day	4.74 (3.85-5.79)	5.84 (4.74-7.13)	7.63 (6.17-9.36)	9.11 (7.32-11.3)	11.2 (8.72-14.7)	12.6 (9.70-17.1)	14.3 (10.7-20.4)	16.5 (11.4-23.6)	20.0 (13.3-29.8)	23.2 (15.0-35.2)
20-day	6.83 (5.58-8.27)	7.98 (6.52-9.68)	9.87 (8.03-12.0)	11.4 (9.25-14.0)	13.6 (10.6-17.6)	15.2 (11.7-20.2)	16.9 (12.6-23.6)	19.1 (13.3-27.1)	22.4 (14.9-33.1)	25.2 (16.4-38.2)
30-day	8.58 (7.05-10.4)	9.76 (8.01-11.8)	11.7 (9.55-14.2)	13.3 (10.8-16.2)	15.5 (12.2-19.9)	17.1 (13.1-22.6)	18.9 (14.0-26.0)	20.9 (14.6-29.6)	23.9 (16.0-35.2)	26.4 (17.2-39.8)
45-day	10.8 (8.88-12.9)	12.0 (9.88-14.4)	14.0 (11.5-16.9)	15.7 (12.8-19.0)	17.9 (14.1-22.8)	19.7 (15.1-25.6)	21.5 (15.8-29.1)	23.3 (16.4-32.8)	25.9 (17.4-38.0)	27.9 (18.2-42.0)
60-day	12.6 (10.4-15.1)	13.9 (11.5-16.6)	16.0 (13.1-19.2)	17.7 (14.5-21.5)	20.1 (15.8-25.4)	21.9 (16.8-28.3)	23.7 (17.4-31.8)	25.5 (17.9-35.7)	27.7 (18.7-40.5)	29.3 (19.2-44.0)

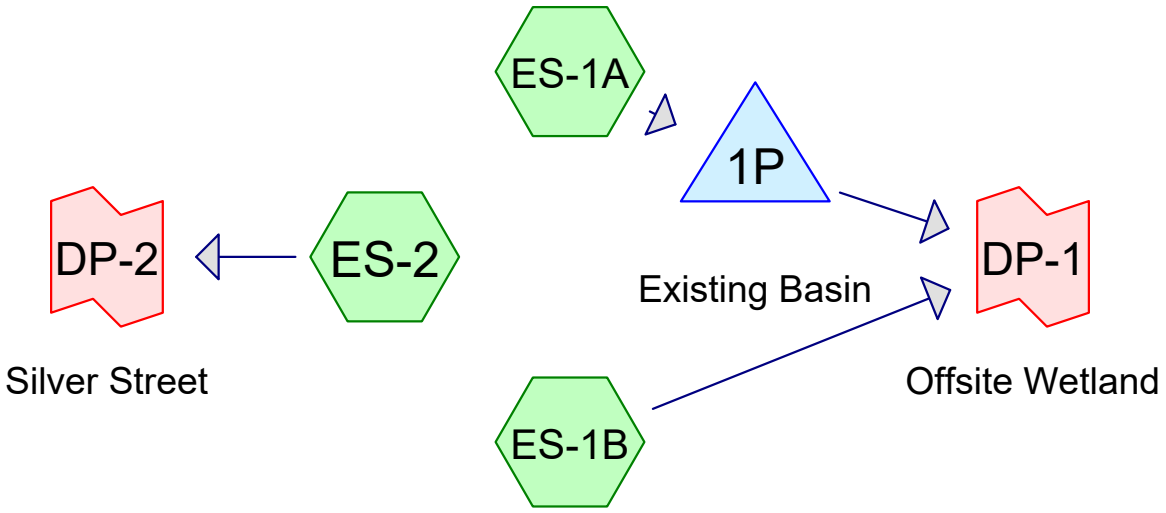
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical



Subcat Reach Pond Link

Routing Diagram for 250903 - PRE
Prepared by R Levesque Associates, Printed 2/27/2026
HydroCAD® 10.20-7a s/n 13073 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.22	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.18	2
3	100-Year	Type III 24-hr		Default	24.00	1	8.31	2

Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES-1A: Runoff Area=67,363 sf 80.39% Impervious Runoff Depth=2.42"
Flow Length=196' Slope=0.0200 '/' Tc=6.0 min CN=WQ Runoff=3.9 cfs 13,582 cf

Subcatchment ES-1B: Runoff Area=113,211 sf 2.08% Impervious Runoff Depth=0.61"
Flow Length=895' Tc=26.8 min CN=WQ Runoff=1.0 cfs 5,749 cf

Subcatchment ES-2: Runoff Area=2,918 sf 3.70% Impervious Runoff Depth=0.11"
Flow Length=42' Slope=0.0400 '/' Tc=6.0 min CN=WQ Runoff=0.0 cfs 27 cf

Pond 1P: Existing Basin Peak Elev=185.66' Storage=1,984 cf Inflow=3.9 cfs 13,582 cf
12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=2.6 cfs 13,422 cf

Link DP-1: Offsite Wetland Inflow=3.4 cfs 19,170 cf
Primary=3.4 cfs 19,170 cf

Link DP-2: Silver Street Inflow=0.0 cfs 27 cf
Primary=0.0 cfs 27 cf

Total Runoff Area = 183,492 sf Runoff Volume = 19,358 cf Average Runoff Depth = 1.27"
69.14% Pervious = 126,874 sf 30.86% Impervious = 56,618 sf

Summary for Subcatchment ES-1A:

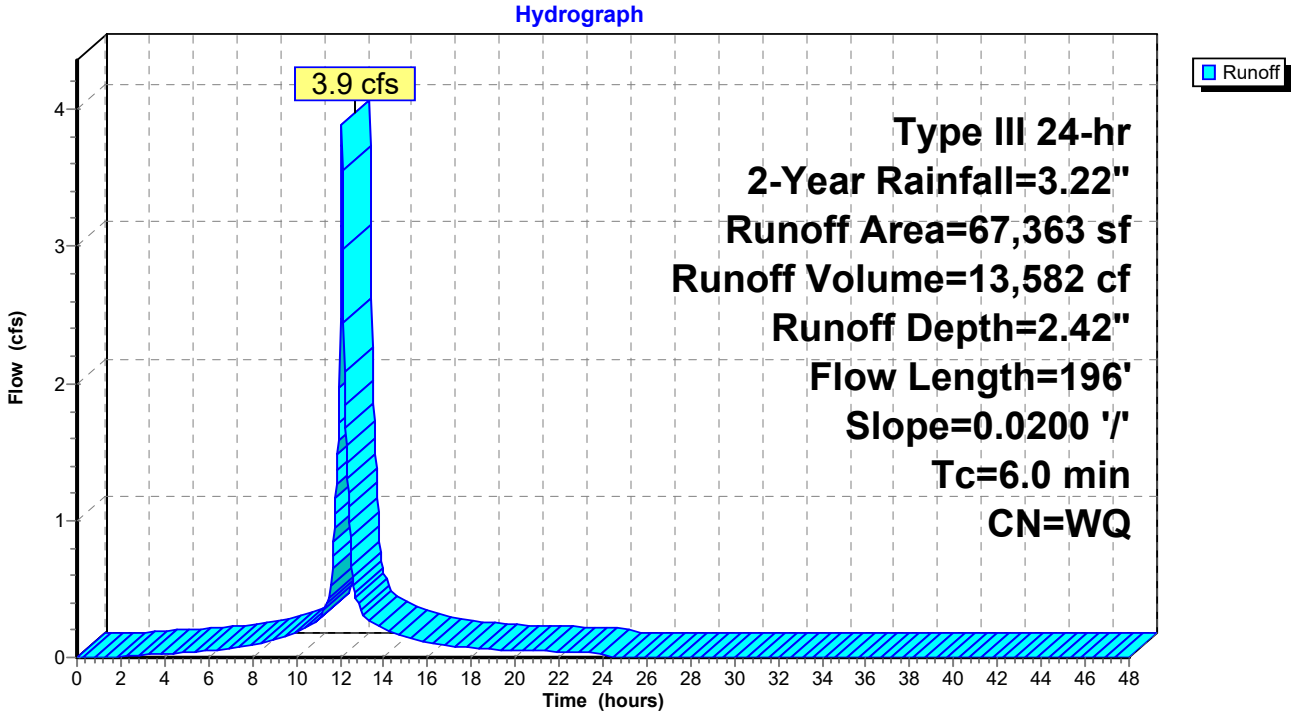
Runoff = 3.9 cfs @ 12.08 hrs, Volume= 13,582 cf, Depth= 2.42"
Routed to Pond 1P : Existing Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.22"

Area (sf)	CN	Description
12,775	39	>75% Grass cover, Good, HSG A
432	96	Gravel surface, HSG A
39,138	98	Paved parking, HSG A
15,017	98	Roofs, HSG A
67,363		Weighted Average
13,208	41	19.61% Pervious Area
54,155	98	80.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	96	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	196	Total, Increased to minimum Tc = 6.0 min			

Subcatchment ES-1A:



Summary for Subcatchment ES-1B:

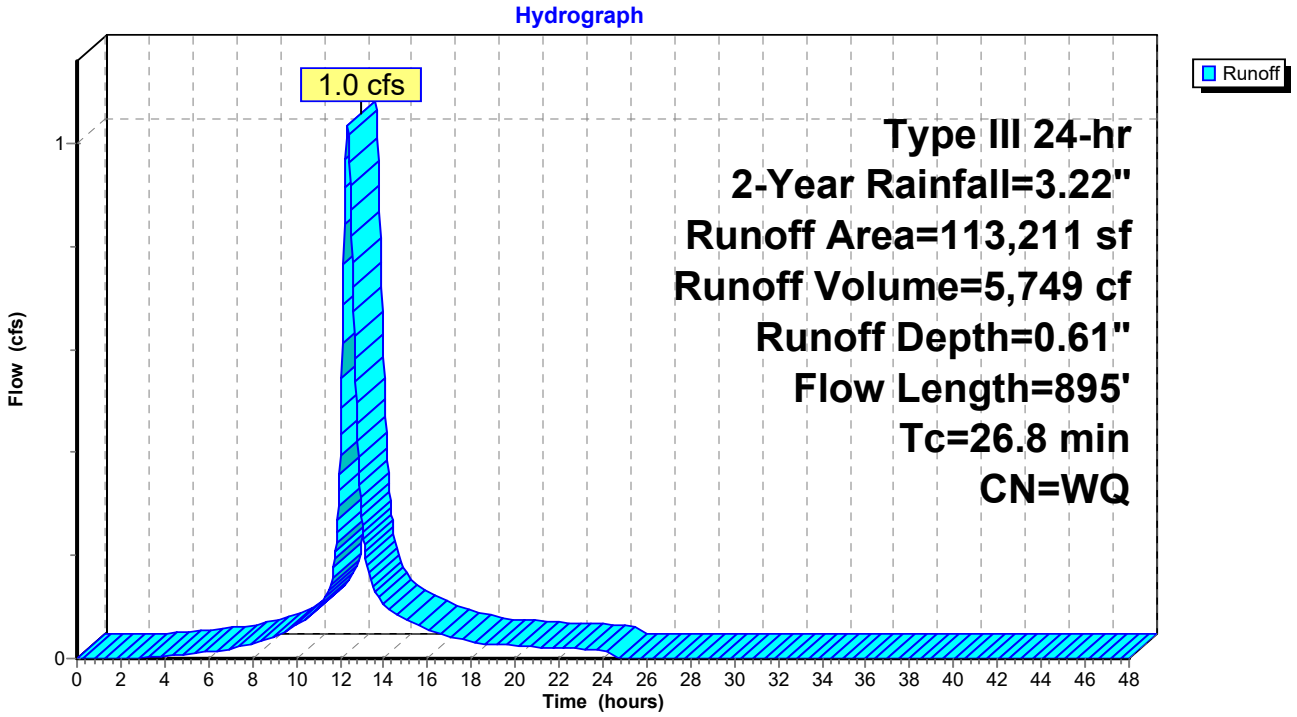
Runoff = 1.0 cfs @ 12.35 hrs, Volume= 5,749 cf, Depth= 0.61"
Routed to Link DP-1 : Offsite Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.22"

Area (sf)	CN	Description
40,547	39	>75% Grass cover, Good, HSG A
22,366	96	Gravel surface, HSG A
2,354	98	Paved parking, HSG A
47,944	30	Woods, Good, HSG A
113,211		Weighted Average
110,857	47	97.92% Pervious Area
2,354	98	2.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	100	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
12.9	382	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	226	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	187	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	895	Total			

Subcatchment ES-1B:



Summary for Subcatchment ES-2:

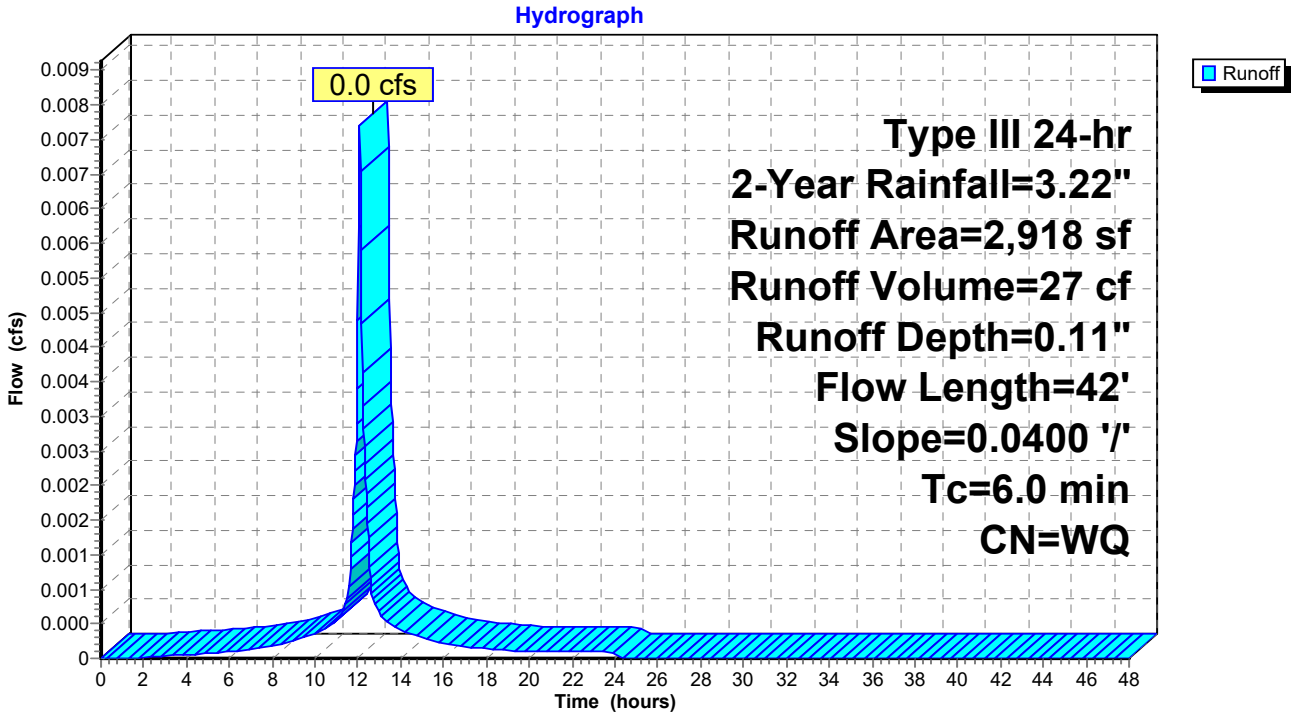
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 27 cf, Depth= 0.11"
Routed to Link DP-2 : Silver Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.22"

Area (sf)	CN	Description
2,810	39	>75% Grass cover, Good, HSG A
108	98	Paved parking, HSG A
2,918		Weighted Average
2,810	39	96.30% Pervious Area
108	98	3.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	42	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	42	Total, Increased to minimum Tc = 6.0 min			

Subcatchment ES-2:



Summary for Pond 1P: Existing Basin

Inflow Area = 67,363 sf, 80.39% Impervious, Inflow Depth = 2.42" for 2-Year event
Inflow = 3.9 cfs @ 12.08 hrs, Volume= 13,582 cf
Outflow = 2.6 cfs @ 12.17 hrs, Volume= 13,422 cf, Atten= 33%, Lag= 5.3 min
Primary = 2.6 cfs @ 12.17 hrs, Volume= 13,422 cf
Routed to Link DP-1 : Offsite Wetland

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Peak Elev= 185.66' @ 12.17 hrs Surf.Area= 2,528 sf Storage= 1,984 cf

Plug-Flow detention time= 35.8 min calculated for 13,413 cf (99% of inflow)
Center-of-Mass det. time= 28.5 min (785.0 - 756.4)

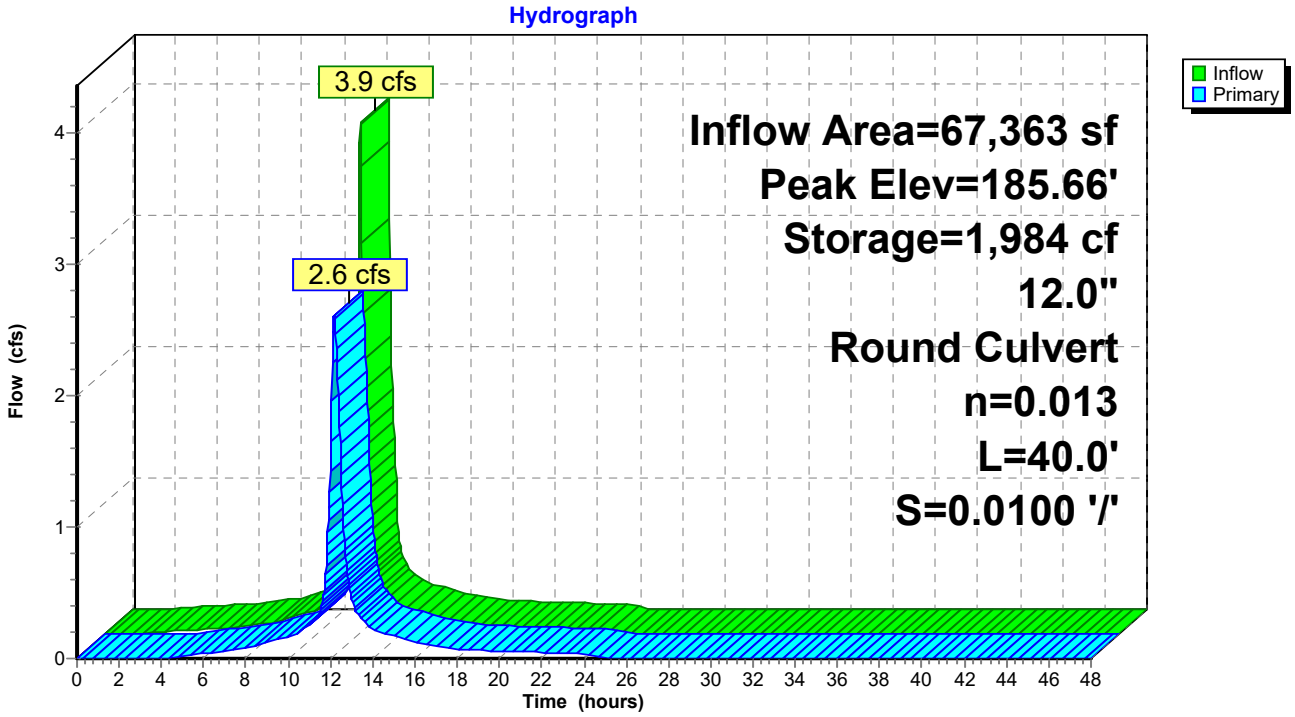
Volume	Invert	Avail.Storage	Storage Description
#1	184.50'	10,389 cf	**Existing Basin (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.50	604	168.0	0	0	604
185.00	1,790	222.0	572	572	2,283
186.00	2,963	257.0	2,352	2,924	3,638
187.00	3,745	275.0	3,346	6,271	4,445
188.00	4,504	293.0	4,119	10,389	5,307

Device	Routing	Invert	Outlet Devices
#1	Primary	184.70'	**12.0" Round Culvert** L= 40.0' Ke= 0.200 Inlet / Outlet Invert= 184.70' / 184.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=2.6 cfs @ 12.17 hrs HW=185.66' (Free Discharge)
1=Culvert (Barrel Controls 2.6 cfs @ 4.33 fps)

Pond 1P: Existing Basin

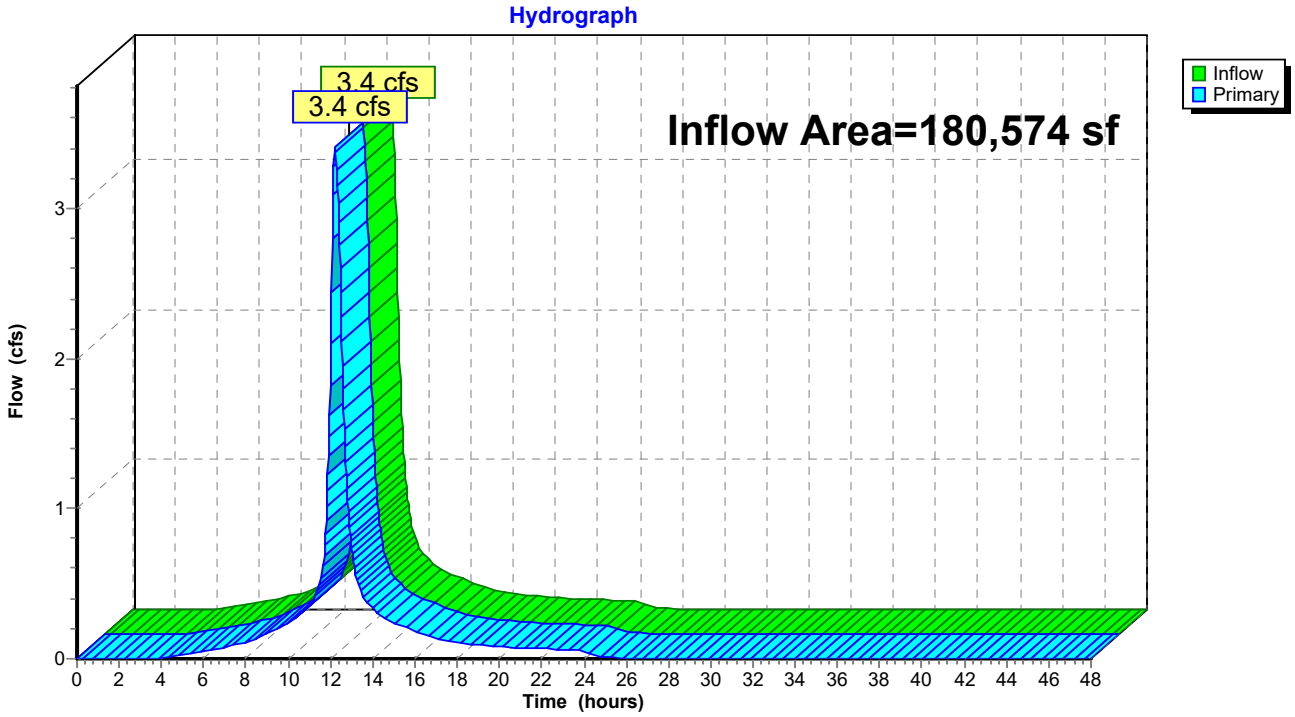


Summary for Link DP-1: Offsite Wetland

Inflow Area = 180,574 sf, 31.29% Impervious, Inflow Depth = 1.27" for 2-Year event
Inflow = 3.4 cfs @ 12.21 hrs, Volume= 19,170 cf
Primary = 3.4 cfs @ 12.21 hrs, Volume= 19,170 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite Wetland

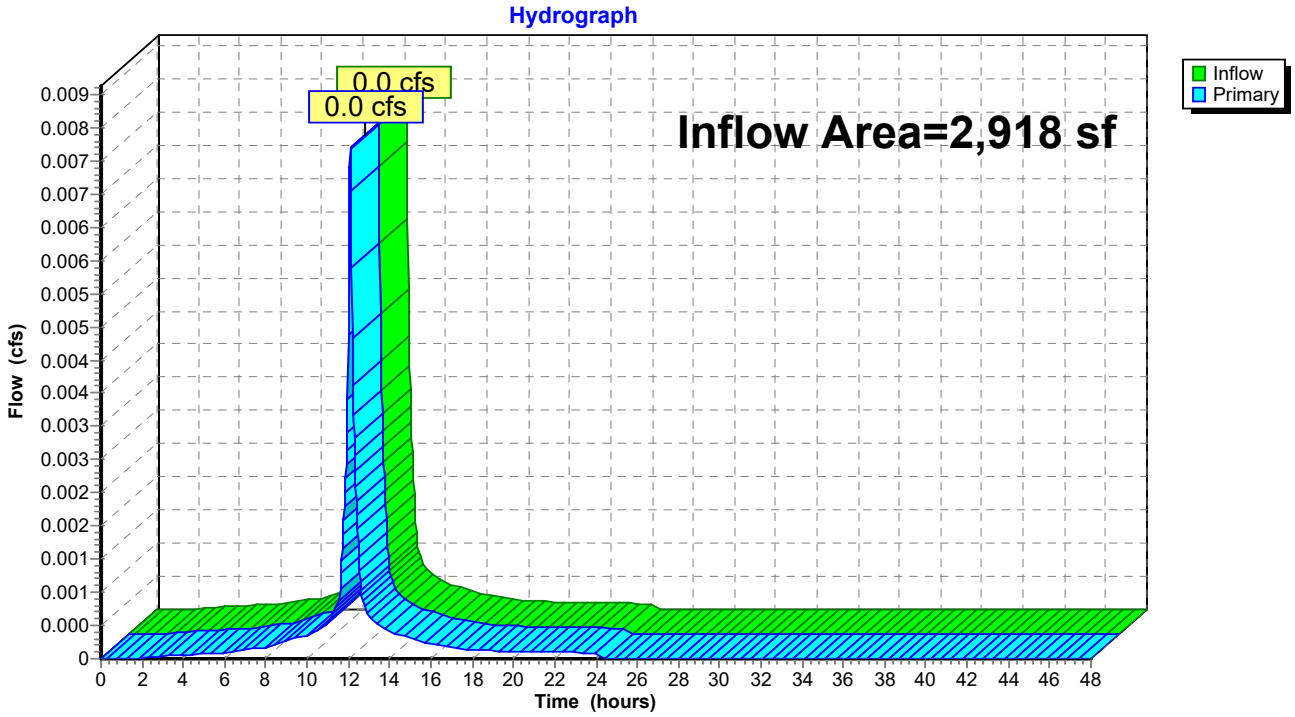


Summary for Link DP-2: Silver Street

Inflow Area = 2,918 sf, 3.70% Impervious, Inflow Depth = 0.11" for 2-Year event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 27 cf
Primary = 0.0 cfs @ 12.08 hrs, Volume= 27 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Silver Street



Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES-1A: Runoff Area=67,363 sf 80.39% Impervious Runoff Depth=4.05"
Flow Length=196' Slope=0.0200 '/' Tc=6.0 min CN=WQ Runoff=6.3 cfs 22,730 cf

Subcatchment ES-1B: Runoff Area=113,211 sf 2.08% Impervious Runoff Depth=1.12"
Flow Length=895' Tc=26.8 min CN=WQ Runoff=1.7 cfs 10,599 cf

Subcatchment ES-2: Runoff Area=2,918 sf 3.70% Impervious Runoff Depth=0.41"
Flow Length=42' Slope=0.0400 '/' Tc=6.0 min CN=WQ Runoff=0.0 cfs 100 cf

Pond 1P: Existing Basin Peak Elev=186.09' Storage=3,209 cf Inflow=6.3 cfs 22,730 cf
12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=3.6 cfs 22,569 cf

Link DP-1: Offsite Wetland Inflow=5.2 cfs 33,169 cf
Primary=5.2 cfs 33,169 cf

Link DP-2: Silver Street Inflow=0.0 cfs 100 cf
Primary=0.0 cfs 100 cf

Total Runoff Area = 183,492 sf Runoff Volume = 33,430 cf Average Runoff Depth = 2.19"
69.14% Pervious = 126,874 sf 30.86% Impervious = 56,618 sf

Summary for Subcatchment ES-1A:

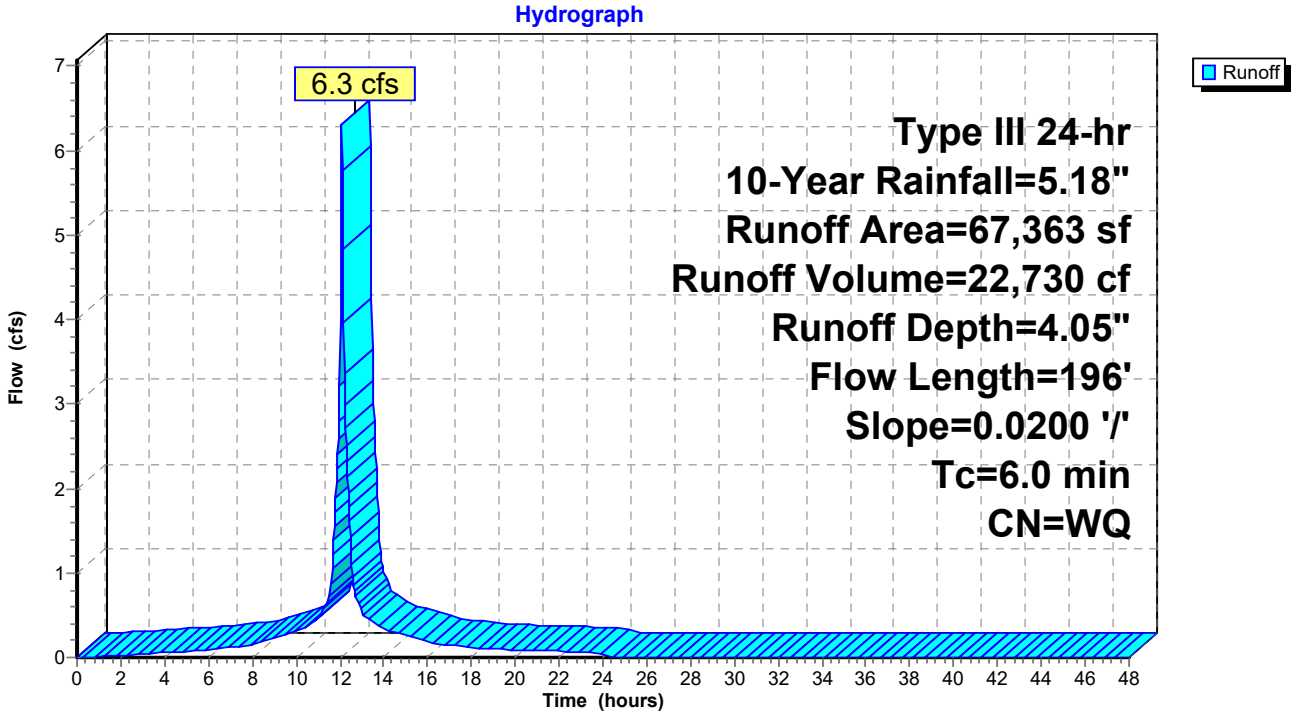
Runoff = 6.3 cfs @ 12.08 hrs, Volume= 22,730 cf, Depth= 4.05"
Routed to Pond 1P : Existing Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
12,775	39	>75% Grass cover, Good, HSG A
432	96	Gravel surface, HSG A
39,138	98	Paved parking, HSG A
15,017	98	Roofs, HSG A
67,363		Weighted Average
13,208	41	19.61% Pervious Area
54,155	98	80.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	96	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	196	Total, Increased to minimum Tc = 6.0 min			

Subcatchment ES-1A:



Summary for Subcatchment ES-1B:

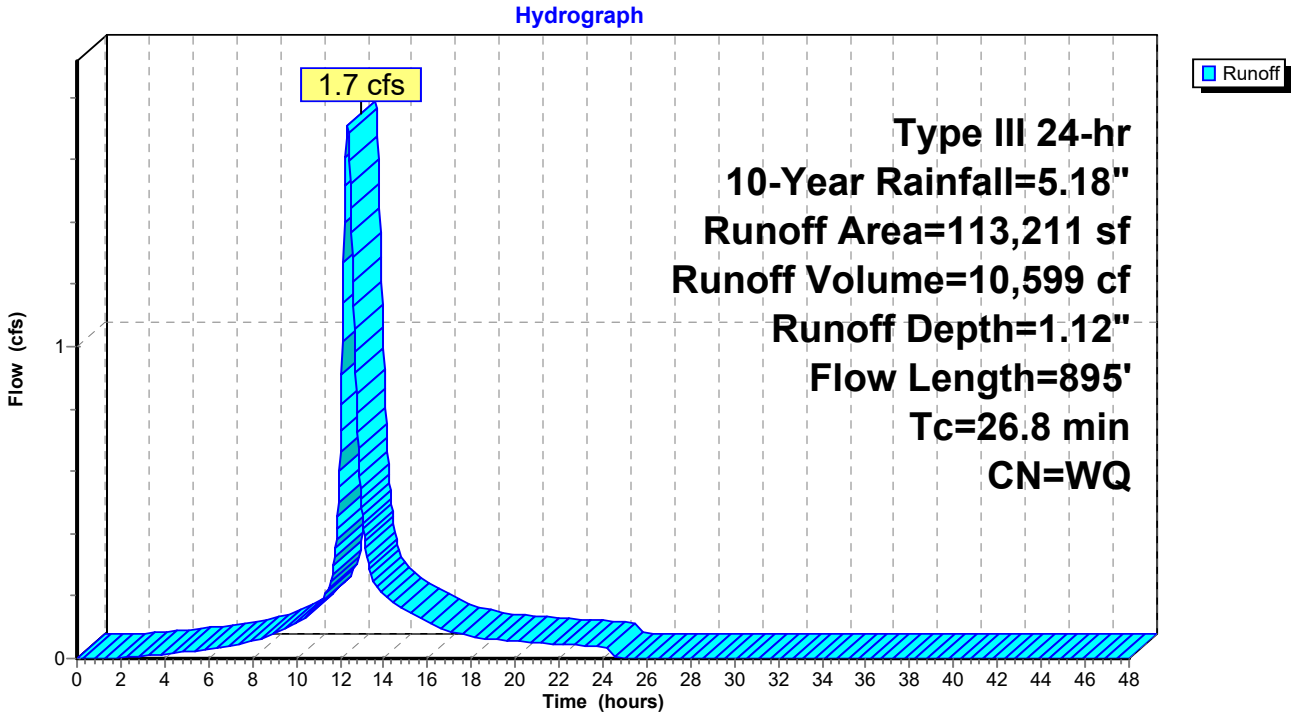
Runoff = 1.7 cfs @ 12.35 hrs, Volume= 10,599 cf, Depth= 1.12"
Routed to Link DP-1 : Offsite Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
40,547	39	>75% Grass cover, Good, HSG A
22,366	96	Gravel surface, HSG A
2,354	98	Paved parking, HSG A
47,944	30	Woods, Good, HSG A
113,211		Weighted Average
110,857	47	97.92% Pervious Area
2,354	98	2.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	100	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
12.9	382	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	226	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	187	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	895	Total			

Subcatchment ES-1B:



Summary for Subcatchment ES-2:

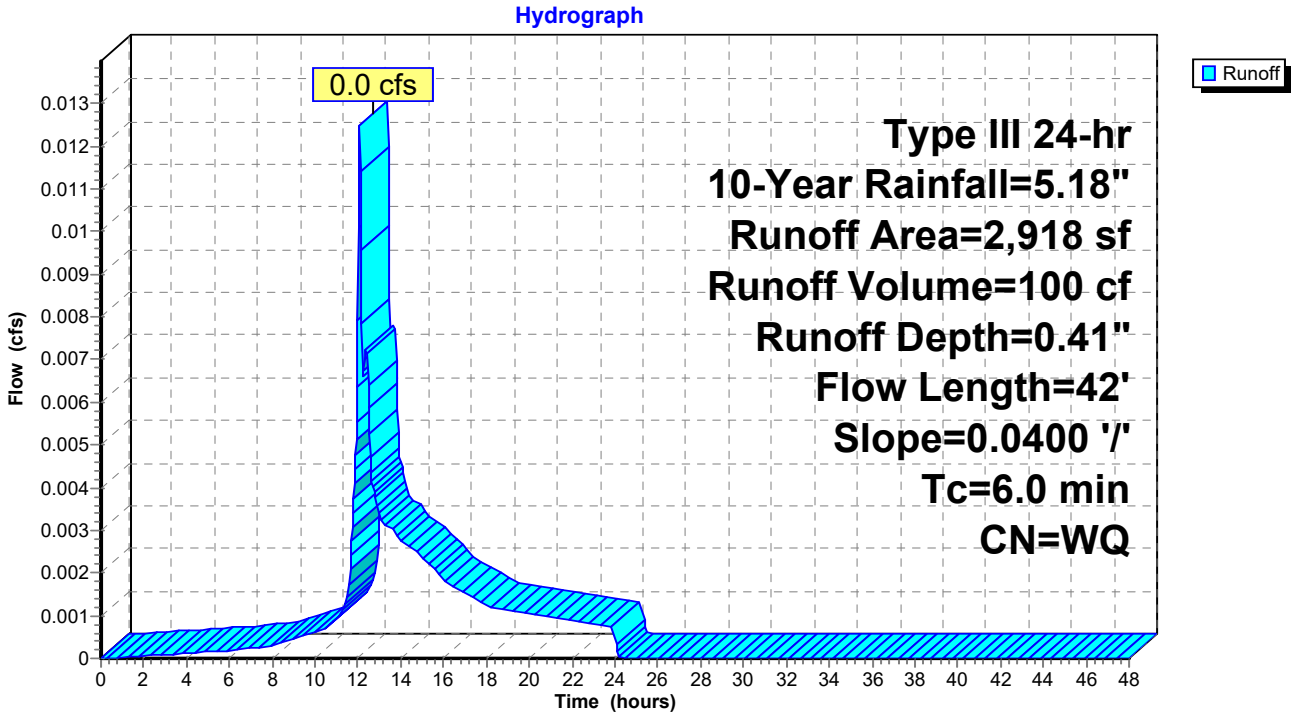
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 100 cf, Depth= 0.41"
Routed to Link DP-2 : Silver Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
2,810	39	>75% Grass cover, Good, HSG A
108	98	Paved parking, HSG A
2,918		Weighted Average
2,810	39	96.30% Pervious Area
108	98	3.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	42	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	42	Total, Increased to minimum Tc = 6.0 min			

Subcatchment ES-2:



Summary for Pond 1P: Existing Basin

Inflow Area = 67,363 sf, 80.39% Impervious, Inflow Depth = 4.05" for 10-Year event
Inflow = 6.3 cfs @ 12.08 hrs, Volume= 22,730 cf
Outflow = 3.6 cfs @ 12.20 hrs, Volume= 22,569 cf, Atten= 43%, Lag= 7.0 min
Primary = 3.6 cfs @ 12.20 hrs, Volume= 22,569 cf
Routed to Link DP-1 : Offsite Wetland

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Peak Elev= 186.09' @ 12.20 hrs Surf.Area= 3,033 sf Storage= 3,209 cf

Plug-Flow detention time= 28.5 min calculated for 22,569 cf (99% of inflow)
Center-of-Mass det. time= 23.6 min (773.9 - 750.3)

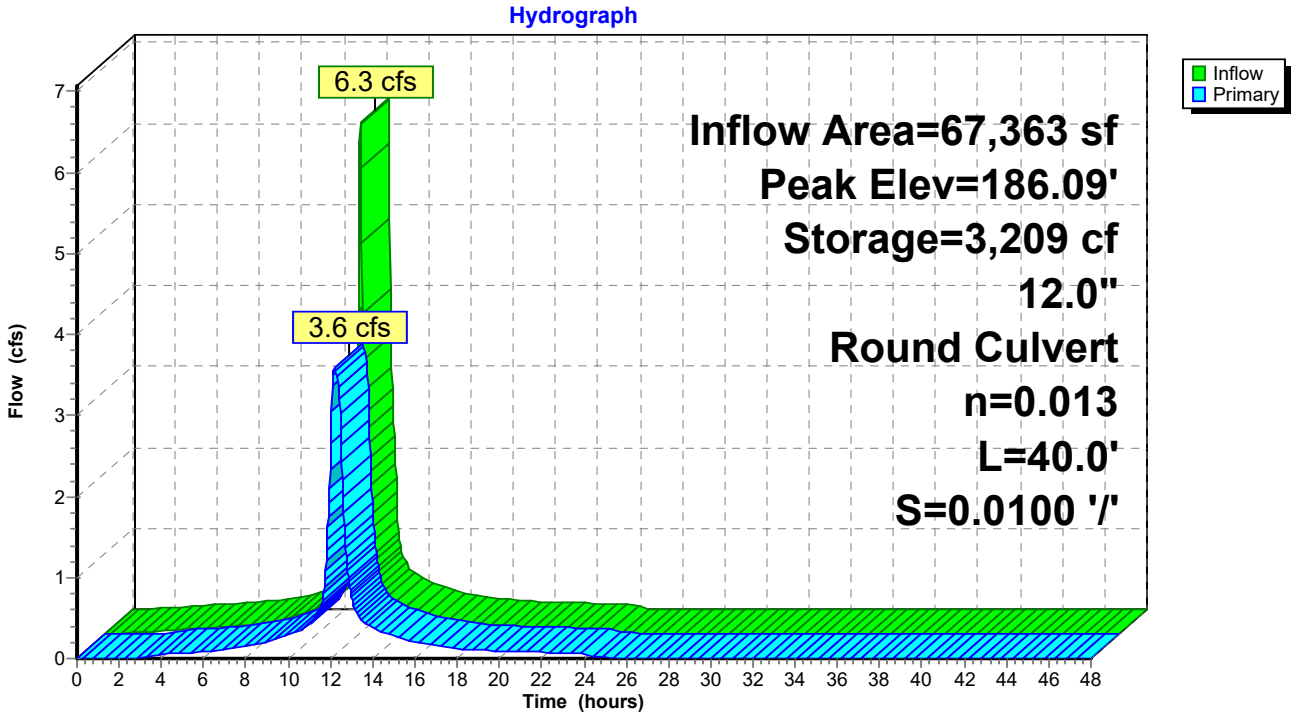
Volume	Invert	Avail.Storage	Storage Description
#1	184.50'	10,389 cf	**Existing Basin (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.50	604	168.0	0	0	604
185.00	1,790	222.0	572	572	2,283
186.00	2,963	257.0	2,352	2,924	3,638
187.00	3,745	275.0	3,346	6,271	4,445
188.00	4,504	293.0	4,119	10,389	5,307

Device	Routing	Invert	Outlet Devices
#1	Primary	184.70'	**12.0" Round Culvert** L= 40.0' Ke= 0.200 Inlet / Outlet Invert= 184.70' / 184.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=3.6 cfs @ 12.20 hrs HW=186.09' (Free Discharge)
1=Culvert (Barrel Controls 3.6 cfs @ 4.56 fps)

Pond 1P: Existing Basin

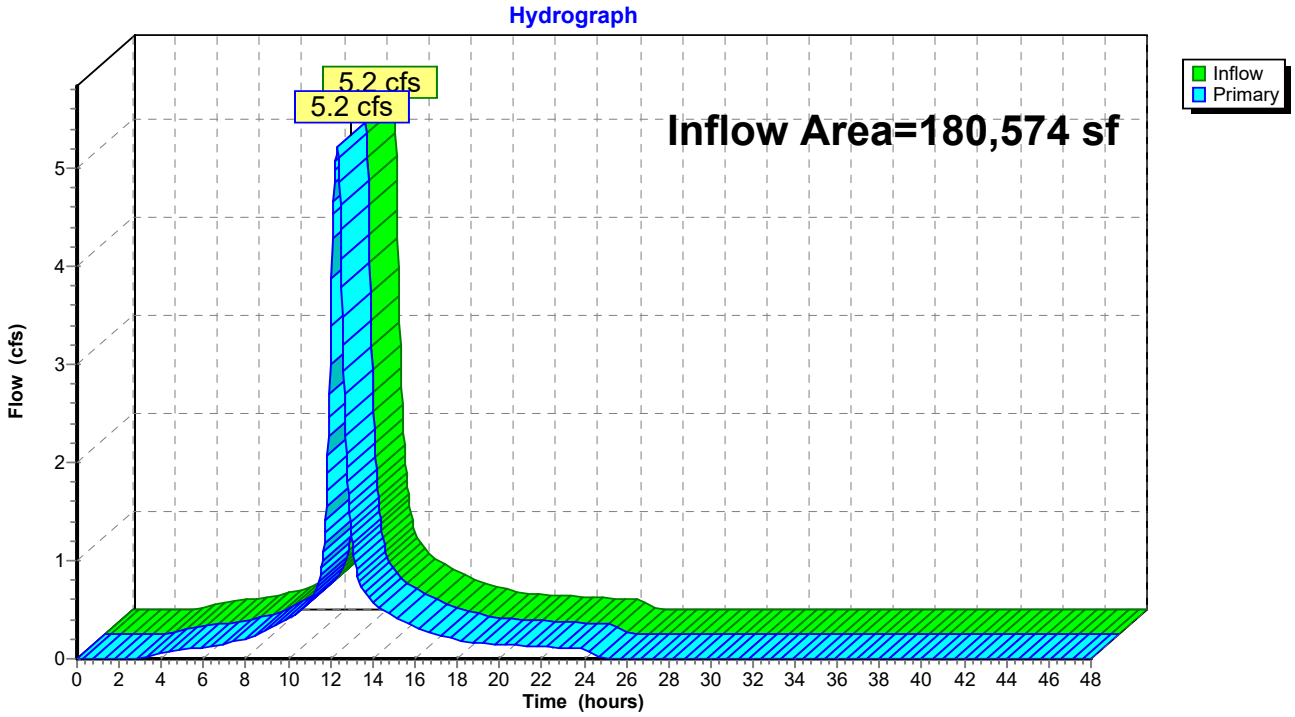


Summary for Link DP-1: Offsite Wetland

Inflow Area = 180,574 sf, 31.29% Impervious, Inflow Depth = 2.20" for 10-Year event
Inflow = 5.2 cfs @ 12.33 hrs, Volume= 33,169 cf
Primary = 5.2 cfs @ 12.33 hrs, Volume= 33,169 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite Wetland

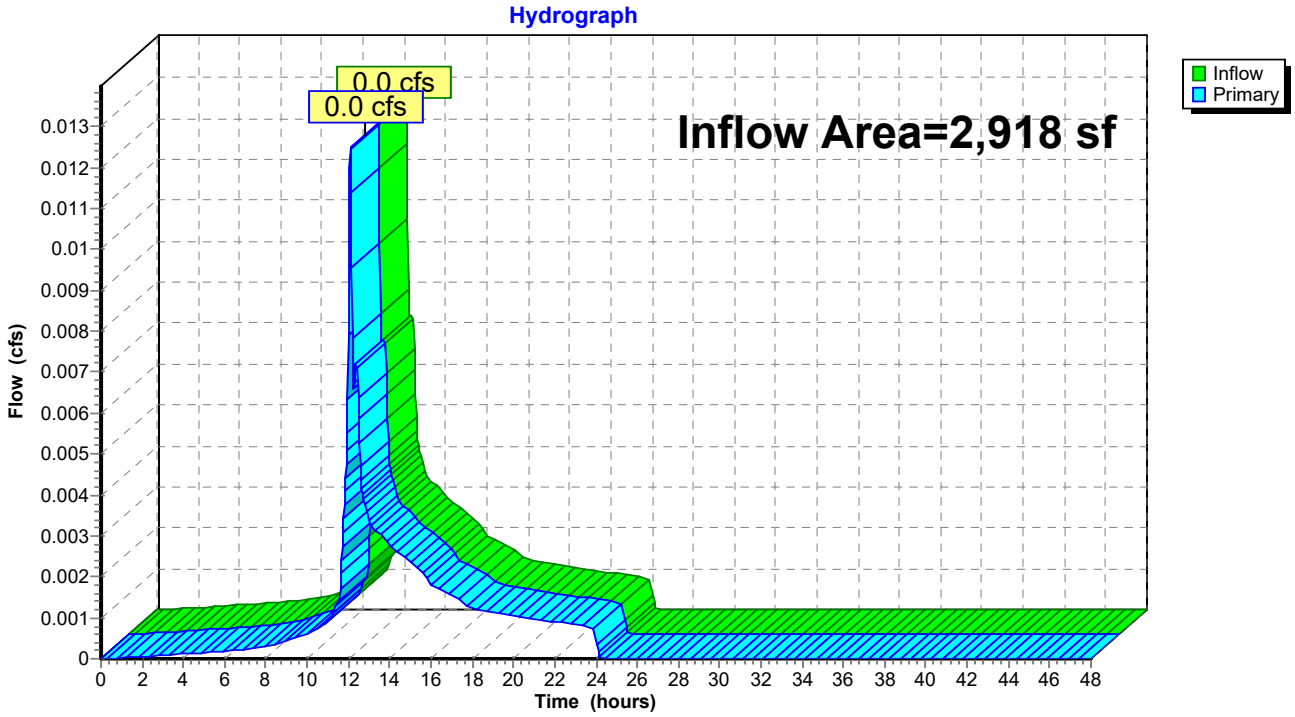


Summary for Link DP-2: Silver Street

Inflow Area = 2,918 sf, 3.70% Impervious, Inflow Depth = 0.41" for 10-Year event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 100 cf
Primary = 0.0 cfs @ 12.08 hrs, Volume= 100 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Silver Street



Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment ES-1A: Runoff Area=67,363 sf 80.39% Impervious Runoff Depth=6.78"
Flow Length=196' Slope=0.0200 '/' Tc=6.0 min CN=WQ Runoff=10.4 cfs 38,074 cf

Subcatchment ES-1B: Runoff Area=113,211 sf 2.08% Impervious Runoff Depth=2.38"
Flow Length=895' Tc=26.8 min CN=WQ Runoff=3.3 cfs 22,500 cf

Subcatchment ES-2: Runoff Area=2,918 sf 3.70% Impervious Runoff Depth=1.54"
Flow Length=42' Slope=0.0400 '/' Tc=6.0 min CN=WQ Runoff=0.1 cfs 375 cf

Pond 1P: Existing Basin Peak Elev=186.88' Storage=5,839 cf Inflow=10.4 cfs 38,074 cf
12.0" Round Culvert n=0.013 L=40.0' S=0.0100 '/' Outflow=5.1 cfs 37,914 cf

Link DP-1: Offsite Wetland Inflow=8.2 cfs 60,414 cf
Primary=8.2 cfs 60,414 cf

Link DP-2: Silver Street Inflow=0.1 cfs 375 cf
Primary=0.1 cfs 375 cf

Total Runoff Area = 183,492 sf Runoff Volume = 60,949 cf Average Runoff Depth = 3.99"
69.14% Pervious = 126,874 sf 30.86% Impervious = 56,618 sf

Summary for Subcatchment ES-1A:

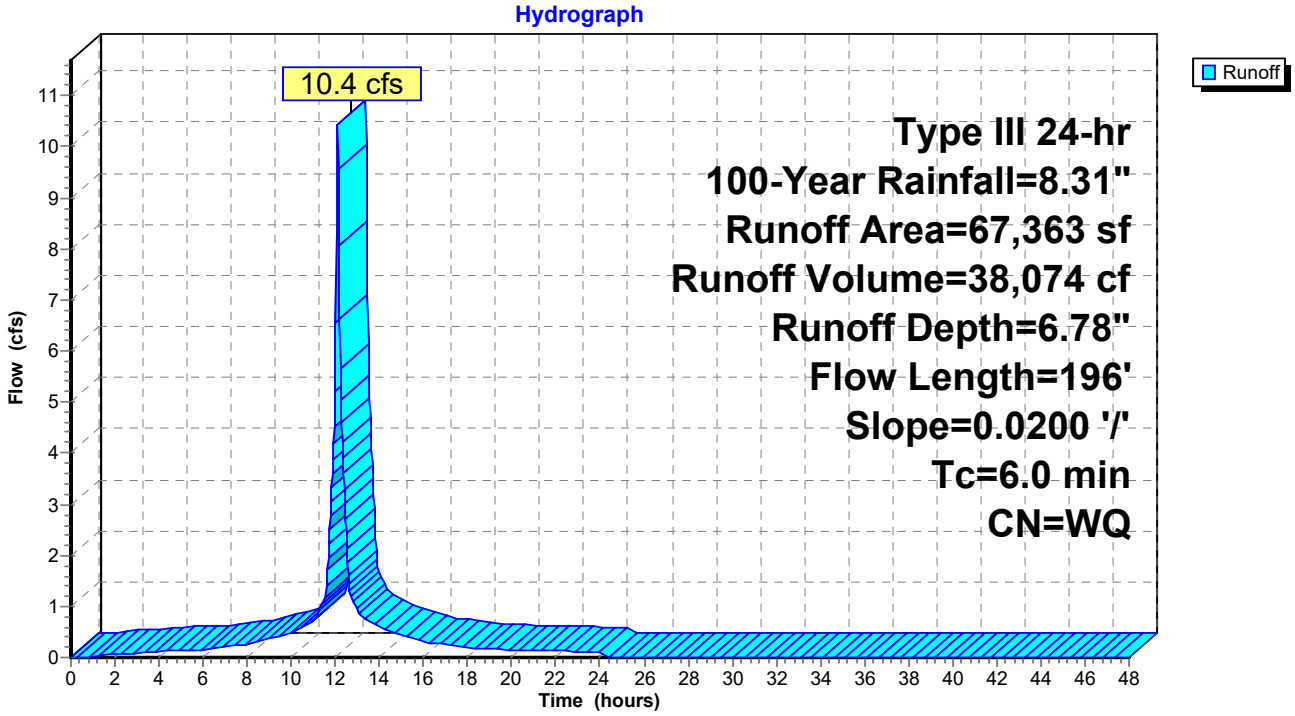
Runoff = 10.4 cfs @ 12.09 hrs, Volume= 38,074 cf, Depth= 6.78"
Routed to Pond 1P : Existing Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.31"

Area (sf)	CN	Description
12,775	39	>75% Grass cover, Good, HSG A
432	96	Gravel surface, HSG A
39,138	98	Paved parking, HSG A
15,017	98	Roofs, HSG A
67,363		Weighted Average
13,208	41	19.61% Pervious Area
54,155	98	80.39% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.3	100	0.0200	1.33		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.00"
0.6	96	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.9	196	Total, Increased to minimum Tc = 6.0 min			

Subcatchment ES-1A:



Summary for Subcatchment ES-1B:

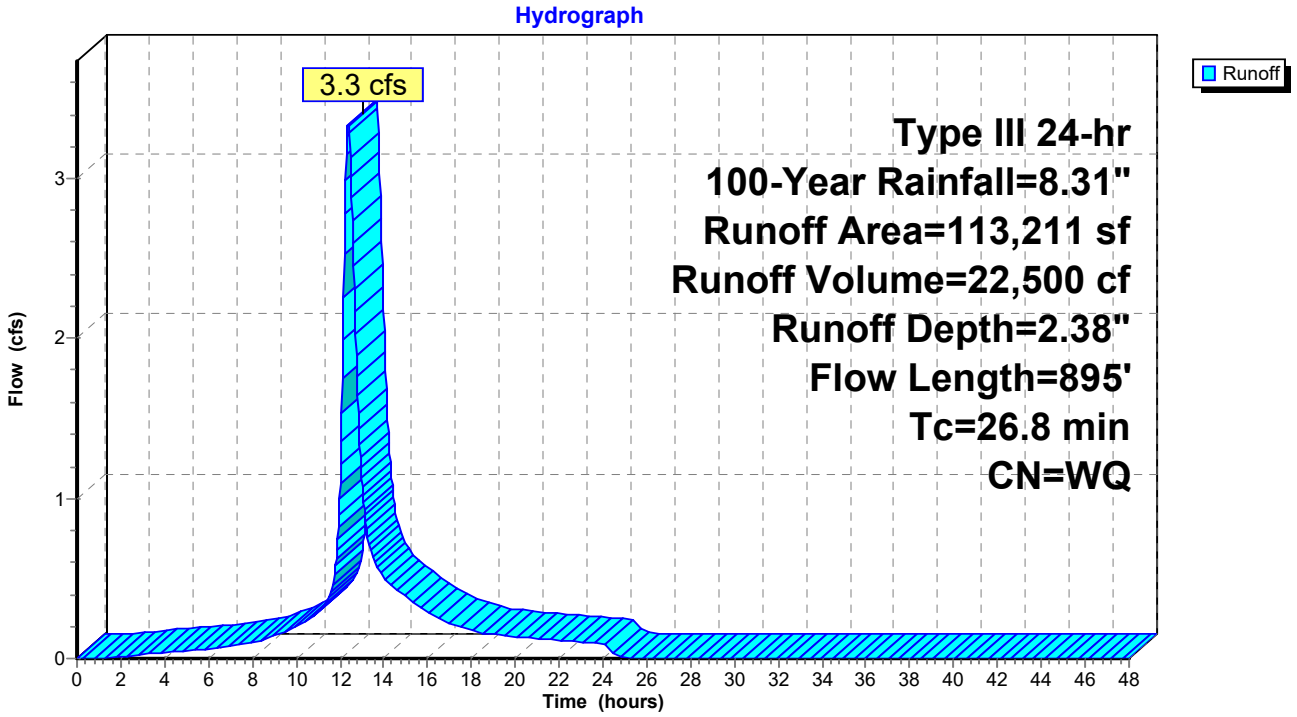
Runoff = 3.3 cfs @ 12.38 hrs, Volume= 22,500 cf, Depth= 2.38"
Routed to Link DP-1 : Offsite Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.31"

Area (sf)	CN	Description
40,547	39	>75% Grass cover, Good, HSG A
22,366	96	Gravel surface, HSG A
2,354	98	Paved parking, HSG A
47,944	30	Woods, Good, HSG A
113,211		Weighted Average
110,857	47	97.92% Pervious Area
2,354	98	2.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.1	100	0.0200	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
12.9	382	0.0050	0.49		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
1.4	226	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.4	187	0.0700	1.32		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
26.8	895	Total			

Subcatchment ES-1B:



Summary for Subcatchment ES-2:

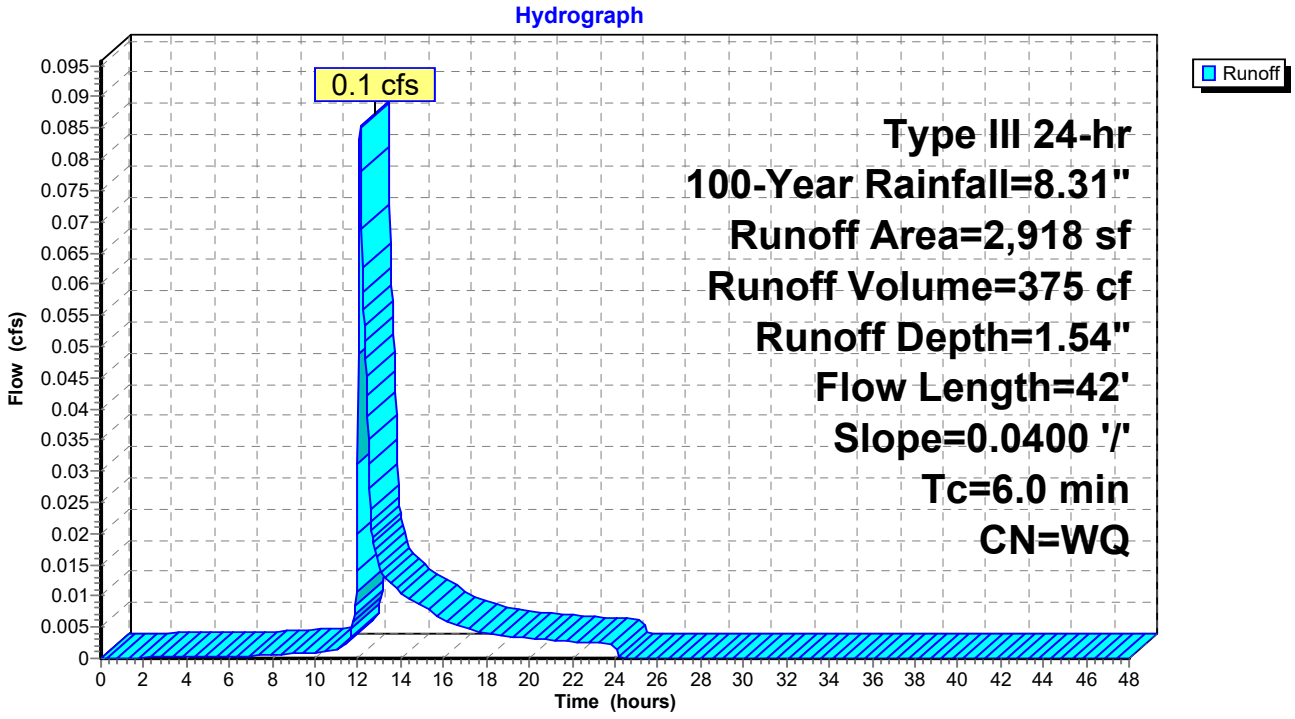
Runoff = 0.1 cfs @ 12.11 hrs, Volume= 375 cf, Depth= 1.54"
Routed to Link DP-2 : Silver Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.31"

Area (sf)	CN	Description
2,810	39	>75% Grass cover, Good, HSG A
108	98	Paved parking, HSG A
2,918		Weighted Average
2,810	39	96.30% Pervious Area
108	98	3.70% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	42	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	42	Total, Increased to minimum Tc = 6.0 min			

Subcatchment ES-2:



Summary for Pond 1P: Existing Basin

Inflow Area = 67,363 sf, 80.39% Impervious, Inflow Depth = 6.78" for 100-Year event
Inflow = 10.4 cfs @ 12.09 hrs, Volume= 38,074 cf
Outflow = 5.1 cfs @ 12.24 hrs, Volume= 37,914 cf, Atten= 52%, Lag= 9.4 min
Primary = 5.1 cfs @ 12.24 hrs, Volume= 37,914 cf
Routed to Link DP-1 : Offsite Wetland

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Peak Elev= 186.88' @ 12.24 hrs Surf.Area= 3,649 sf Storage= 5,839 cf

Plug-Flow detention time= 24.0 min calculated for 37,914 cf (100% of inflow)
Center-of-Mass det. time= 20.9 min (767.7 - 746.8)

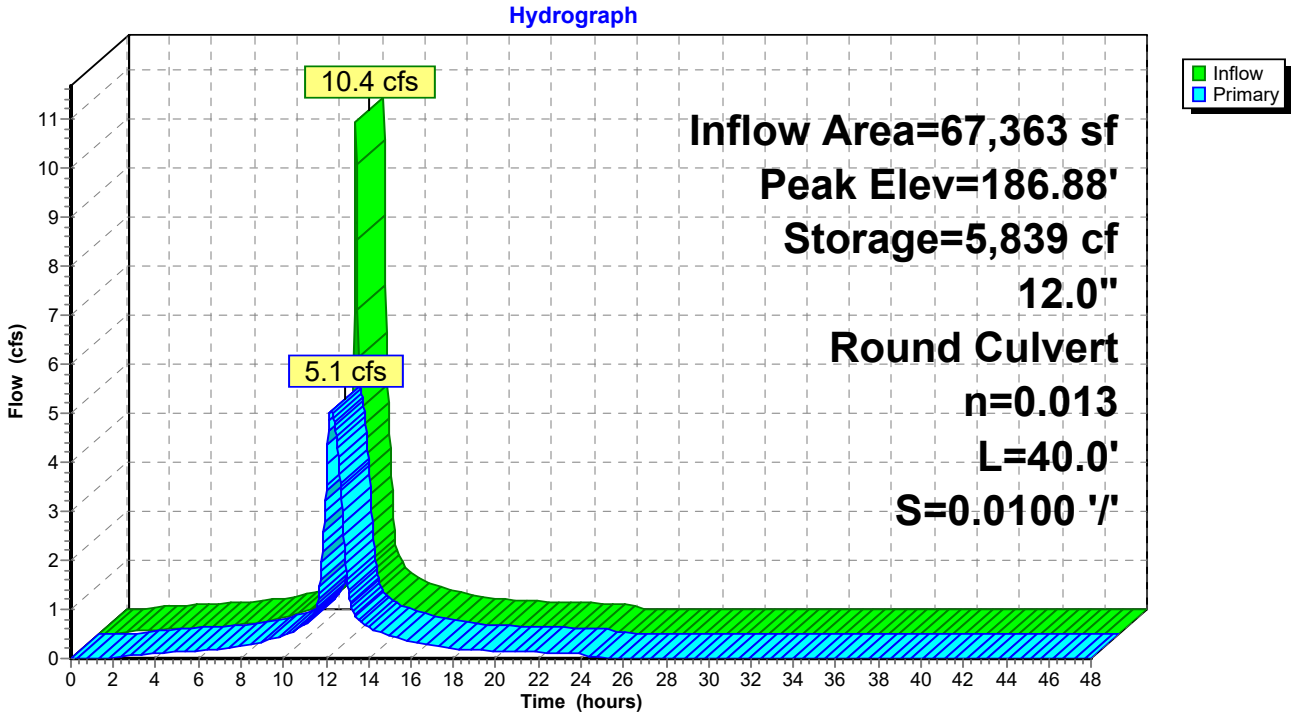
Volume	Invert	Avail.Storage	Storage Description
#1	184.50'	10,389 cf	**Existing Basin (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
184.50	604	168.0	0	0	604
185.00	1,790	222.0	572	572	2,283
186.00	2,963	257.0	2,352	2,924	3,638
187.00	3,745	275.0	3,346	6,271	4,445
188.00	4,504	293.0	4,119	10,389	5,307

Device	Routing	Invert	Outlet Devices
#1	Primary	184.70'	**12.0" Round Culvert** L= 40.0' Ke= 0.200 Inlet / Outlet Invert= 184.70' / 184.30' S= 0.0100 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf

Primary OutFlow Max=5.1 cfs @ 12.24 hrs HW=186.88' (Free Discharge)
1=Culvert (Barrel Controls 5.1 cfs @ 6.44 fps)

Pond 1P: Existing Basin

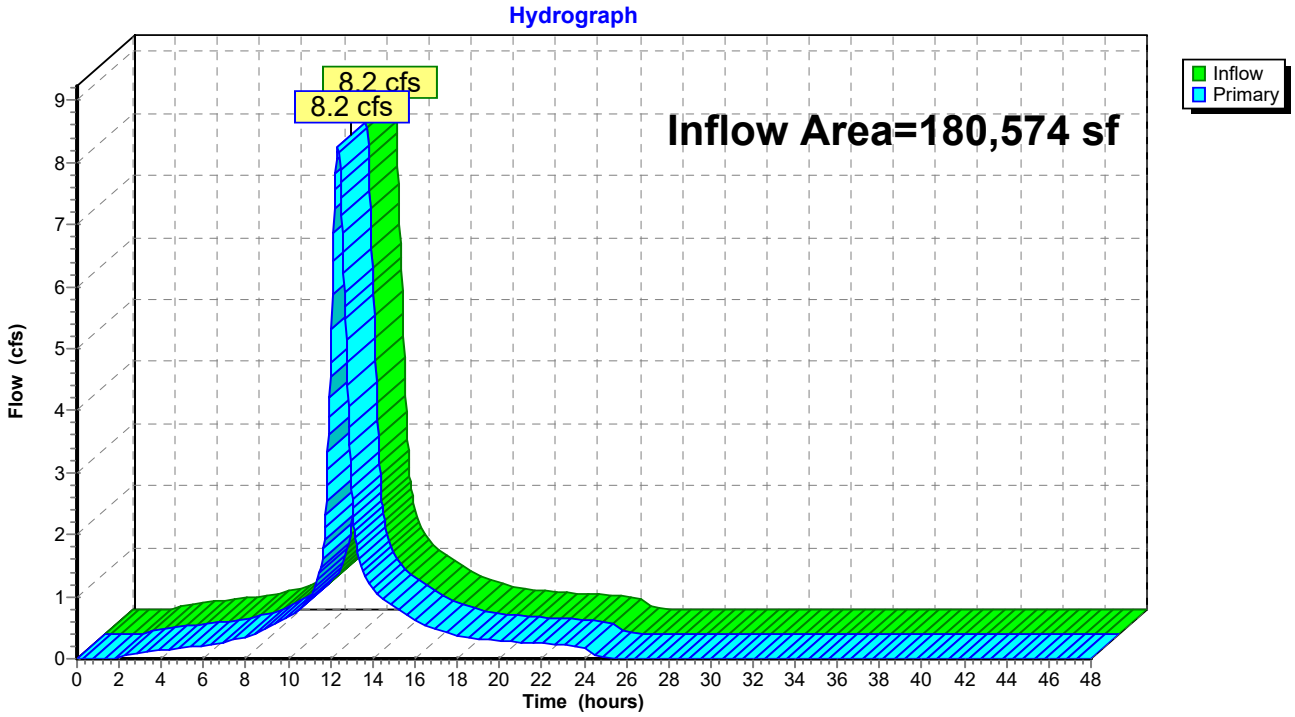


Summary for Link DP-1: Offsite Wetland

Inflow Area = 180,574 sf, 31.29% Impervious, Inflow Depth = 4.01" for 100-Year event
Inflow = 8.2 cfs @ 12.35 hrs, Volume= 60,414 cf
Primary = 8.2 cfs @ 12.35 hrs, Volume= 60,414 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite Wetland

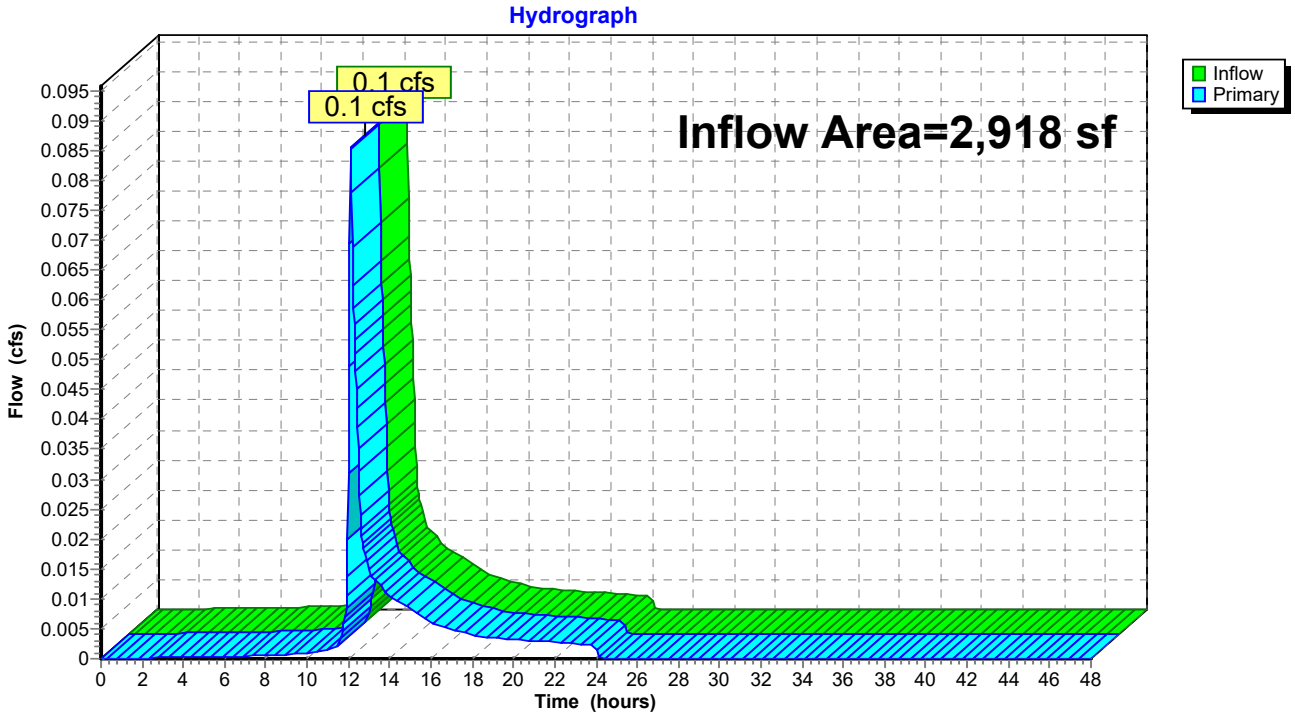


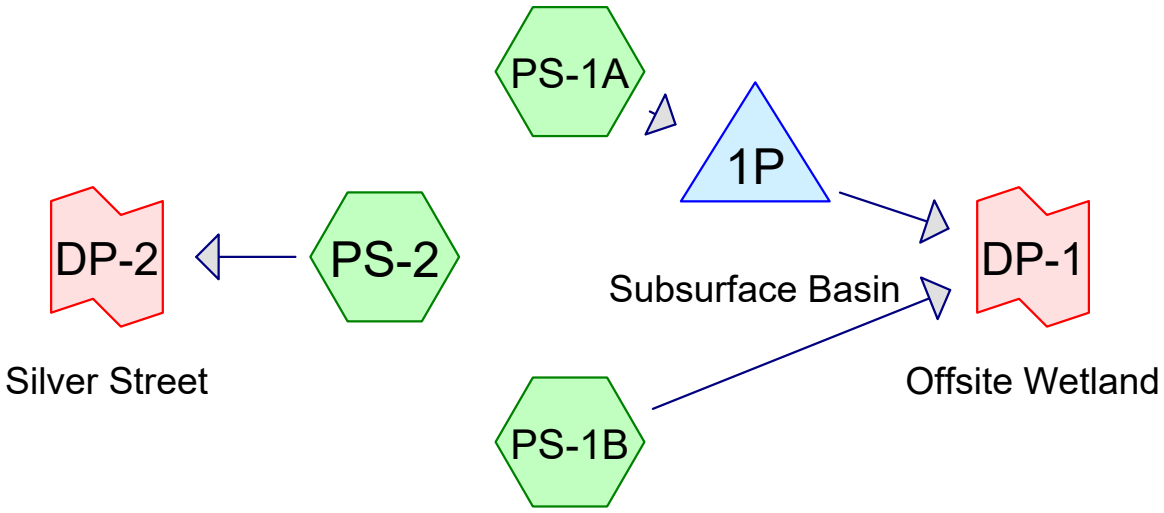
Summary for Link DP-2: Silver Street

Inflow Area = 2,918 sf, 3.70% Impervious, Inflow Depth = 1.54" for 100-Year event
Inflow = 0.1 cfs @ 12.11 hrs, Volume= 375 cf
Primary = 0.1 cfs @ 12.11 hrs, Volume= 375 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Silver Street





Subcat Reach Pond Link

Routing Diagram for 250903 - POST
Prepared by R Levesque Associates, Printed 3/4/2026
HydroCAD® 10.20-7a s/n 13073 © 2025 HydroCAD Software Solutions LLC

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	Type III 24-hr		Default	24.00	1	3.22	2
2	10-Year	Type III 24-hr		Default	24.00	1	5.18	2
3	100-Year	Type III 24-hr		Default	24.00	1	8.31	2

Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS-1A: Runoff Area=107,978 sf 96.08% Impervious Runoff Depth=2.87"
Tc=6.0 min CN=WQ Runoff=7.4 cfs 25,828 cf

Subcatchment PS-1B: Runoff Area=72,596 sf 0.17% Impervious Runoff Depth=0.01"
Flow Length=944' Tc=31.9 min CN=WQ Runoff=0.0 cfs 32 cf

Subcatchment PS-2: Runoff Area=2,918 sf 3.87% Impervious Runoff Depth=0.12"
Flow Length=42' Slope=0.0400 '/' Tc=6.0 min CN=WQ Runoff=0.0 cfs 28 cf

Pond 1P: Subsurface Basin Peak Elev=183.02' Storage=7,740 cf Inflow=7.4 cfs 25,828 cf
Discarded=0.3 cfs 16,160 cf Primary=3.3 cfs 9,669 cf Outflow=3.5 cfs 25,828 cf

Link DP-1: Offsite Wetland Inflow=3.3 cfs 9,701 cf
Primary=3.3 cfs 9,701 cf

Link DP-2: Silver Street Inflow=0.0 cfs 28 cf
Primary=0.0 cfs 28 cf

Total Runoff Area = 183,492 sf Runoff Volume = 25,889 cf Average Runoff Depth = 1.69"
43.33% Pervious = 79,507 sf 56.67% Impervious = 103,985 sf

Summary for Subcatchment PS-1A:

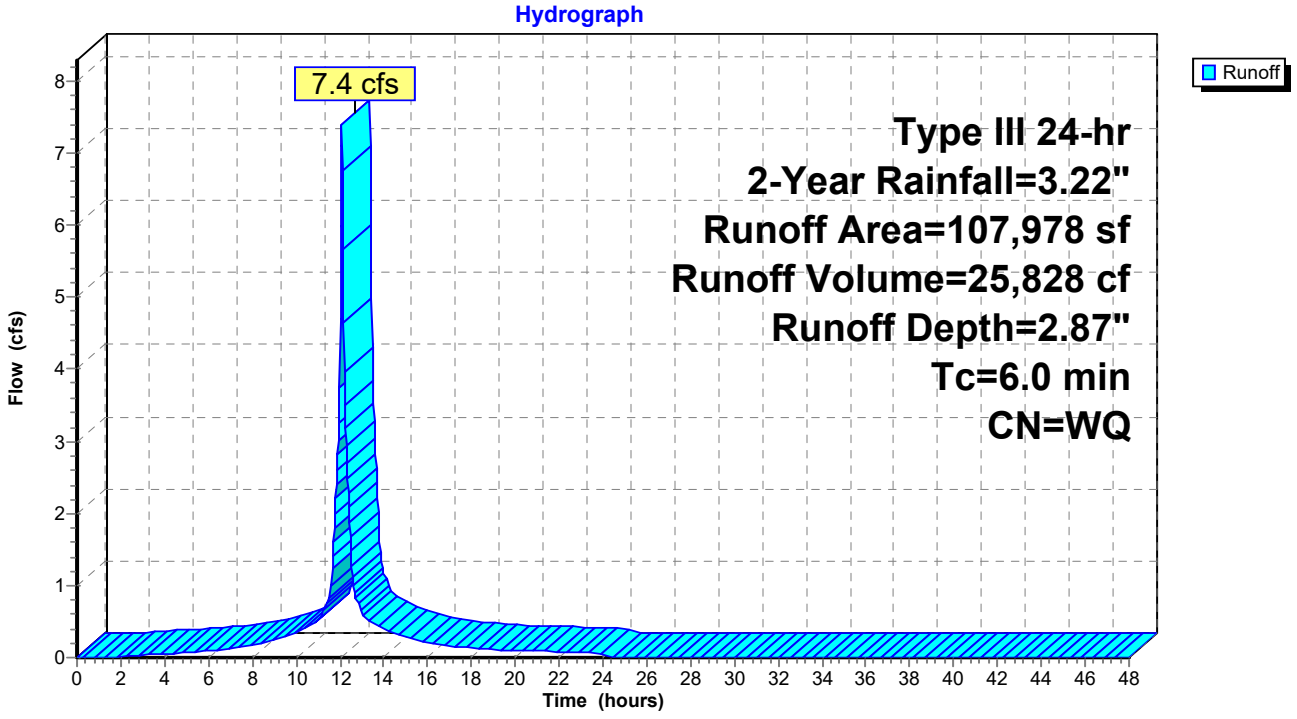
Runoff = 7.4 cfs @ 12.08 hrs, Volume= 25,828 cf, Depth= 2.87"
Routed to Pond 1P : Subsurface Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.22"

Area (sf)	CN	Description
4,230	39	>75% Grass cover, Good, HSG A
81,290	98	Paved parking, HSG A
22,457	98	Roofs, HSG A
107,978		Weighted Average
4,230	39	3.92% Pervious Area
103,748	98	96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PS-1A:



Summary for Subcatchment PS-1B:

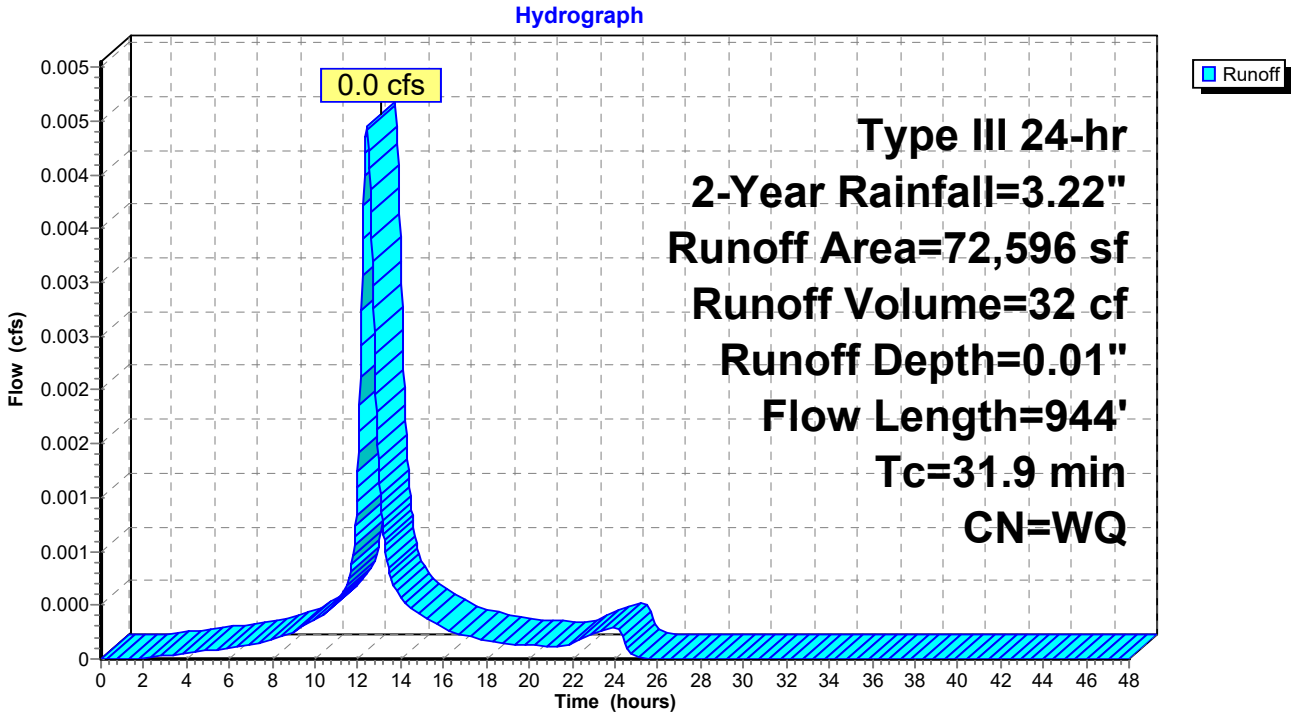
Runoff = 0.0 cfs @ 12.42 hrs, Volume= 32 cf, Depth= 0.01"
Routed to Link DP-1 : Offsite Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.22"

Area (sf)	CN	Description
31,982	39	>75% Grass cover, Good, HSG A
124	98	Paved parking, HSG A
40,491	30	Woods, Good, HSG A
72,596		Weighted Average
72,472	34	99.83% Pervious Area
124	98	0.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	100	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
16.3	685	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	159	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.9	944	Total			

Subcatchment PS-1B:



Summary for Subcatchment PS-2:

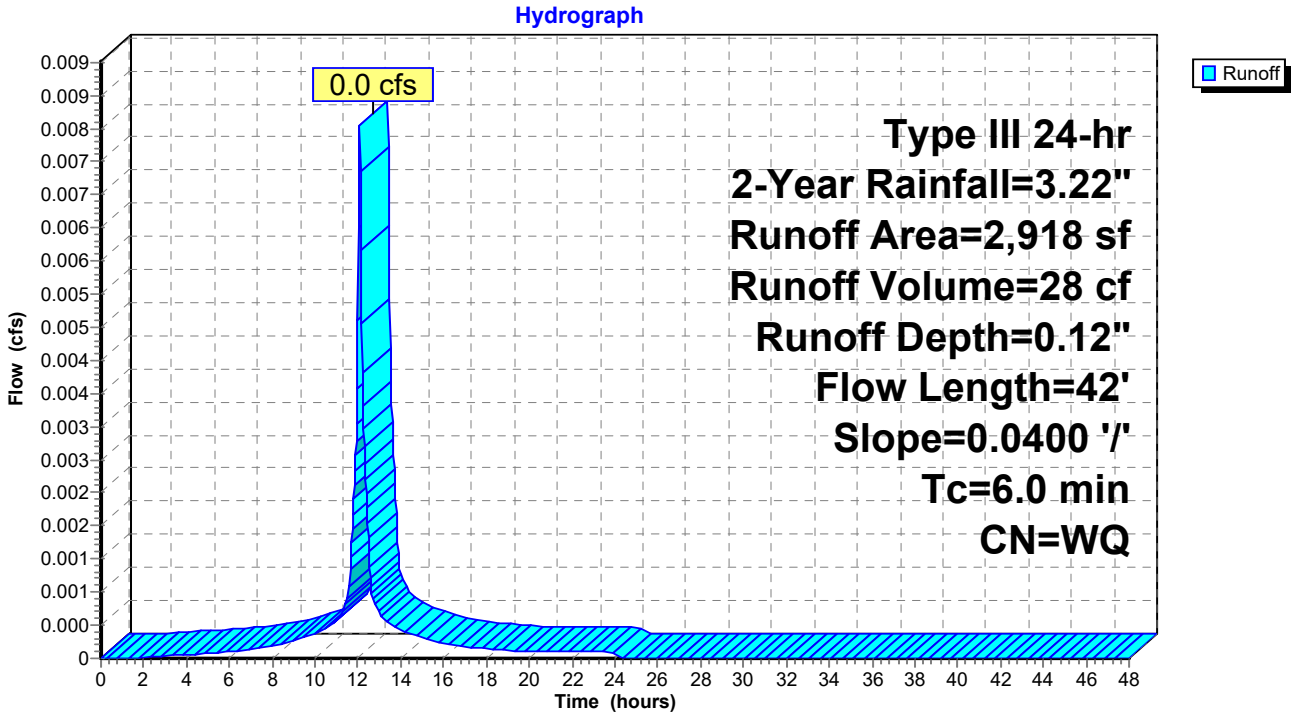
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 28 cf, Depth= 0.12"
Routed to Link DP-2 : Silver Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 2-Year Rainfall=3.22"

Area (sf)	CN	Description
2,805	39	>75% Grass cover, Good, HSG A
113	98	Paved parking, HSG A
2,918		Weighted Average
2,805	39	96.13% Pervious Area
113	98	3.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	42	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	42	Total, Increased to minimum Tc = 6.0 min			

Subcatchment PS-2:



Summary for Pond 1P: Subsurface Basin

Inflow Area = 107,978 sf, 96.08% Impervious, Inflow Depth = 2.87" for 2-Year event
Inflow = 7.4 cfs @ 12.08 hrs, Volume= 25,828 cf
Outflow = 3.5 cfs @ 12.24 hrs, Volume= 25,828 cf, Atten= 52%, Lag= 9.5 min
Discarded = 0.3 cfs @ 9.42 hrs, Volume= 16,160 cf
Primary = 3.3 cfs @ 12.24 hrs, Volume= 9,669 cf
Routed to Link DP-1 : Offsite Wetland

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Peak Elev= 183.02' @ 12.24 hrs Surf.Area= 4,992 sf Storage= 7,740 cf

Plug-Flow detention time= 83.8 min calculated for 25,812 cf (100% of inflow)
Center-of-Mass det. time= 83.8 min (840.1 - 756.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	181.00'	998 cf	**48.00'W x 104.00'L x 5.17'H Field A** 25,792 cf Overall - 23,296 cf Embedded = 2,496 cf x 40.0% Voids
#2A	181.50'	17,726 cf	**retain_it retain_it 4.0'** x 78 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 286.9 cf perimeter wall
		18,725 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	181.30'	**12.0" Round Culvert** L= 79.0' Ke= 0.200 Inlet / Outlet Invert= 181.30' / 180.50' S= 0.0101 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	182.00'	**6.0" W x 9.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	182.75'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	181.00'	**2.410 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.3 cfs @ 9.42 hrs HW=181.05' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=3.2 cfs @ 12.24 hrs HW=183.02' (Free Discharge)
└**1=Culvert** (Passes 3.2 cfs of 4.1 cfs potential flow)
  ├**2=Orifice** (Orifice Controls 1.4 cfs @ 3.81 fps)
  └**3=Sharp-Crested Rectangular Weir** (Weir Controls 1.8 cfs @ 1.70 fps)

Pond 1P: Subsurface Basin - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 286.9 cf perimeter wall

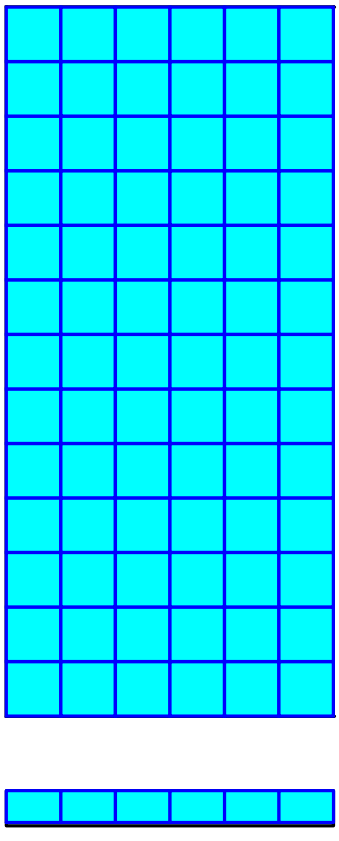
13 Chambers/Row x 8.00' Long = 104.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Stone Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 13 x 2 + 7.5 cf Endwall x 6 x 2 = 286.9 cf Perimeter Wall
78 Chambers x 230.9 cf - 286.9 cf Perimeter wall = 17,726.4 cf Chamber Storage
78 Chambers x 298.7 cf = 23,296.0 cf Displacement

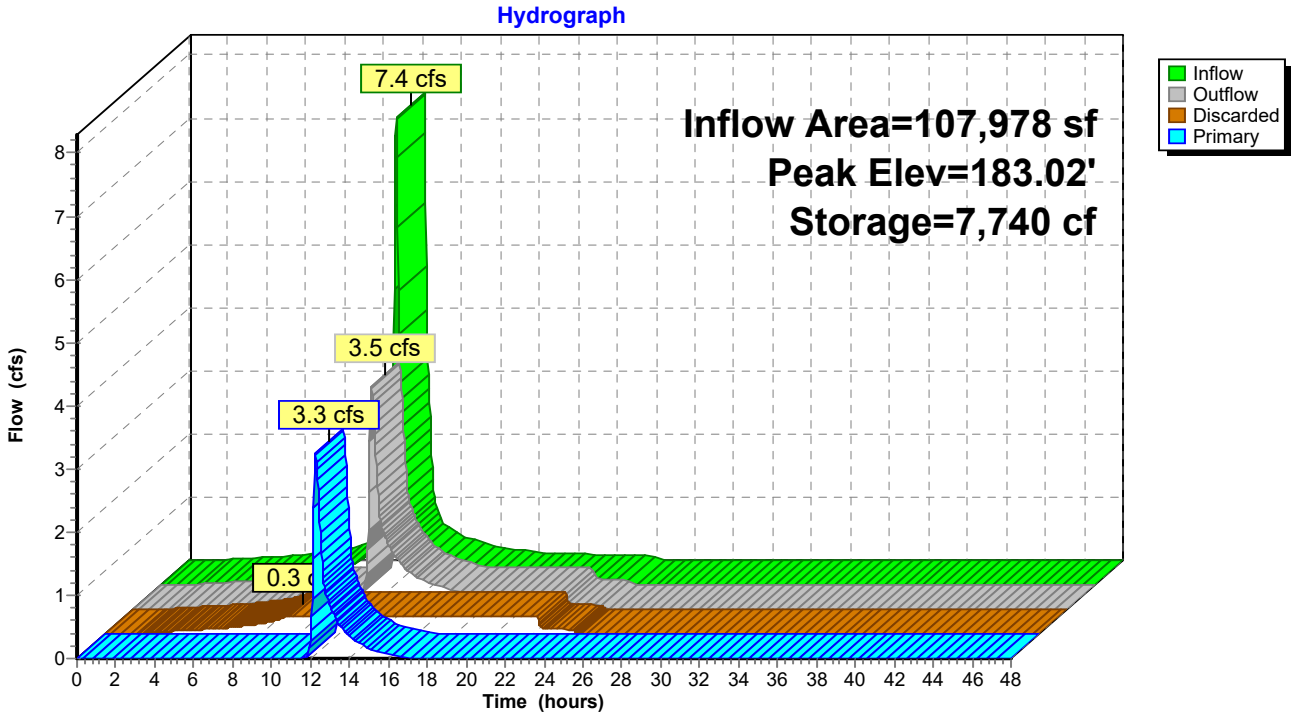
25,792.0 cf Field - 23,296.0 cf Chambers = 2,496.0 cf Stone x 40.0% Voids = 998.4 cf Stone Storage

Chamber Storage + Stone Storage = 18,724.8 cf = 0.430 af
Overall Storage Efficiency = 72.6%
Overall System Size = 104.00' x 48.00' x 5.17'

78 Chambers
955.3 cy Field
92.4 cy Stone



Pond 1P: Subsurface Basin

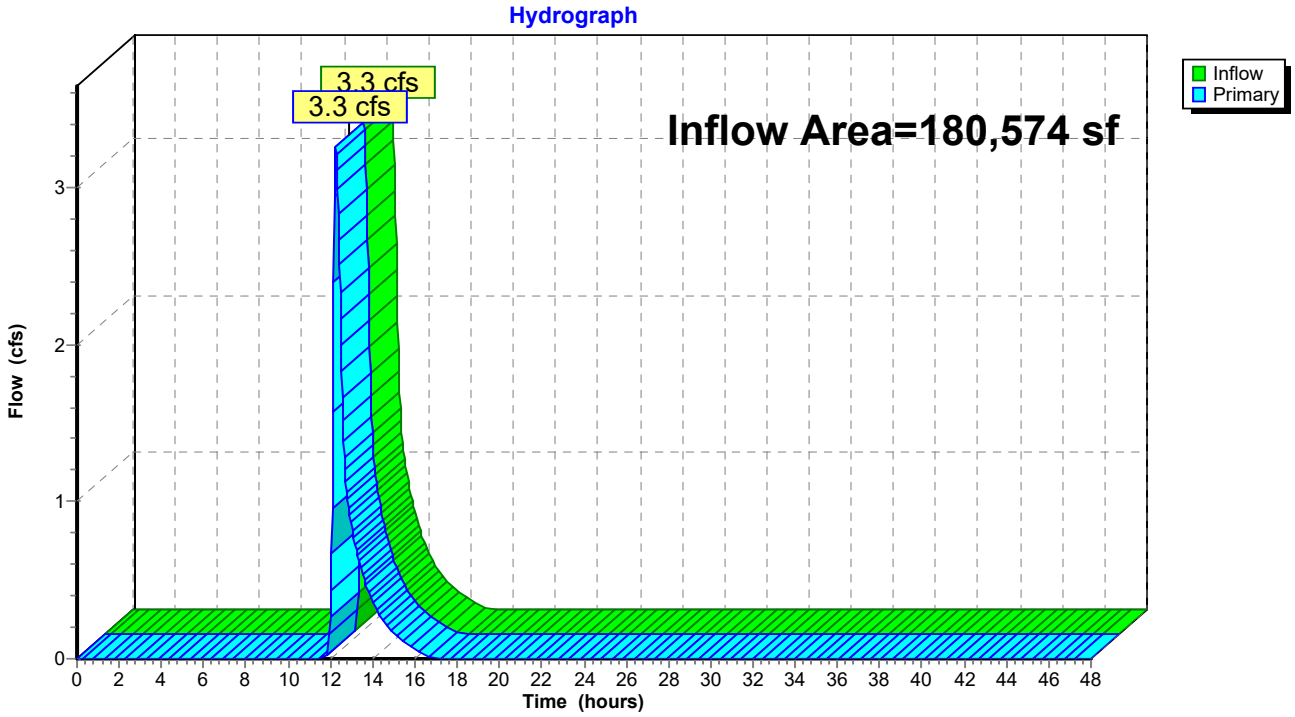


Summary for Link DP-1: Offsite Wetland

Inflow Area = 180,574 sf, 57.52% Impervious, Inflow Depth = 0.64" for 2-Year event
Inflow = 3.3 cfs @ 12.24 hrs, Volume= 9,701 cf
Primary = 3.3 cfs @ 12.24 hrs, Volume= 9,701 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite Wetland

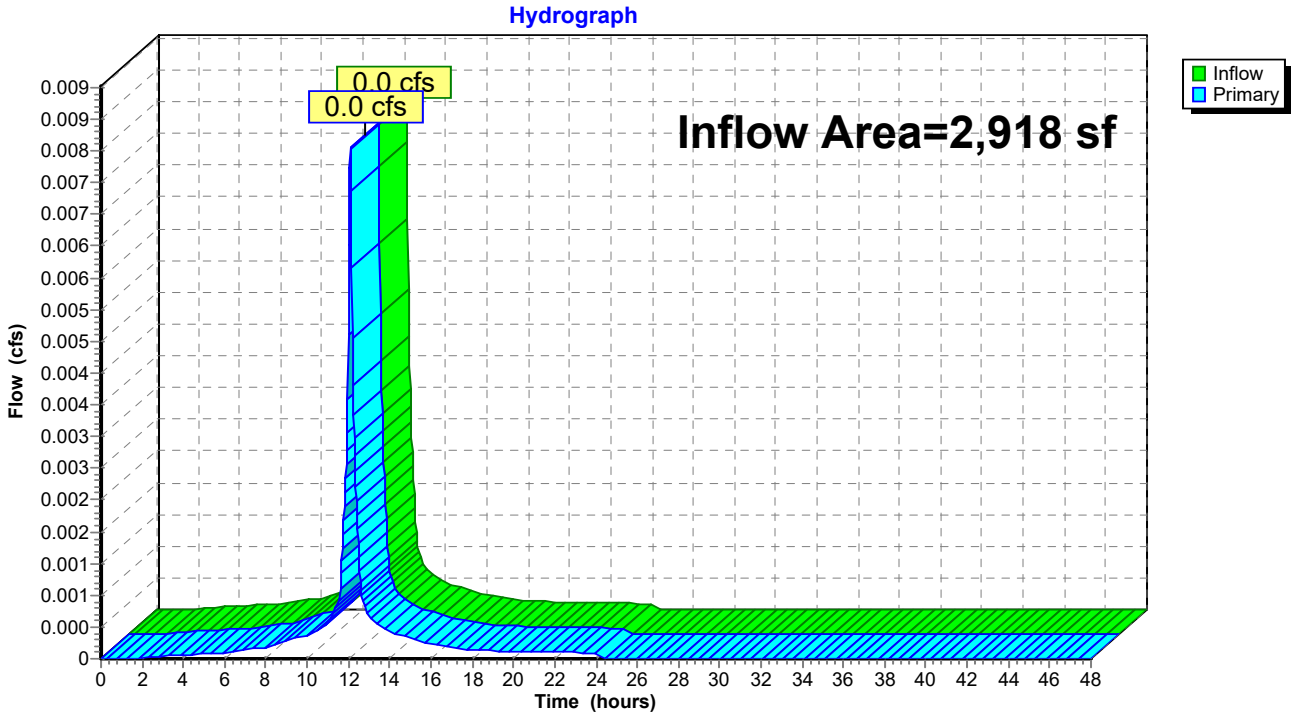


Summary for Link DP-2: Silver Street

Inflow Area = 2,918 sf, 3.87% Impervious, Inflow Depth = 0.12" for 2-Year event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 28 cf
Primary = 0.0 cfs @ 12.08 hrs, Volume= 28 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Silver Street



Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS-1A: Runoff Area=107,978 sf 96.08% Impervious Runoff Depth=4.76"
Tc=6.0 min CN=WQ Runoff=12.0 cfs 42,818 cf

Subcatchment PS-1B: Runoff Area=72,596 sf 0.17% Impervious Runoff Depth=0.12"
Flow Length=944' Tc=31.9 min CN=WQ Runoff=0.0 cfs 723 cf

Subcatchment PS-2: Runoff Area=2,918 sf 3.87% Impervious Runoff Depth=0.42"
Flow Length=42' Slope=0.0400 '/' Tc=6.0 min CN=WQ Runoff=0.0 cfs 102 cf

Pond 1P: Subsurface Basin Peak Elev=183.91' Storage=11,659 cf Inflow=12.0 cfs 42,818 cf
Discarded=0.3 cfs 20,079 cf Primary=5.1 cfs 22,739 cf Outflow=5.4 cfs 42,818 cf

Link DP-1: Offsite Wetland Inflow=5.1 cfs 23,462 cf
Primary=5.1 cfs 23,462 cf

Link DP-2: Silver Street Inflow=0.0 cfs 102 cf
Primary=0.0 cfs 102 cf

Total Runoff Area = 183,492 sf Runoff Volume = 43,643 cf Average Runoff Depth = 2.85"
43.33% Pervious = 79,507 sf 56.67% Impervious = 103,985 sf

Summary for Subcatchment PS-1A:

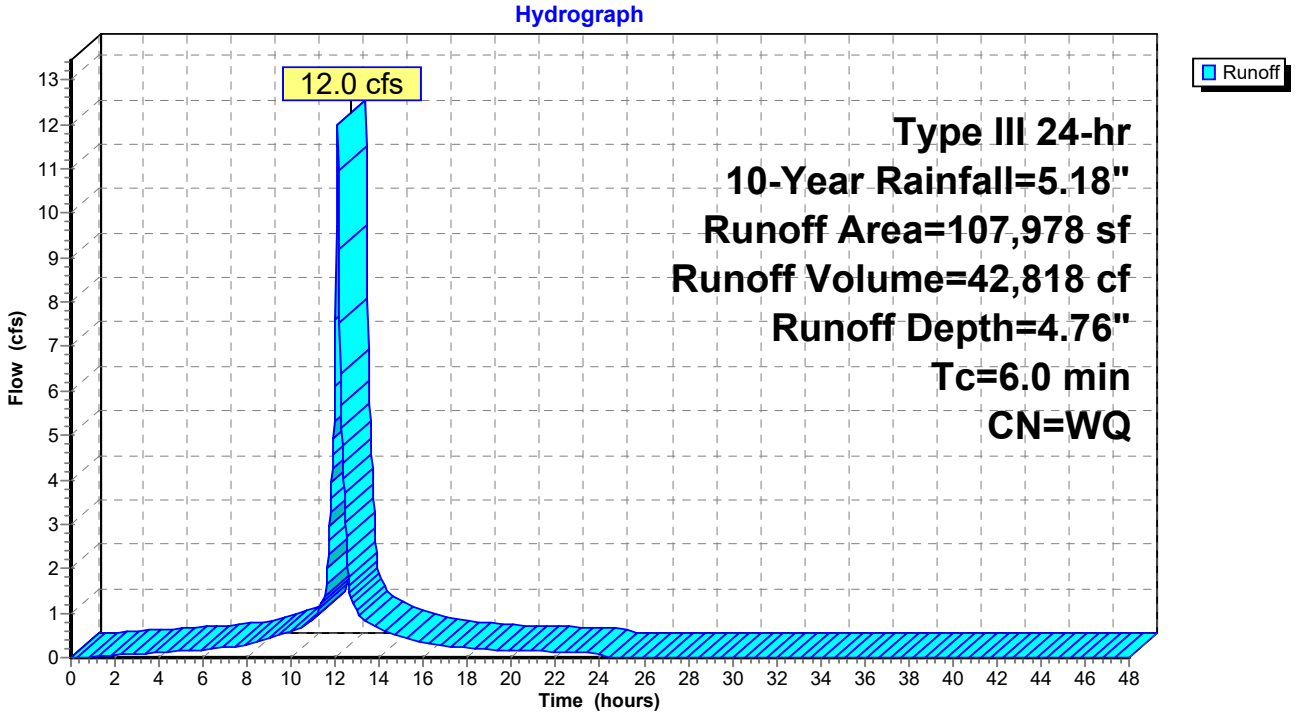
Runoff = 12.0 cfs @ 12.08 hrs, Volume= 42,818 cf, Depth= 4.76"
Routed to Pond 1P : Subsurface Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
4,230	39	>75% Grass cover, Good, HSG A
81,290	98	Paved parking, HSG A
22,457	98	Roofs, HSG A
107,978		Weighted Average
4,230	39	3.92% Pervious Area
103,748	98	96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PS-1A:



Summary for Subcatchment PS-1B:

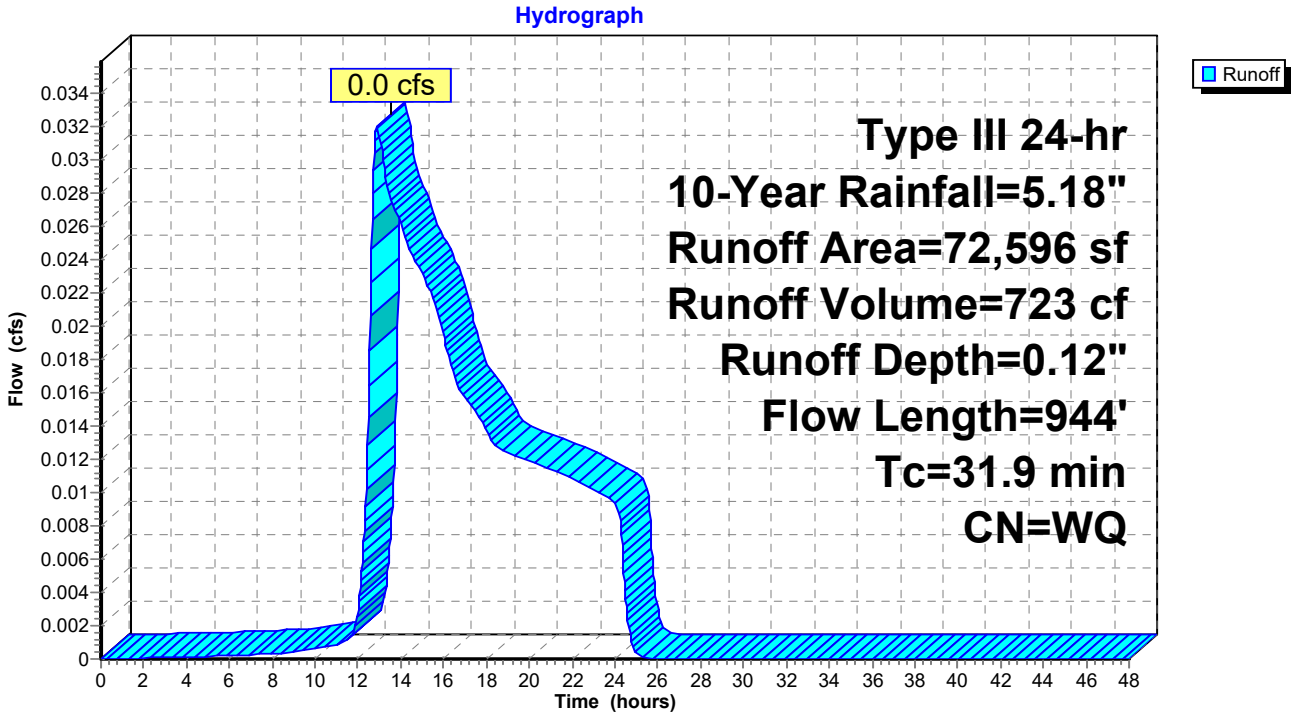
Runoff = 0.0 cfs @ 12.88 hrs, Volume= 723 cf, Depth= 0.12"
Routed to Link DP-1 : Offsite Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
31,982	39	>75% Grass cover, Good, HSG A
124	98	Paved parking, HSG A
40,491	30	Woods, Good, HSG A
72,596		Weighted Average
72,472	34	99.83% Pervious Area
124	98	0.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	100	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
16.3	685	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	159	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.9	944	Total			

Subcatchment PS-1B:



Summary for Subcatchment PS-2:

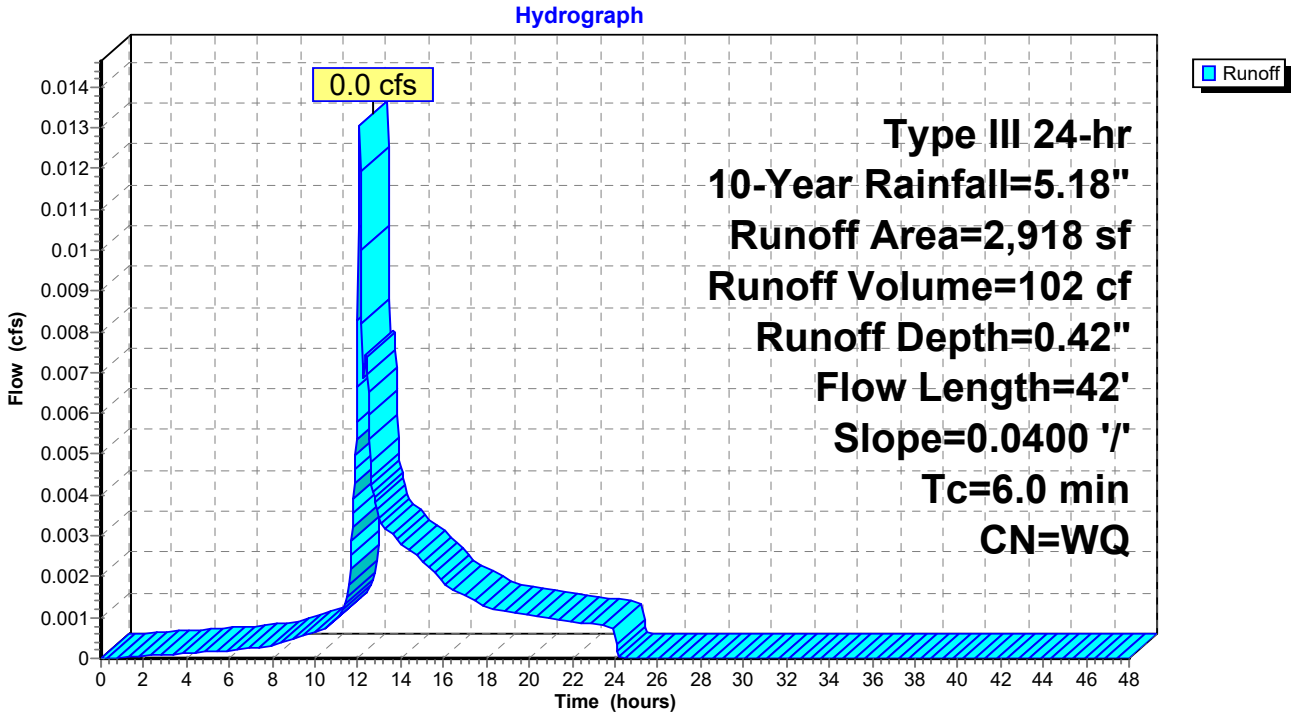
Runoff = 0.0 cfs @ 12.08 hrs, Volume= 102 cf, Depth= 0.42"
Routed to Link DP-2 : Silver Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
2,805	39	>75% Grass cover, Good, HSG A
113	98	Paved parking, HSG A
2,918		Weighted Average
2,805	39	96.13% Pervious Area
113	98	3.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	42	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	42	Total, Increased to minimum Tc = 6.0 min			

Subcatchment PS-2:



Summary for Pond 1P: Subsurface Basin

Inflow Area = 107,978 sf, 96.08% Impervious, Inflow Depth = 4.76" for 10-Year event
Inflow = 12.0 cfs @ 12.08 hrs, Volume= 42,818 cf
Outflow = 5.4 cfs @ 12.26 hrs, Volume= 42,818 cf, Atten= 55%, Lag= 10.5 min
Discarded = 0.3 cfs @ 7.89 hrs, Volume= 20,079 cf
Primary = 5.1 cfs @ 12.26 hrs, Volume= 22,739 cf
Routed to Link DP-1 : Offsite Wetland

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Peak Elev= 183.91' @ 12.26 hrs Surf.Area= 4,992 sf Storage= 11,659 cf

Plug-Flow detention time= 76.8 min calculated for 42,792 cf (100% of inflow)
Center-of-Mass det. time= 76.8 min (824.7 - 747.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	181.00'	998 cf	**48.00'W x 104.00'L x 5.17'H Field A** 25,792 cf Overall - 23,296 cf Embedded = 2,496 cf x 40.0% Voids
#2A	181.50'	17,726 cf	**retain_it retain_it 4.0'** x 78 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 286.9 cf perimeter wall
		18,725 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	181.30'	**12.0" Round Culvert** L= 79.0' Ke= 0.200 Inlet / Outlet Invert= 181.30' / 180.50' S= 0.0101 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	182.00'	**6.0" W x 9.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	182.75'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	181.00'	**2.410 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.3 cfs @ 7.89 hrs HW=181.05' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=5.1 cfs @ 12.26 hrs HW=183.90' (Free Discharge)
└**1=Culvert** (Barrel Controls 5.1 cfs @ 6.49 fps)
  ├**2=Orifice** (Passes < 2.2 cfs potential flow)
  └**3=Sharp-Crested Rectangular Weir** (Passes < 15.3 cfs potential flow)

Pond 1P: Subsurface Basin - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 286.9 cf perimeter wall

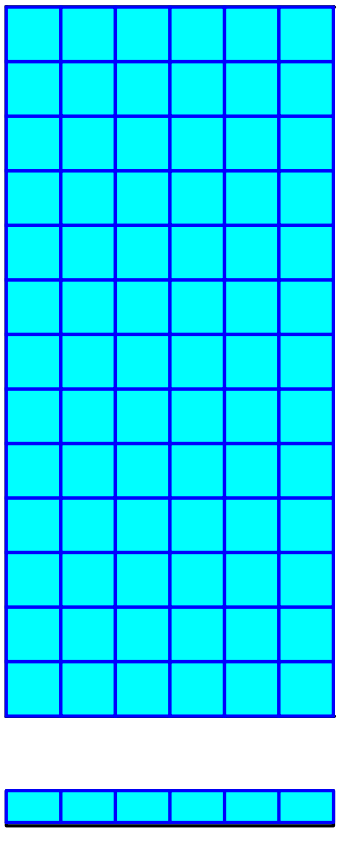
13 Chambers/Row x 8.00' Long = 104.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Stone Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 13 x 2 + 7.5 cf Endwall x 6 x 2 = 286.9 cf Perimeter Wall
78 Chambers x 230.9 cf - 286.9 cf Perimeter wall = 17,726.4 cf Chamber Storage
78 Chambers x 298.7 cf = 23,296.0 cf Displacement

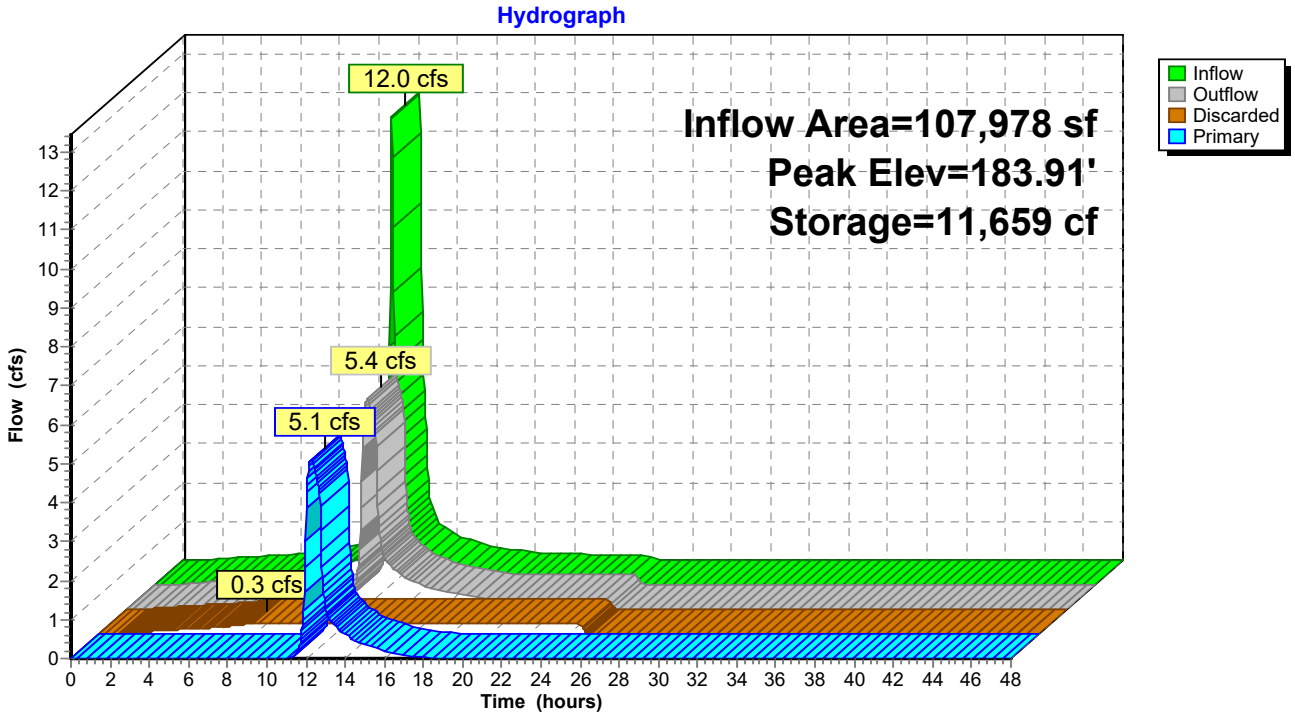
25,792.0 cf Field - 23,296.0 cf Chambers = 2,496.0 cf Stone x 40.0% Voids = 998.4 cf Stone Storage

Chamber Storage + Stone Storage = 18,724.8 cf = 0.430 af
Overall Storage Efficiency = 72.6%
Overall System Size = 104.00' x 48.00' x 5.17'

78 Chambers
955.3 cy Field
92.4 cy Stone



Pond 1P: Subsurface Basin

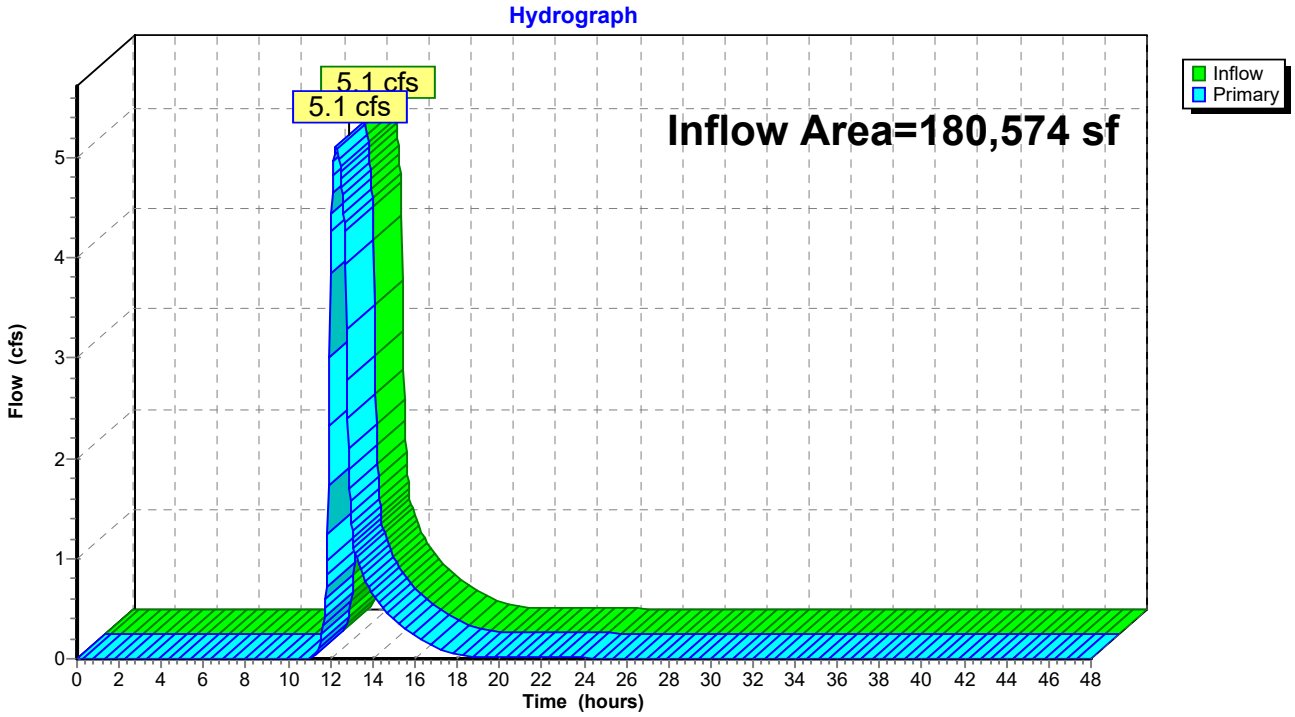


Summary for Link DP-1: Offsite Wetland

Inflow Area = 180,574 sf, 57.52% Impervious, Inflow Depth = 1.56" for 10-Year event
Inflow = 5.1 cfs @ 12.26 hrs, Volume= 23,462 cf
Primary = 5.1 cfs @ 12.26 hrs, Volume= 23,462 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite Wetland

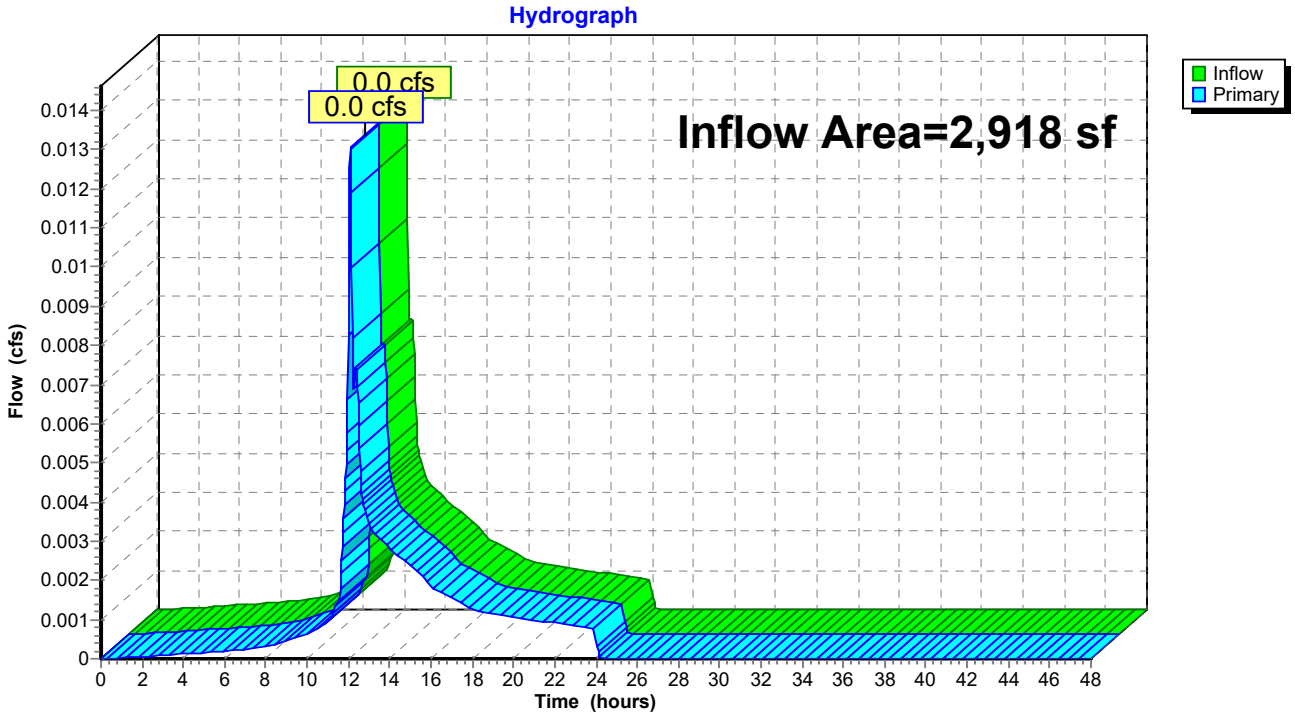


Summary for Link DP-2: Silver Street

Inflow Area = 2,918 sf, 3.87% Impervious, Inflow Depth = 0.42" for 10-Year event
Inflow = 0.0 cfs @ 12.08 hrs, Volume= 102 cf
Primary = 0.0 cfs @ 12.08 hrs, Volume= 102 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Silver Street



Time span=0.00-48.00 hrs, dt=0.03 hrs, 1601 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment PS-1A: Runoff Area=107,978 sf 96.08% Impervious Runoff Depth=7.80"
Tc=6.0 min CN=WQ Runoff=19.4 cfs 70,225 cf

Subcatchment PS-1B: Runoff Area=72,596 sf 0.17% Impervious Runoff Depth=0.86"
Flow Length=944' Tc=31.9 min CN=WQ Runoff=0.5 cfs 5,180 cf

Subcatchment PS-2: Runoff Area=2,918 sf 3.87% Impervious Runoff Depth=1.55"
Flow Length=42' Slope=0.0400 '/' Tc=6.0 min CN=WQ Runoff=0.1 cfs 377 cf

Pond 1P: Subsurface Basin Peak Elev=185.46' Storage=18,562 cf Inflow=19.4 cfs 70,225 cf
Discarded=0.3 cfs 24,067 cf Primary=6.5 cfs 46,158 cf Outflow=6.8 cfs 70,225 cf

Link DP-1: Offsite Wetland Inflow=6.9 cfs 51,338 cf
Primary=6.9 cfs 51,338 cf

Link DP-2: Silver Street Inflow=0.1 cfs 377 cf
Primary=0.1 cfs 377 cf

Total Runoff Area = 183,492 sf Runoff Volume = 75,783 cf Average Runoff Depth = 4.96"
43.33% Pervious = 79,507 sf 56.67% Impervious = 103,985 sf

Summary for Subcatchment PS-1A:

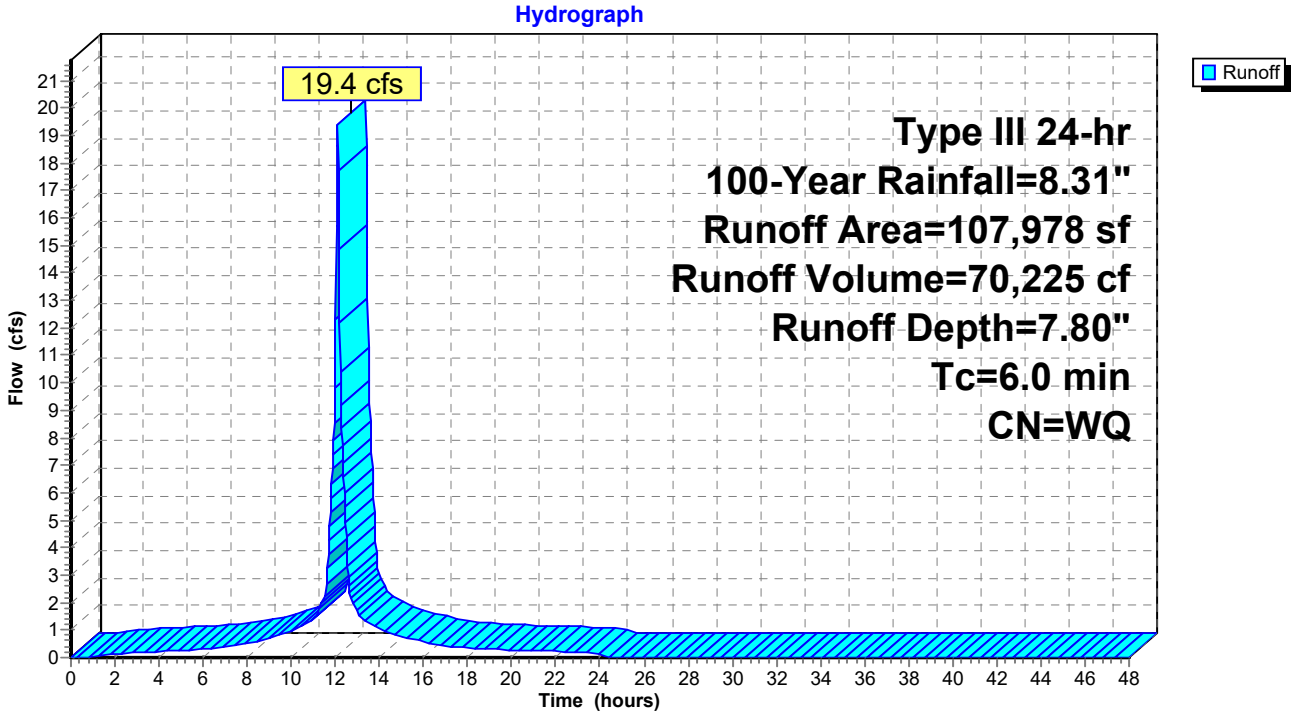
Runoff = 19.4 cfs @ 12.08 hrs, Volume= 70,225 cf, Depth= 7.80"
Routed to Pond 1P : Subsurface Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.31"

Area (sf)	CN	Description
4,230	39	>75% Grass cover, Good, HSG A
81,290	98	Paved parking, HSG A
22,457	98	Roofs, HSG A
107,978		Weighted Average
4,230	39	3.92% Pervious Area
103,748	98	96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Subcatchment PS-1A:



Summary for Subcatchment PS-1B:

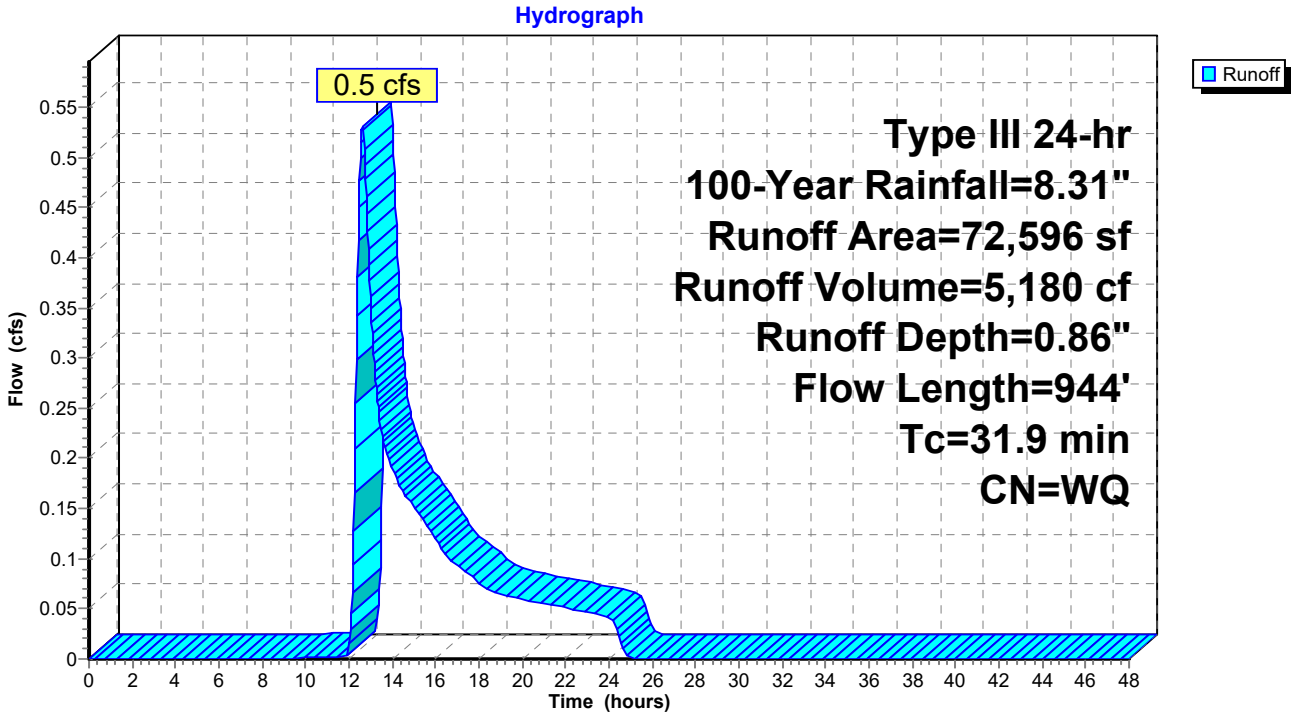
Runoff = 0.5 cfs @ 12.61 hrs, Volume= 5,180 cf, Depth= 0.86"
Routed to Link DP-1 : Offsite Wetland

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.31"

Area (sf)	CN	Description
31,982	39	>75% Grass cover, Good, HSG A
124	98	Paved parking, HSG A
40,491	30	Woods, Good, HSG A
72,596		Weighted Average
72,472	34	99.83% Pervious Area
124	98	0.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.4	100	0.0100	0.12		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
16.3	685	0.0100	0.70		**Shallow Concentrated Flow,** Short Grass Pasture Kv= 7.0 fps
2.2	159	0.0600	1.22		**Shallow Concentrated Flow,** Woodland Kv= 5.0 fps
31.9	944	Total			

Subcatchment PS-1B:



Summary for Subcatchment PS-2:

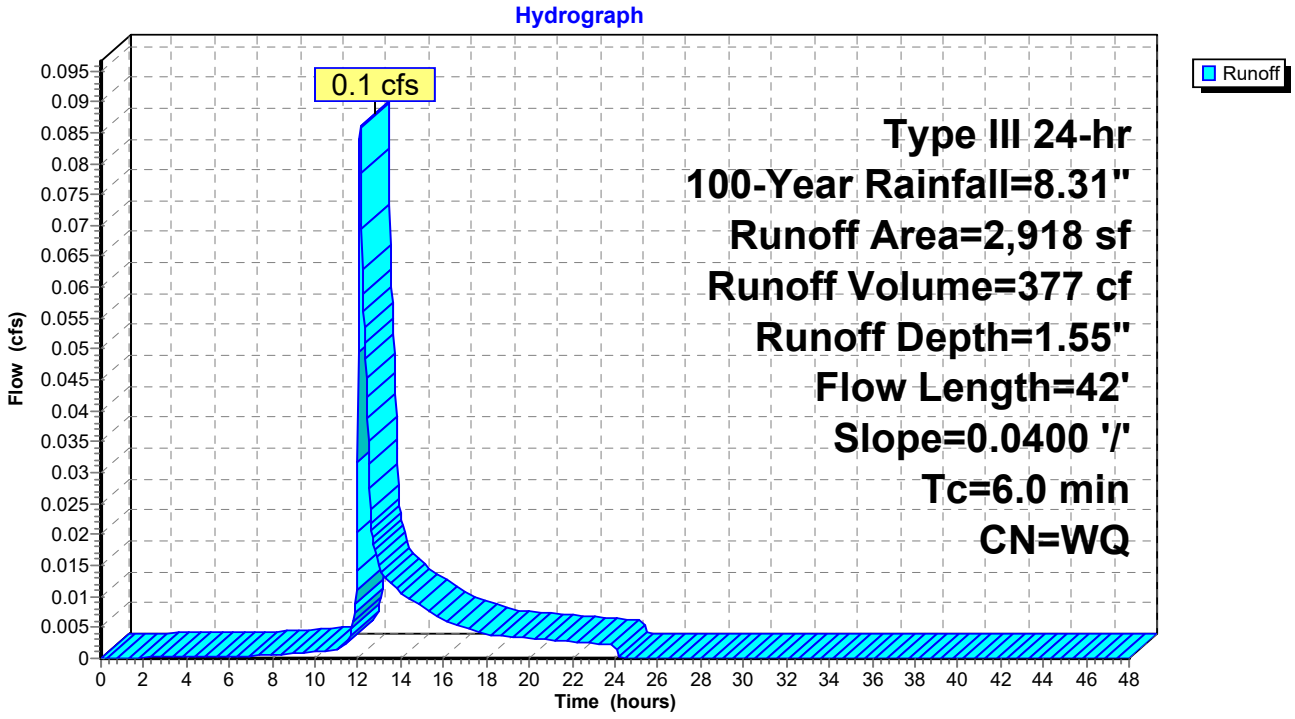
Runoff = 0.1 cfs @ 12.11 hrs, Volume= 377 cf, Depth= 1.55"
Routed to Link DP-2 : Silver Street

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 100-Year Rainfall=8.31"

Area (sf)	CN	Description
2,805	39	>75% Grass cover, Good, HSG A
113	98	Paved parking, HSG A
2,918		Weighted Average
2,805	39	96.13% Pervious Area
113	98	3.87% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.8	42	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.00"
3.8	42	Total, Increased to minimum Tc = 6.0 min			

Subcatchment PS-2:



Summary for Pond 1P: Subsurface Basin

Inflow Area = 107,978 sf, 96.08% Impervious, Inflow Depth = 7.80" for 100-Year event
Inflow = 19.4 cfs @ 12.08 hrs, Volume= 70,225 cf
Outflow = 6.8 cfs @ 12.35 hrs, Volume= 70,225 cf, Atten= 65%, Lag= 15.6 min
Discarded = 0.3 cfs @ 5.73 hrs, Volume= 24,067 cf
Primary = 6.5 cfs @ 12.35 hrs, Volume= 46,158 cf
Routed to Link DP-1 : Offsite Wetland

Routing by Stor-Ind method, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Peak Elev= 185.46' @ 12.35 hrs Surf.Area= 4,992 sf Storage= 18,562 cf

Plug-Flow detention time= 72.9 min calculated for 70,181 cf (100% of inflow)
Center-of-Mass det. time= 73.0 min (814.8 - 741.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	181.00'	998 cf	**48.00'W x 104.00'L x 5.17'H Field A** 25,792 cf Overall - 23,296 cf Embedded = 2,496 cf x 40.0% Voids
#2A	181.50'	17,726 cf	**retain_it retain_it 4.0'** x 78 Inside #1 Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf 6 Rows adjusted for 286.9 cf perimeter wall
		18,725 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	181.30'	**12.0" Round Culvert** L= 79.0' Ke= 0.200 Inlet / Outlet Invert= 181.30' / 180.50' S= 0.0101 '/' Cc= 0.900 n= 0.013, Flow Area= 0.79 sf
#2	Device 1	182.00'	**6.0" W x 9.0" H Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#3	Device 1	182.75'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#4	Discarded	181.00'	**2.410 in/hr Exfiltration over Surface area** Phase-In= 0.01'

Discarded OutFlow Max=0.3 cfs @ 5.73 hrs HW=181.05' (Free Discharge)
└**4=Exfiltration** (Exfiltration Controls 0.3 cfs)

Primary OutFlow Max=6.5 cfs @ 12.35 hrs HW=185.46' (Free Discharge)
└**1=Culvert** (Barrel Controls 6.5 cfs @ 8.33 fps)
  ├**2=Orifice** (Passes < 3.2 cfs potential flow)
  └**3=Sharp-Crested Rectangular Weir** (Passes < 50.5 cfs potential flow)

Pond 1P: Subsurface Basin - Chamber Wizard Field A

Chamber Model = retain_it retain_it 4.0' (retain-it®)
Inside= 84.0"W x 48.0"H => 28.87 sf x 8.00'L = 230.9 cf
Outside= 96.0"W x 56.0"H => 37.33 sf x 8.00'L = 298.7 cf
6 Rows adjusted for 286.9 cf perimeter wall

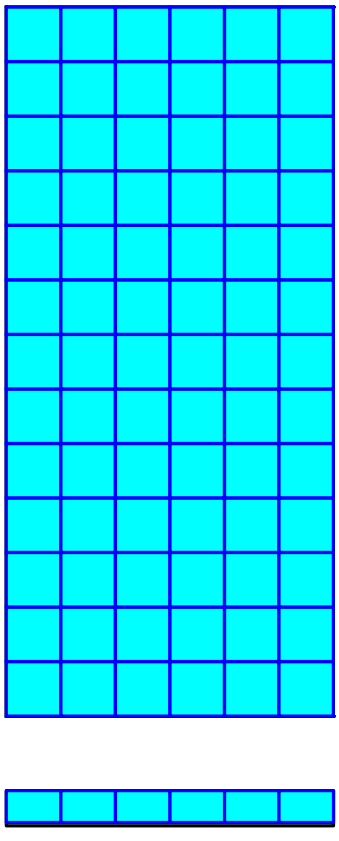
13 Chambers/Row x 8.00' Long = 104.00' Row Length
6 Rows x 96.0" Wide = 48.00' Base Width
6.0" Stone Base + 56.0" Chamber Height = 5.17' Field Height

7.5 cf Sidewall x 13 x 2 + 7.5 cf Endwall x 6 x 2 = 286.9 cf Perimeter Wall
78 Chambers x 230.9 cf - 286.9 cf Perimeter wall = 17,726.4 cf Chamber Storage
78 Chambers x 298.7 cf = 23,296.0 cf Displacement

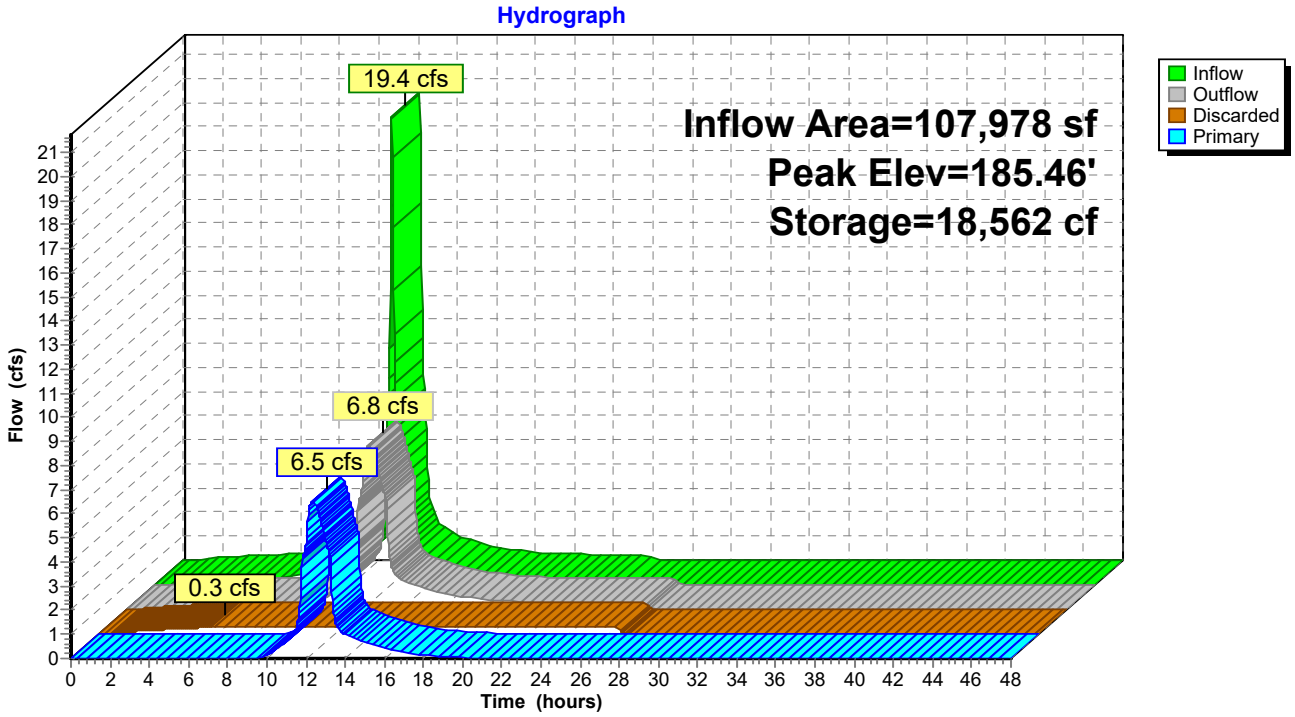
25,792.0 cf Field - 23,296.0 cf Chambers = 2,496.0 cf Stone x 40.0% Voids = 998.4 cf Stone Storage

Chamber Storage + Stone Storage = 18,724.8 cf = 0.430 af
Overall Storage Efficiency = 72.6%
Overall System Size = 104.00' x 48.00' x 5.17'

78 Chambers
955.3 cy Field
92.4 cy Stone



Pond 1P: Subsurface Basin

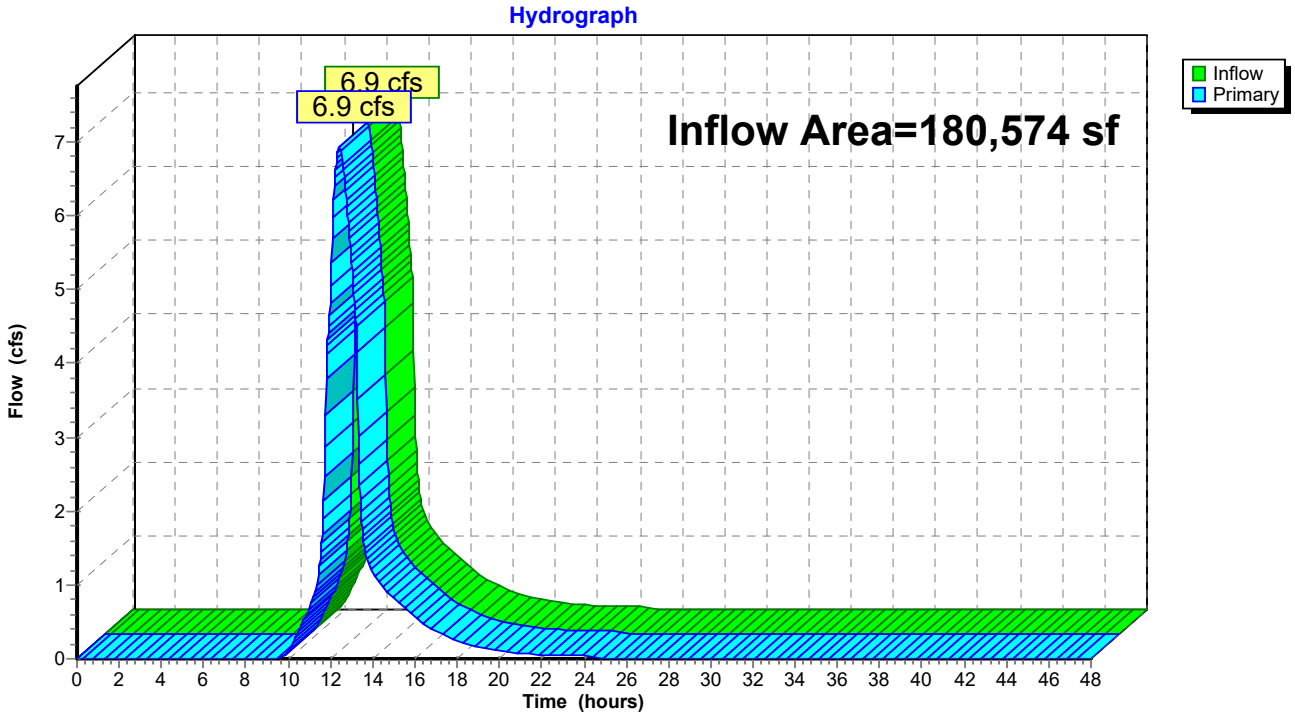


Summary for Link DP-1: Offsite Wetland

Inflow Area = 180,574 sf, 57.52% Impervious, Inflow Depth = 3.41" for 100-Year event
Inflow = 6.9 cfs @ 12.44 hrs, Volume= 51,338 cf
Primary = 6.9 cfs @ 12.44 hrs, Volume= 51,338 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-1: Offsite Wetland

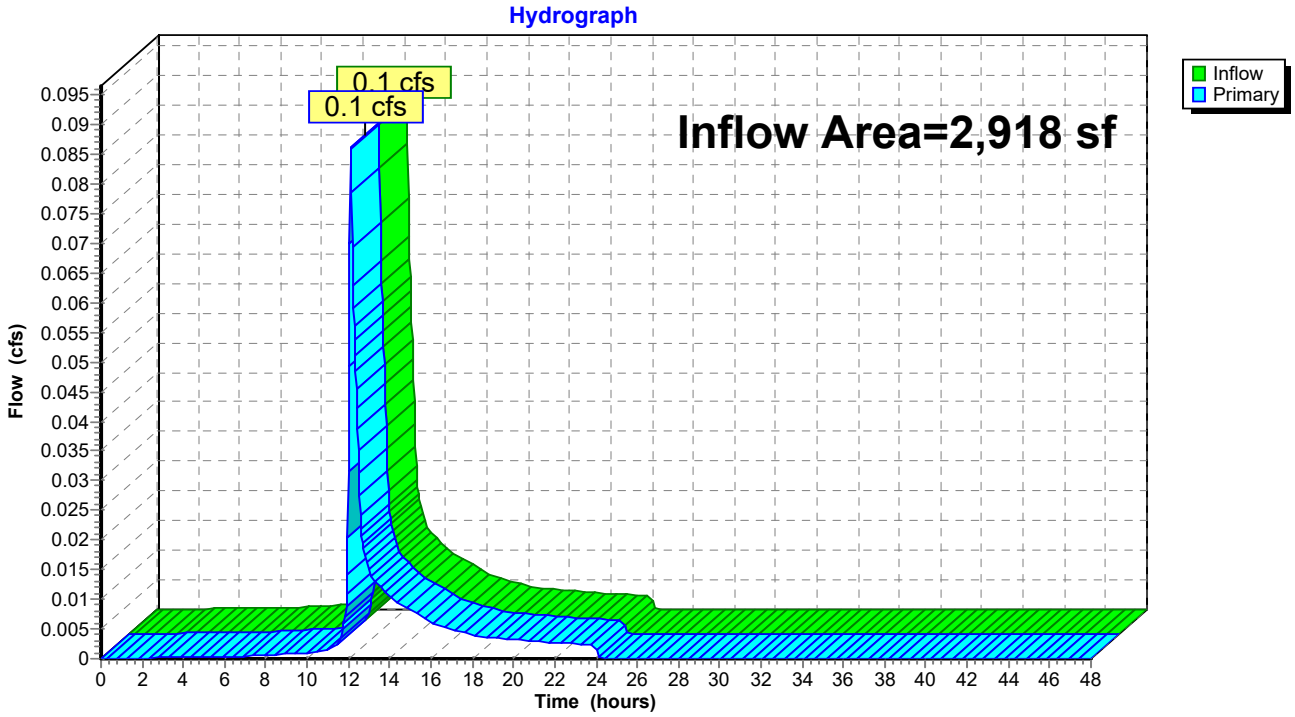


Summary for Link DP-2: Silver Street

Inflow Area = 2,918 sf, 3.87% Impervious, Inflow Depth = 1.55" for 100-Year event
Inflow = 0.1 cfs @ 12.11 hrs, Volume= 377 cf
Primary = 0.1 cfs @ 12.11 hrs, Volume= 377 cf, Atten= 0%, Lag= 0.0 min

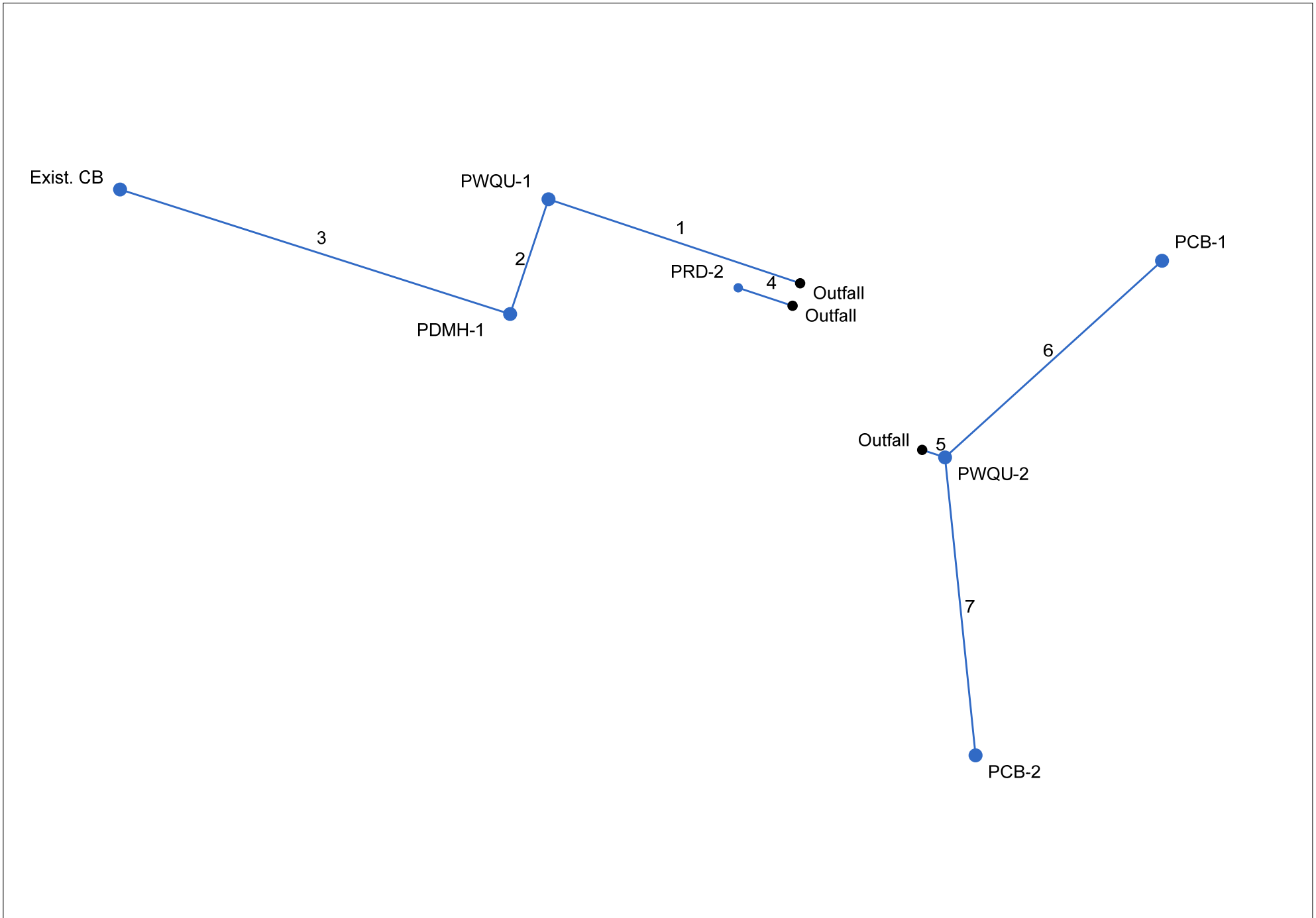
Primary outflow = Inflow, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs

Link DP-2: Silver Street



Appendix D: Hydraulic Analysis

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



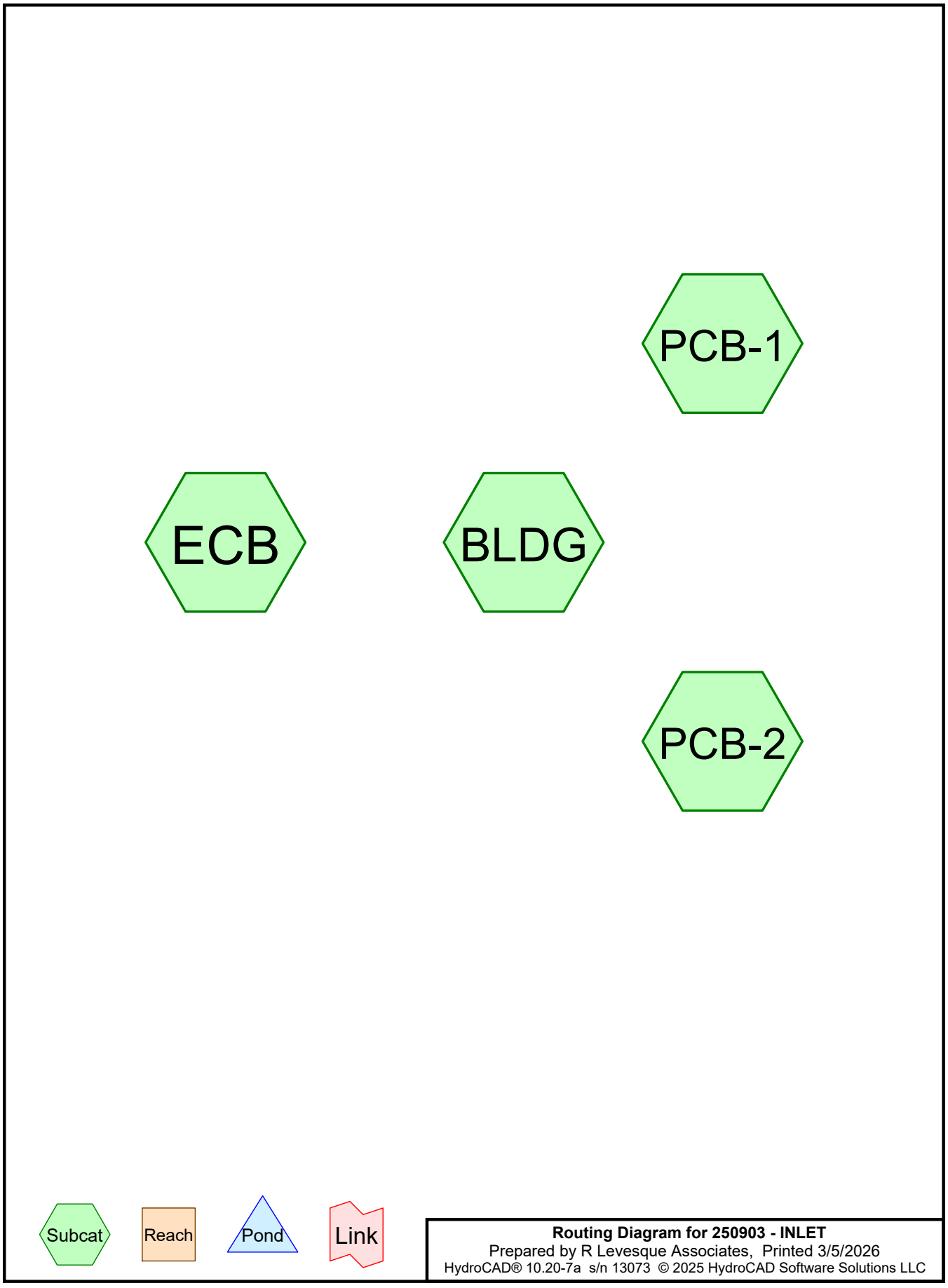
Project File: 250903 - Hydraflow.stm	Number of lines: 7	Date: 3/5/2026

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	88.018	0.00	0.00	0.00	0.00	0.00	0.0	0.5	0.0	4.60	3.56	5.91	12	1.00	181.50	182.38	182.45	183.84	190.00	190.93	P-D-PIPE-(4)
2	1	40.175	0.00	0.00	0.00	0.00	0.00	0.0	0.4	0.0	4.60	9.06	6.04	12	6.47	182.40	185.00	184.37	185.89	190.93	191.08	P-D-PIPE-(3)
3	2	135.901	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	4.60	3.59	5.86	12	0.87	185.48	186.66	186.48	188.41	191.08	189.31	P-D-PIPE-(11)
4	End	19.018	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.90	1.21	3.24	8	1.00	182.00	182.19	182.56	182.64	191.00	191.18	P-D-PIPE-(10)
5	End	8.000	0.00	0.00	0.00	0.00	0.00	0.0	0.4	0.0	6.60	3.98	8.42	12	1.25	181.50	181.60	182.48	182.75	188.00	187.97	P-D-PIPE-(6)
6	5	97.397	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.40	2.53	4.33	12	0.50	181.70	182.19	183.77	184.66	187.97	185.50	P-D-PIPE-(1)
7	5	99.664	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	3.20	3.57	4.07	12	1.00	181.70	182.70	183.77	184.58	187.97	185.90	P-D-PIPE-(2)

Project File: 250903 - Hydraflow.stm | Number of lines: 7 | Run Date: 3/5/2026

NOTES:Known Qs only ; c = cir e = ellip b = box



Routing Diagram for 250903 - INLET
Prepared by R Levesque Associates, Printed 3/5/2026
HydroCAD® 10.20-7a s/n 13073 © 2025 HydroCAD Software Solutions LLC

Summary for Subcatchment BLDG:

Runoff = 0.9 cfs @ 12.08 hrs, Volume= 3,065 cf, Depth= 4.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
7,440	98	Roofs, HSG A
7,440	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment ECB:

Runoff = 4.6 cfs @ 12.08 hrs, Volume= 16,495 cf, Depth= 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
4,230	39	>75% Grass cover, Good, HSG A
24,824	98	Paved parking, HSG A
15,017	98	Roofs, HSG A
44,072		Weighted Average
4,230	39	9.60% Pervious Area
39,842	98	90.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment PCB-1:

Runoff = 3.4 cfs @ 12.08 hrs, Volume= 12,011 cf, Depth= 4.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
29,160	98	Paved parking, HSG A
29,160	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Summary for Subcatchment PCB-2:

Runoff = 3.2 cfs @ 12.08 hrs, Volume= 11,248 cf, Depth= 4.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-Q, Time Span= 0.00-48.00 hrs, dt= 0.03 hrs
Type III 24-hr 10-Year Rainfall=5.18"

Area (sf)	CN	Description
27,306	98	Paved parking, HSG A
27,306	98	100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					**Direct Entry,**

Appendix E: MassDEP Calculations

- Impervious Area Calculations
- Recharge Calculation
- Stage Storage Chart – Subsurface Infiltration Basin
- Water Quality Flow Rate Calculations – PWQU-1
- Water Quality Flow Rate Calculations – PWQU-2
- Tc Table
- TSS Removal Worksheet – Subsurface Infiltration Basin
- Drawdown Calculation
- Barracuda Max Info Sheet
- NJDEP Barracuda Max Certification
- Barracuda Max Maintenance Guide

Standard 3: Recharge Calculations

Impervious Area Calculations

Existing Total Impervious Area

Sub-Catchment	Roof (sf)	Other Impervious (sf)	Sum (sf)
ES-1A	15017	39138	54,155
ES-1B	0	2354	2,354
ES-2	0	108	108
			56,617

Proposed Total Impervious Area

Sub-Catchment	Roof (sf)	Other Impervious (sf)	Sum (sf)	
PS-1A	22457	81291	103748	Tributary to subsurface basin
PS-1B	0	124	124	
PS-2	0	113	113	
			103,985	

Summary Table

Total Existing Impervious Area	56,617	SF
Total Proposed Impervious Area	103,985	SF
Total New Impervious Area	47,368	SF
Total Impervious Area Tributary to Basin	103,748	SF

Standard 3: Recharge Calculations - Subsurface Infiltration Basin

R_V (required) = F x Impervious Area

where: R_V = Required Recharge Volume (cu. ft.)

F = Target Depth Factor

0.60 inch (A-soils)
0.35 inch (B-soils)
0.25 inch (C-soils)
0.10 inch (D-soils)

New Impervious Area by Hydrologic Soil Type

Impervious Area (A-soils)	47,368 sq. ft.	100.0%
Impervious Area (B-soils)	0 sq. ft.	0.0%
Impervious Area (C-soils)	0 sq. ft.	0.0%
Impervious Area (D-soils)	0 sq. ft.	0.0%
Total Impervious area	47,368 sq. ft.	100.0%

Required Recharge Volume Sizing (R_V)

R_v (required) = $\sum$ [$F_{Soil\ Type}$ x Impervious $Area_{Soil\ Type}$] x 1 ft./12 in.

R_v (required) = 2,368 cu. ft.

Capture Area Adjustment

Total Imperv. To Recharge Facilities =	103,748	sq. ft.
Percent Imperv. To Recharge Facilities* =	100%	
Adjustment Factor =	1.00	
Adjusted R_V (required) =	2,368	cu. ft.

*Impervious Area tributary to recharge facilities must be greater than 65%

Storage Volume Provided

Recharge Facility	Volume Provided
Subsurface Infiltration Basin	3,214 cu. ft.**
	3,214 cu. ft. > 2,368 cu. ft.

**Volume represents the available storage in the subsurface infiltration basin below the orifice (El. 182.00')

Stage-Area-Storage for Pond 1P: Subsurface Basin

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
181.00	**4,992**	0
181.05	4,992	100
181.10	4,992	200
181.15	4,992	300
181.20	4,992	399
181.25	4,992	499
181.30	4,992	599
181.35	4,992	699
181.40	4,992	799
181.45	4,992	899
181.50	4,992	998
181.55	4,992	1,220
181.60	4,992	1,442
181.65	4,992	1,663
181.70	4,992	1,885
181.75	4,992	2,106
181.80	4,992	2,328
181.85	4,992	2,549
181.90	4,992	2,771
181.95	4,992	2,993
182.00	4,992	3,214
182.05	4,992	3,436
182.10	4,992	3,657
182.15	4,992	3,879
182.20	4,992	4,101
182.25	4,992	4,322
182.30	4,992	4,544
182.35	4,992	4,765
182.40	4,992	4,987
182.45	4,992	5,208
182.50	4,992	5,430
182.55	4,992	5,652
182.60	4,992	5,873
182.65	4,992	6,095
182.70	4,992	6,316
182.75	4,992	6,538
182.80	4,992	6,759
182.85	4,992	6,981
182.90	4,992	7,203
182.95	4,992	7,424
183.00	4,992	7,646
183.05	4,992	7,867
183.10	4,992	8,089
183.15	4,992	8,311
183.20	4,992	8,532
183.25	4,992	8,754
183.30	4,992	8,975
183.35	4,992	9,197
183.40	4,992	9,418
183.45	4,992	9,640
183.50	4,992	9,862
183.55	4,992	10,083
183.60	4,992	10,305
183.65	4,992	10,526
183.70	4,992	10,748
183.75	4,992	10,970
183.80	4,992	11,191
183.85	4,992	11,413
183.90	4,992	11,634
183.95	4,992	11,856
184.00	4,992	12,077
184.05	4,992	12,299
184.10	4,992	12,521
184.15	4,992	12,742
184.20	4,992	12,964
184.25	4,992	13,185
184.30	4,992	13,407
184.35	4,992	13,628
184.40	4,992	13,850
184.45	4,992	14,072
184.50	4,992	14,293
184.55	4,992	14,515
184.60	4,992	14,736
184.65	4,992	14,958
184.70	4,992	15,180
184.75	4,992	15,401
184.80	4,992	15,623
184.85	4,992	15,844
184.90	4,992	16,066
184.95	4,992	16,287
185.00	4,992	16,509
185.05	4,992	16,731
185.10	4,992	16,952
185.15	4,992	17,174
185.20	4,992	17,395
185.25	4,992	17,617
185.30	4,992	17,838
185.35	4,992	18,060
185.40	4,992	18,282
185.45	4,992	18,503
185.50	4,992	18,725
185.55	4,992	18,725
185.60	4,992	18,725
185.65	4,992	18,725
185.70	4,992	18,725
185.75	4,992	18,725
185.80	4,992	18,725
185.85	4,992	18,725
185.90	4,992	18,725
185.95	4,992	18,725
186.00	4,992	18,725
186.05	4,992	18,725
186.10	4,992	18,725
186.15	4,992	**18,725**

Standard 4: Water Quality - PWQU-I

Water Quality Volume Conversion to Flow Rate

Note: Required water quality volume based on 1.0-inch of runoff

$Q = (qu)\ (A)\ (WQV)$

where: Q = peak flow rate (c.f.s.)

qu = unit peak discharge (csm/in) - value taken from table based on t_c

A = impervious surface drainage area (sq. mi.)

WQV = water quality volume in watershed inches

· Proposed Water Quality Unit (PWQU-1)

t_c =	0.100	hrs	
qu =	774	csm/in	(from table)
A =	0.00143	sq. mi.*	
WQV =	1.0	inch **	

$Q_{1.0}$ = 1.11 c.f.s

The Baracuda Max Model S4 provides treatment of flows up to 2.94 c.f.s.

* Only inlcudes impervious area tributary to PWQU-1

** Water quality depth shall equal 1-inch for discharges within a Zone II or Interim Wellhead Protection Area, to or near another critical area, runoff from a LUHPPL, or exfiltration to soils with infiltration rate greater than 2.4-inches/hour or greater; 1/2-inch for discharges near to other areas

Standard 4: Water Quality - PWQU-2

Water Quality Volume Conversion to Flow Rate

Note: Required water quality volume based on 1.0-inch of runoff

$Q = (qu)\ (A)\ (WQV)$

where: Q = peak flow rate (c.f.s.)

qu = unit peak discharge (csm/in) - value taken from table based on t_c

A = impervious surface drainage area (sq. mi.)

WQV = water quality volume in watershed inches

· Proposed Water Quality Unit (PWQU-2)

t_c =	0.100	hrs	
qu =	774	csm/in	(from table)
A =	0.00203	sq. mi.*	
WQV =	1.0	inch **	

$Q_{1.0}$ = 1.57 c.f.s

The Baracuda Max Model S4 provides treatment of flows up to 2.94 c.f.s.

* Only inlcudes impervious area tributary to PWQU-2

** Water quality depth shall equal 1-inch for discharges within a Zone II or Interim Wellhead Protection Area, to or near another critical area, runoff from a LUHPPL, or exfiltration to soils with infiltration rate greater than 2.4-inches/hour or greater; 1/2-inch for discharges near to other areas

Figure 4: for First 1-inch Runoff, Table of qu values for Ia/P Curve = 0.034, listed by tc, for Type III Storm Distribution

Tc (Hours)	qu (csm/in)
0.01	835
0.03	835
0.05	831
0.067	814
0.083	795
0.1	774
0.116	755
0.133	736
0.15	717
0.167	700
0.183	685
0.2	669
0.217	654
0.233	641
0.25	628
0.3	593
0.333	572
0.35	563
0.4	536
0.416	528
0.5	491
0.583	460
0.6	454
0.667	433
0.7	424
0.8	398
0.9	376
1	356
1.1	339
1.2	323
1.3	309
1.4	296
1.5	285
1.6	274
1.7	264
1.8	255
1.9	247
2	239
2.1	232
2.2	225
2.3	219
2.4	213
2.5	207
2.6	202
2.7	197
2.8	192
2.9	187
3	183
3.1	179
3.2	175
3.3	171
3.4	168
3.5	164
3.6	161
3.7	158
3.8	155
3.9	152
4	149
4.1	146
4.2	144
4.3	141
4.4	139
4.5	137
4.6	134
4.7	132
4.8	130
4.9	128
5	126
5.1	124
5.2	122
5.3	120
5.4	119
5.5	117
5.6	115
5.7	114
5.8	112
5.9	111
6	109
6.1	108
6.2	106
6.3	105
6.4	104
6.5	102
6.6	101
6.7	100
6.8	99
6.9	98
7	96
7.1	95
7.2	94
7.3	93
7.4	92
7.5	91
7.6	90
7.7	89
7.8	88
7.9	87
8	86
8.1	85
8.2	84
8.3	84
8.4	83
8.5	82
8.6	81
8.7	80
8.8	79
8.9	79
9	78
9.1	77
9.2	76
9.3	76
9.4	75
9.5	74
9.6	74
9.7	73
9.8	72
9.9	72
10	71

TSS Removal Form - Subsurface Infiltration Basin

Pre-Treatment

BMP	TSS Removal Rate	Starting TSS Load	Amount Removed	Remaining Load
Deep-Sump Hooded Catch Basins	0.25	1.00	0.25	0.75
Proprietary Sedimentation Device	0.50	0.75	0.38	0.38

Pre-Treatment TSS Removal = 63%

Total Removal

BMP	TSS Removal Rate	Starting TSS Load	Amount Removed	Remaining Load
Subsurface Infiltration Basin	0.8	1.00	0.80	0.20

Total TSS Removal = 80%

Drawdown Analysis

$$T_{DRAWDOWN} = \frac{R_V}{KA}$$

where: $T_{DRAWDOWN}$ = time in hours

R_V = required recharge volume (cu. ft.)

K = Rawls rate
- 2.41 inches/hour (A-soils)**
- 0.52 inches/hour (B-soils)**
- 0.27 inches/hour (C-soils)**

A = bottom area of recharge facility (sq. ft.)

** Most conservative Rawls rate values for given soil type used for analysis purposes

Subsurface Infiltration Basin

R_V*= 3,214 cu. ft.

A = 4,992 sq. ft.

$T_{DRAWDOWN}$ = 3.2 hours < 72 hours (A-soils)

*Volume represents the available storage in the subsurface infiltration basin below the orifice (El. 182.00')

Barracuda® Max

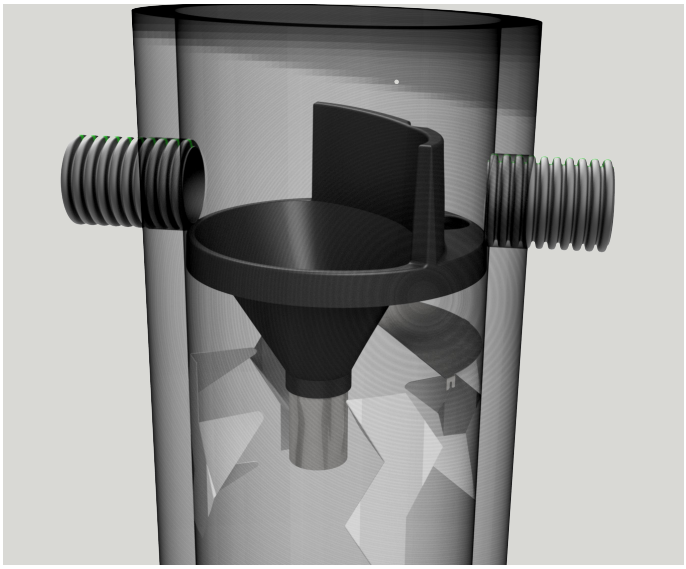
The Barracuda Max is market-changing stormwater quality technology. This high-performance vortex hydrodynamic separator is designed to remove total suspended solids in order to protect our precious receiving waters. The Barracuda Max is also an outstanding value that offers multiple pipe configurations, and quick installation. The “Max” version of the Barracuda is built on the base platform of the original ADS Barracuda with improved removal efficiencies and installation components.

Features

- Single manhole design
- No elevation loss between the inlet and outlet
- Variable inlet/outlet angle configurations (not just 180 degree orientation)
- Internal bypass for inline installation (where applicable)
- Revolutionary, patent pending “teeth” mitigate turbulence in the sump area to prevent resuspension of captured contaminants
- Available with grated drop inlet configuration
- Available with trash and/or oil capture add-ons

Benefits

- Internal components are in stock for quick delivery
- The S3, S4, S6, and S8 can be installed in a standard 36” (900 mm), 48” (1200 m), 72” (1800 m), and 96” (2400 m) precast manhole, respectively
- The S3 & S4 can be provided factory installed within a 36” (900 mm) and 48” (1200 mm) ADS HP manhole and delivered to the jobsite
- The Barracuda Max “teeth” and deflector plate apparatus are fabricated and designed for quick and easy field assembly
- Designed for easy maintenance using a vacuum truck or similar equipment.
- Inspection and maintenance are performed from the surface with no confined space entry





ADS™

Barrucuda Specification

Materials and Design

- Concrete Structures: Designed for H-20 traffic loading and applicable soil loads or as otherwise determined by a Licensed Professional Engineer. The materials and structural design of the devices shall be per ASTM C857 and ASTM C858.
- 36” (900 mm) and 48” (1200 mm) HP Manhole Structures: Made from an impact modified copolymer polypropylene meeting the material requirements of ASTM F2764. The eccentric cone reducer shall be manufactured from polyethylene material meeting ASTM D3350 cell class 213320C. Gaskets shall be made of material meeting the requirements of ASTM F477.
- Separator internals shall be substantially constructed of stainless steel, polyethylene or other thermoplastic material approved by the manufacturer.

Performance

- The stormwater treatment unit shall be an inline unit capable of conveying 100% of the design peak flow. If peak flow rates exceed maximum hydraulic rate, the unit shall be installed offline.
- The Barracuda Max unit shall be designed to remove at least 80% of the suspended solids on an annual aggregate removal basis. Said removal shall be based on full-scale third party testing using OK-110 media gradation or equivalent and 300 mg/L influent concentration. Said full scale testing shall have included sediment capture based on actual total mass collected by the stormwater treatment unit.

  - OR -

  The Barracuda Max unit shall be designed to remove at least 50% of TSS using a media mix with d_{50}=75 micron and 200 mg/L influent concentration.

  - OR -

  The Barracuda Max unit shall be designed to remove at least 50% of TSS per current NJDEP/NJCAT HDS protocol.
- The stormwater treatment unit internals shall consist of (1) separator cone assembly, and (1) sump assembly, which includes the “teeth”.

Barracuda Max Model	Manhole Diameter	OK-110 (80% removal)	Pretreatment for Infiltration[1]
S3	36” (900 mm)	0.86 CFS (24.1 L/s)	1.65 CFS (46.7 L/s)
S4	48” (1200 mm)	1.52 CFS (43.0 L/s)	2.94 CFS (83.3 L/s)
S6	72” (1800 mm)	3.42 CFS (96.8 L/s)	6.62 CFS (187.5 L/s)
S8	96” (2400 mm)	6.08 CFS (172.2 L/s)	11.76 CFS (333.0 L/s)

* Peak bypass flows are dependent on final design

[1] 50% removal of OK-110.

Installation

Installation of the stormwater treatment unit(s) shall be performed per manufacturer’s installation instructions. Such instructions can be obtained by calling Advanced Drainage Systems at 800-821-6710 or by logging on to www.adspipe.com.

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State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

Bureau of NJPDES Stormwater Permitting & Water Quality Management
Division of Watershed Protection and Restoration
401-02B
Post Office Box 420
Trenton, New Jersey 08625-0420
609-633-7021 Fax: 609-777-0432

SHAWN M. LATOURETTE
Acting Commissioner

April 28, 2021

Daniel J. Figola, P.E.
Director of Sustainability Development
Advanced Drainage Systems, Inc.
1030 Deer Hollow Drive
Mt. Airy, MD 21771

Re: MTD Lab Certification
Barracuda™ MAX Hydrodynamic Separator Stormwater Treatment Device
On-line Installation

TSS Removal Rate 50%

Dear Mr. Figola:

The Stormwater Management rules under N.J.A.C. 7:8-5.5(b) and 5.7(c) allow the use of manufactured treatment devices (MTDs) for compliance with the design and performance standards at N.J.A.C. 7:8-5 if the pollutant removal rates have been verified by the New Jersey Corporation for Advanced Technology (NJCAT) and have been certified by the New Jersey Department of Environmental Protection (NJDEP). Advanced Drainage Systems, Inc. (ADS) has requested an MTD Laboratory Certification for the Barracuda™ MAX Hydrodynamic Separator stormwater treatment system (Barracuda™ MAX).

The project falls under the "Procedure for Obtaining Verification of a Stormwater Manufactured Treatment Device from New Jersey Corporation for Advance Technology" dated January 25, 2013. The applicable protocol is the "New Jersey Laboratory Testing Protocol to Assess Total Suspended Solids Removal by a Hydrodynamic Sedimentation Manufactured Treatment Device" dated January 25, 2013.

NJCAT verification documents submitted to the NJDEP indicate that the requirements of the aforementioned protocol have been met or exceeded. The NJCAT letter also included a recommended certification TSS removal rate and the required maintenance plan. The NJCAT Verification Report with the Verification Appendix (dated April 2021) for this device is published online at http://www.njcat.org/verification-process/technology-verification-database.html.

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The NJDEP certifies the use of the Barracuda™ MAX stormwater treatment system at a TSS removal rate of 50% when designed, operated, and maintained in accordance with the information provided in the Verification Appendix and the following conditions:

1. The maximum treatment flow rate (MTFR) for the manufactured treatment device (MTD) is calculated using the New Jersey Water Quality Design Storm (1.25 inches in 2 hrs) in N.J.A.C. 7:8-5.5.

2. The Barracuda™ MAX shall be installed using the same configuration reviewed by NJCAT and shall be sized in accordance with the criteria specified in item 6 below.

3. This Barracuda™ MAX cannot be used in series with another MTD or a media filter (such as a sand filter) to achieve an enhanced removal rate for total suspended solids (TSS) removal under N.J.A.C. 7:8-5.5.

4. Additional design criteria for MTDs can be found in Chapter 11.3 of the New Jersey Stormwater Best Management Practices (NJ Stormwater BMP) Manual, which can be found online at www.njstormwater.org.

5. The maintenance plan for a site using this device shall incorporate, at a minimum, the maintenance requirements for the Barracuda™ MAX. A copy of the maintenance plan is attached to this certification. However, it is recommended to review the maintenance website at https://assets.ads-pipe.com/m/2c834056a5a22888/original/Barracuda-Maintenance-Guide-MG1-01.pdf for any changes to the maintenance requirements.

6. Sizing Requirement:

   The example on the following page demonstrates the sizing procedure for the Barracuda™ MAX:

Example: A 0.25-acre impervious site is to be treated to 50% TSS removal using an Barracuda™ MAX treatment unit. The impervious site runoff (Q) based on the New Jersey Water Quality Design Storm was determined to be 0.79 cfs.

Maximum Treatment Flow Rate (MTFR) Evaluation:

The site runoff (Q) was based on the following:
time of concentration = 10 minutes
i = 3.2 in/hr (page 74, Fig. 5-16 of the NJ Stormwater BMP Manual)
c = 0.99 (runoff coefficient for impervious)
Q = ciA = 0.99 x 3.2 x 0.25 = 0.79 cfs

Given the site runoff is 0.79 cfs and based on Table A-1 below, the Barracuda™ MAX Model S3 with an MTFR of 0.85 cfs would be the smallest model that could be used for this site to remove 50% of the TSS from the impervious area without exceeding the MTFR.

The sizing table corresponding to the available system models is noted below. Additional specifications regarding each model can be found in the NJCAT Technology Verification Appendix under Tables A-1 and A-2.

Table A-1 Barracuda™ MAX HDS Models and Associated MTFRs

Model	Manhole Diameter (ft)	Maximum Treatment Flow Rate (cfs)	50% Maximum Sediment Storage Area Volume (ft^3)
Barracuda MAX S3	3	0.85	5.89
Barracuda MAX S4	4	1.52	10.47
Barracuda MAX S5	5	2.37	16.36
Barracuda MAX S6	6	3.40	23.56
Barracuda MAX S8	8	6.08	41.89
Barracuda MAX S10	10	9.48	65.45

A detailed maintenance plan is mandatory for any project with a stormwater BMP subject to the Stormwater Management rules under N.J.A.C. 7:8. The plan must include all of the items identified in the Maintenance requirements section of the Stormwater Management rules under N.J.A.C. 7:8-5.8. Such items include, but are not limited to, the list of inspection and maintenance equipment and tools, specific corrective and preventative maintenance tasks, indication of problems in the system, and training of maintenance personnel. Additional information can be found in Chapter 8: Maintenance and Retrofit of Stormwater Management Measures.

If you have any questions regarding the above information, please contact Lisa Schaefer of my office at lisa.schaefer@dep.nj.gov.

Sincerely,



Gabriel Mahon, Chief
Bureau of NJPDES Stormwater Permitting & Water Quality Management

Attachment: Maintenance Plan

cc: Chron File
Richard Magee, NJCAT
Changi Wu, NJDEP-BFHSE
Madhu Guru, NJDEP - BFHSE

Barracuda® Max™ & Barracuda Maintenance Guide

One of Barracuda's advantages is the ease of maintenance. Like any system that collects pollutants, the Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes 2 to 4 hours, depending on the system's size, the captured material, and the vacuum truck's capacity.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and then on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

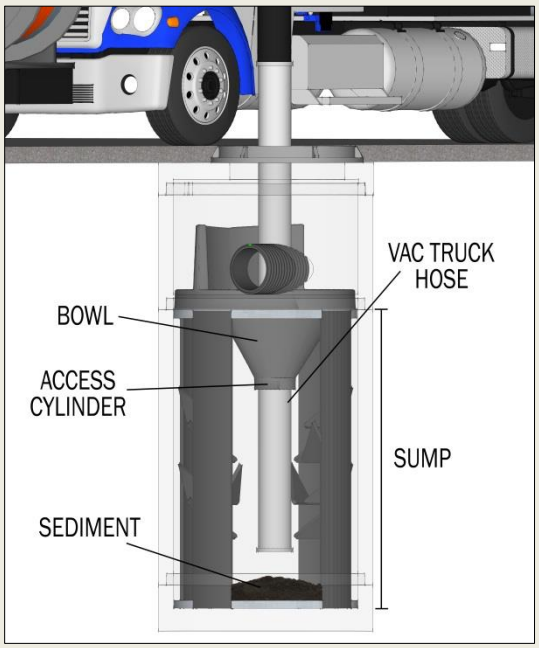
Barracuda Storage Capacities

Model	Manhole Diameter in. (mm)	Total System Volume Gallons (Liters)	Treatment Chamber Capacity Gallons (Liters)	Standard Sediment Capacity (20" depth) Yards^3 (meters^3)	NJDEP Sediment Capacity (50% of standard depth) Yards^3 (meters^3)
S3	36 (900)	264 (999)	212 (803)	0.44 (0.34)	0.22 (0.17)
S4	48 (1200)	665 (2517)	564 (2135)	0.78 (0.60)	0.39 (0.30)
S5	60 (1500)	1040 (3937)	881 (3335)	1.21 (0.93)	0.61 (0.47)
S6	72 (1800)	1497 (5667)	1269 (4804)	1.75 (1.34)	0.88 (0.67)
S8	96 (2400)	4196 (15884)	3835 (14517)	3.10 (2.37)	1.55 (1.19)
S10	120 (3000)	7976 (30192)	7496 (28375)	4.85 (3.71)	2.43 (1.86)

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. Access this area through the 8" (200 mm), 10" (250 mm), 15" (375 mm) or 20" (500 mm) diameter access cylinder.
2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
   a. Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
   b. Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
   c. Additional local regulations may apply to the maintenance procedure.

Figure 1



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Maintenance Guide

BaySaver Barracuda™

July 2017

One of the advantages of the BaySaver Barracuda is the ease of maintenance. Like any system that collects pollutants, the BaySaver Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes from 2 to 4 hours, depending on the size of the system, the captured material, and the capacity of the vacuum truck.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and thereafter on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

BaySaver Barracuda Storage Capacities

Model	Manhole Diameter	Treatment Chamber Capacity	Standard Sediment Capacity (20" depth)	NJDEP Sediment Capacity (50% of standard depth)
S3	36"	212 gallons	0.44 cubic yards	0.22 cubic yards
S4	48"	564 gallons	0.78 cubic yards	0.39 cubic yards
S5	60"	881 gallons	1.21 cubic yards	0.61 cubic yards
S6	72"	1269 gallons	1.75 cubic yards	0.88 cubic yards
S8	96"	3835 gallons	3.10 cubic yards	1.55 cubic yards
S10	120"	7496 gallons	4.85 cubic yards	2.43 cubic yards

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. You'll access this area through the 10" diameter access cylinder.

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2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
   - Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
   - Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
   - Additional local regulations may apply to the maintenance procedure.

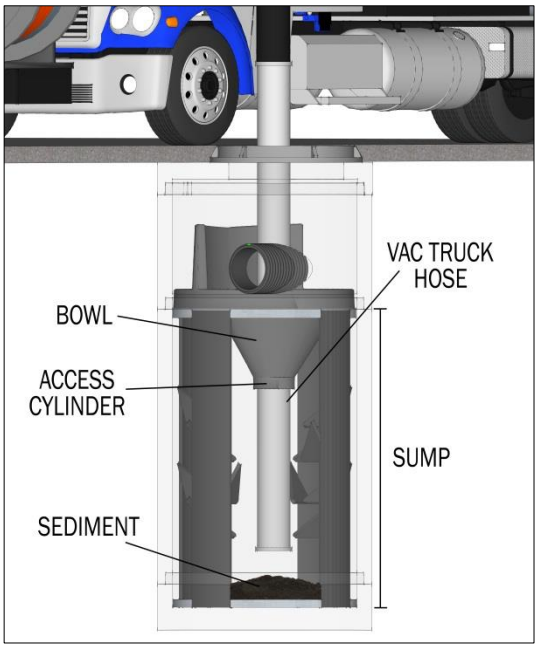


Figure 1

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Barracuda® Max & Barracuda Maintenance Guide

One of Barracuda's advantages is the ease of maintenance. Like any system that collects pollutants, the Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes 2 to 4 hours, depending on the system's size, the captured material, and the vacuum truck's capacity.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and then on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

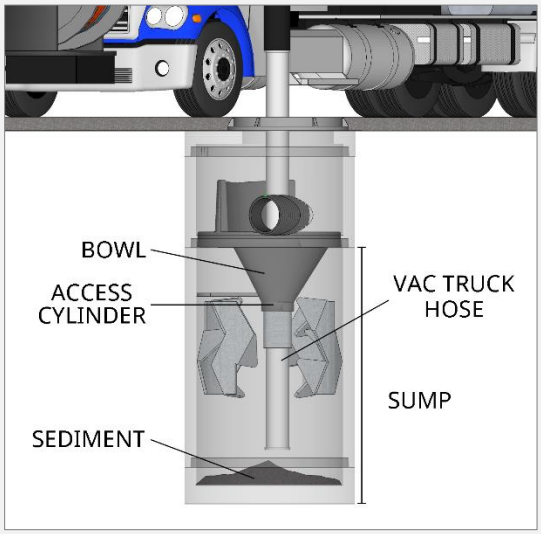
Barracuda Storage Capacities

Model	Manhole Diameter in. (mm)	Total System Volume Gallons (Liters)	Treatment Chamber Capacity Gallons (Liters)	Standard Sediment Capacity (20" depth) Yards^3 (meters^3)	NJDEP Sediment Capacity (50% of standard depth) Yards^3 (meters^3)
S3	36 (900)	264 (999)	212 (803)	0.44 (0.34)	0.22 (0.17)
S4	48 (1200)	665 (2517)	564 (2135)	0.78 (0.60)	0.39 (0.30)
S6	72 (1800)	1497 (5667)	1269 (4804)	1.75 (1.34)	0.88 (0.67)
S8	96 (2400)	4196 (15884)	3835 (14517)	3.10 (2.37)	1.55 (1.19)

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. Access this area through the 8" (200 mm), 10" (250 mm), 15" (375 mm) or 20" (500 mm) diameter access cylinder.
2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
    a. Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
    b. Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
    c. Additional local regulations may apply to the maintenance procedure.

Figure 1



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Appendix F: Construction Period Erosion Control Plan

Construction Period Erosion Control Plan

Proposed Storage Building

699 Silver Street
Agawam, MA 01001
(Parcel ID: G6-2-12)

Applicant/Property Owner:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

RLA Project File: 250903

March 5, 2026

R LEVESQUE ASSOCIATES, INC
A LAND PLANNING SERVICES COMPANY
40 School Street · Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com

The project shall implement a construction period erosion control plan. The following provides descriptions and guidelines to ensure that the areas surrounding the project site will be protected from excessive sedimentation and runoff during construction.

1.1 Construction Period Pollution Prevention And Erosion Control Measures

1.1.1 Preconstruction Notifications And Meetings

Prior to the start of construction, the contractor shall call together a pre-construction meeting including a representative from the City, the design engineer, contractor, and any pertinent persons that should be in attendance. These requirements shall be the responsibility of the Contractor to arrange, attend, and document.

1.1.2 Sediment Barrier And Work Limit

Before installation of the sediment barriers, the location shall be staked in the field for review and approval by the owner or their representative. To facilitate sediment barrier installation, woody vegetation may then be removed and any required trench may be cut by machine, provided all other ground cover is left intact. No excavation, grading, filling, or removal of vegetative ground cover shall begin until sediment barriers have been installed as shown on the plans and have been inspected by the owner or their representative.

1.1.3 Silt Fence

The bottom of the fence shall be trenched into the ground a minimum of 6" and back-filled with compacted soil. Where trenching is not feasible, silt fence skirt shall be covered with compacted soil or crushed stone. The top of the fabric shall be stretched as tightly as is practical, with intermediate stakes added to correct excessive sags. Stakes shall be driven at least 12" into the ground. Splices between sections shall be made by rolling end stakes together one complete turn and driving into the ground together.

1.1.4 Straw Bales

Straw bales may be used as temporary and moveable control measures, temporary check dams, or as reinforcement for silt fence in areas of concentrated runoff or high fills. Bales shall be tightly butted and staked 12" into the ground. Where used without silt fence in front, the bales shall be trenched 4" into the ground, back-filled with compacted soil, and the spaces between bales shall be chinked with loose straw.

1.1.5 Filter Sock (Filtrexx Or Equivalent)

In areas of expected sheet flow, filter sock may be placed directly on the ground without trenching or stakes. In areas of expected concentrated flow, mulch or crushed stone shall be placed along the up-slope face to control and filter underflow. Additional layers of Filter Sock may be required for adequate freeboard. The filter sock shall be staked at 10 feet on-center or in cases where they cannot be staked, utilize heavy concrete blocks to hold in place.

1.1.6 Temporary Sedimentation Basins

Temporary sediment basins may be excavations or bermed stormwater detention structures (depending on grading) that will retain runoff for a sufficient period of time to allow suspended soil particles to settle out prior to discharge. These temporary basins will be located based on construction needs as determined by the contractor and outlet devices will be designed to control velocity and sediment. Points of discharge from sediment basins will be stabilized to minimize erosion. If the temporary basin is to be located within an area of future infiltration as part of the stormwater management system, the excavation for the temporary sedimentation basin shall be limited to one foot above final grade of the infiltration structure.

1.1.7 Stocking Additional Materials

A stock of additional erosion control materials shall be available on the site for emergency repairs and temporary measures. Stock shall be replenished when decreased to 50% of the numbers below. Stock shall include:

Straw Bales – 10 (kept dry) with 20 oak stakes

Or

Silt Fence – 30 Linear feet.

Or

Filter Sock – 4 – 8 foot sections (kept dry)

Washed Stone – One (1) cubic yard, ¾" to 2" diameter

1.1.8 Trench Protection

Open trenches shall be protected from accumulation of surface water or groundwater that could result in erosion of the trench and discharge of sediment. Where feasible, spoil shall be stockpiled on the up-slope side of the trench to prevent entrance of surface runoff. Backfill shall be crowned to allow for settlement and to avoid concentration of runoff on top of the trench.

1.1.9 Site Stabilization – Temporary

Where a portion of the site will not be subject to construction activity for over 14 days, measures shall be taken to provide temporary stabilization of that inactive portion of the site, within 14 days of the cessation of construction activity. Stabilization measures may include seeding for temporary cover, mulching, or other measures to protect exposed soil from erosion and prevent sediment movement.

1.1.10 Site Stabilization – Permanent

Within 14 days of completion of loaming and finish grading on any portion of the site, that area shall be seeded or planted for permanent cover (season permitting) in accordance with USDA NRCS guidelines or equivalent.

1.1.11 Roadway Sweeping

The entrance to the site and affected portions of the access drive or paved project areas shall be swept as needed to control sediment runoff into storm drains or waterways and to control blowing dust.

1.2 Short-Term Erosion Control Maintenance

The following provides short-term erosion control maintenance guidelines and requirements.

1. The contractor or subcontractor will be responsible for implementing each control shown on the sedimentation and erosion control plan.
2. All erosion and sediment control devices shall be properly maintained during all phases of construction until the completion of all construction activities and all disturbed areas have been stabilized. Additional control measures will be installed during construction in order to control erosion and/or off-site sedimentation if deemed necessary by on-site inspection.
3. Effective erosion control measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations that will disturb the natural protection.
4. All sediment and erosion control devices shall be inspected at least once every seven (7) calendar days and after any storm event greater than 0.5 inches of precipitation during any 24-hour period, and the inspection shall be documented in writing. Damaged or ineffective devices shall be repaired or replaced, as necessary.
5. The contractor shall take all reasonable precautions to avoid excess erosion of the site due to the construction of this project.
6. Silt shall be removed from behind barriers if greater than 6-inches deep or as needed. Sediment that is collected in structures shall be disposed of properly and covered if stored on-site
7. Damaged or deteriorated items will be repaired immediately after identification.
8. All ditches shall be stabilized as soon as is practicable to minimize erosion.
9. The contractor shall maintain all erosion control devices in a good, working state of repair. Upon complete stabilization of any tributary areas, the erosion control devices shall be removed and disposed of so as to cause no off-site siltation.
10. Inspect and maintain construction entrance stone such that sediment does not track onto the street. Any sediment tracked onto the street shall be swept daily.
11. After catch basins have been constructed, the contractor shall protect the inlets by constructing inlet protection as shown on the plans.
12. Once the site has been paved, all catch basin inlets shall receive a silt sack type protection.

13. Erosion control measures shall remain in place until all disturbed earth has been substantially stabilized. After removal of structures, disturbed areas shall be regraded and stabilized as necessary.

Appendix G: Long-Term Operation and Maintenance Plan

- Long-Term Operation & Maintenance Plan Narrative
- Barracuda Concrete Installation Guide
- Barracuda Max Maintenance Guide
- O&M Checklist

Long-Term Operation & Maintenance Plan

Proposed Storage Building

699 Silver Street
Agawam, MA 01001
(Parcel ID: G6-2-12)

Applicant/Property Owner:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

RLA Project File: 250903

March 5, 2026

R LEVESQUE ASSOCIATES, INC
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I. Long-Term Stormwater Maintenance Program:

This Long-Term Operation and Maintenance Plan (O&M) identifies inspection and maintenance requirements for the proposed stormwater management system. The O&M references guidelines set forth by the Stormwater Management Handbook developed by the Massachusetts Department of Environmental Protection.

Responsible Party*:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

*The party listed shall be responsible for implementation and record keeping of the requirements listed in this operation and maintenance plan. Upon sale of property or any other transition of ownership, the responsible party shall be reinstated as the new owner or any other group created as determined by the owner.

Signature of Responsible Party Representative

Date

2. Inspection and Maintenance Program:

Regular inspection and routine maintenance are necessary to ensure that the stormwater management system continues to control and treat runoff. The following lists the inspection schedule and maintenance procedures for the proposed stormwater Best Management Practices:

BMP	Inspection Schedule	Maintenance Schedule	Maintenance Procedures
Bituminous Concrete Pavement	Four times per year	Twice per year	• Roadway to be swept in March or April following snow melt and again in late November or early December to remove fallen leaves and debris
Deep-Sump Catch Basins	Four times per year	Four times per year	• Remove sediment once deposits reach one half the depth from the bottom sump to the lowest invert.
Stormwater Piping	Once per year	Once per year	• Inspect pipe entrances in catch basins and manholes and remove any blockages
Water Quality Unit*	As specified by the manufacturer	As specified by the manufacturer	• Clean the unit using the method specified by the manufacturer. Vactor trucks are typically used to clean these units.
Subsurface Infiltration Basin	Twice per year	Four times per year	• Verify that the inlet structure has no accumulation of sediment
Flared End Section	Four times per year	As Needed	• Remove any debris or vegetation around the flared end section such that flow out of the structure is not impeded.
Roof Leaders	Once per year	Once per year	• Inspect downspout connections at grade and remove any blockages • Open and inspect cleanout locations and remove any blockages
Level Spreader	After major storm events	As needed	• Repair any erosion or low spots

*See attached Device Operation and Maintenance Guides

See the attached Long-Term O&M Inspection Checklist for record keeping purposes.

3. Additional Long-Term Operation and Maintenance Items

The following is a list of additional operation and maintenance items to be implemented by the owner/governing group to maintain the features proposed in this project.

A. Proper storage, use, and disposal of hazardous chemicals, including automobile fluids, pesticides, paints, solvents, etc. shall be required. Information should be provided on chemicals of concern, proper use, and disposal options. Recycling programs for used motor oil, antifreeze, and other products should be developed.

B. Vehicle Washing. This management measure involves educating the owner on the water quality impacts of the outdoor washing of vehicles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor vehicle washing has the potential to result in high loads of nutrients, metals, and hydrocarbons which is conveyed by the detergent-rich water into storm drains.

C. Recycling, spill prevention and response plans, and proper material storage and disposal of potentially hazardous materials shall be implemented. It will be the responsibility of the owner to contain and legally remove any materials that are spilled onsite. The use of dry floor cleaners and absorbent materials and limiting the use of water to clean pavement is encouraged. Care should be taken to avoid accidental disposal of hazardous materials.

D. Provisions for storing trash and waste products shall be implemented. The waste materials shall be collected by the owner and all materials shall be properly disposed of.

E. Requirements for routine inspections and maintenance of stormwater best management practices. Routine inspections shall be performed to ensure the correct functioning of stormwater best management practices. See the specific maintenance criteria for detail regarding inspections and maintenance frequency.

F. Requirements for Storage and Use of Fertilizers, Herbicides, and Pesticides. Fertilizers, pesticides, herbicides, lawn care chemicals, or other leachable materials shall be used in accordance with the Lawn Care Regulations of the Massachusetts Pesticide Board, 33 CMR 10.03 (30,31), as amended, with manufacturer's label instructions and all other necessary precautions to minimize adverse impacts on surface and groundwater. The storage of any such materials shall be within structures designed to prevent the escape of contaminated runoff or leachate.

G. Provisions for prevention of illicit discharges to the stormwater management system shall be implemented. Any illicit discharges to the stormwater management system shall be prohibited. It will be the owner's responsibility to ensure compliance with the legal disposal of all materials and containment/cleanup of any illicit discharges.

H. Training for staff or personnel involved with implementation of the Long-Term Pollution Prevention Plan shall be required. The owner/governing group will be responsible for the implementation of the measures set forth in the Long-Term Pollution Prevention Plan. Documentation that personnel and owners involved with the implementation of the Long-Term Pollution Prevention Plan have been trained to conduct such tasks shall be documented.

4. Winter and Snow Conditions

The following is a list of additional operation and maintenance items to be implemented by the owner during winter and snow conditions.

A. Snowfall shall be stored on the grassed areas surrounding the pavement areas, excluding any areas utilized for stormwater management practices. As needed, any snow that cannot be stored on site shall be trucked off site and disposed of properly.

B. Winter road salt and/or sand use and storage restrictions shall be implemented based on any restrictions issued for the project. Sodium chloride for ice control shall be used at the minimum salt to sand ratio which is consistent with the Massachusetts Department of Environmental Protections guidelines. Sodium chloride, calcium chloride, chemically treated abrasives or other chemicals used for the removal of ice and snow on roads/drives shall not be stored on site.

5. Public Safety Features

The proposed site design utilizes the following features which have been incorporated to ensure the safety of the public:

A. Control and collection of stormwater runoff through positive drainage and curbing directing it towards the drainage inlets;

B. Heavy-duty stormwater drain manhole covers and catch basin grates have been designed to withstand H20 loading;

C. Reduction of peak discharge rates from the site in the post-development condition as compared to the pre-developed conditions;

D. Development and implementation of an Operations & Maintenance Plan to ensure the stormwater management system continues to function as designed.

6. Estimated Cost of Maintenance

The following budget was prepared as an estimate of inspection and maintenance costs for the stormwater management system. The budget is an estimate only as the costs may vary depending on the level of sediment accumulation and frequency of maintenance tasks required.

BMP Inspections	Number of Occurrences	Inspection Cost*	Number of Structures	Sum*
Catch Basin	4/year	$50	4	$800
Water Quality Unit	2/year	$100	2	$400
Surface Infiltration Basin	2/year	$100	1	$200
Total Estimated Annual Cost of Inspections				$1,400

BMP Maintenance	Number of Occurrences	Maintenance Cost*	Number of Structures	Sum*
Catch Basin	4/year	$100	4	$1,600
Water Quality Unit	2/year	$500	2	$2,000
Surface Infiltration Basin	2/year	$300	1	$600
Total Estimated Annual Cost of Maintenance				$4,200

*All above costs are estimates to be used for permitting purposes only. Actual maintenance costs are to be ascertained by the responsible party.

ADS® Barracuda® Concrete

Installation Guide

ADS Barracuda Max & Barracuda S4, S6, S8 Concrete Installation Guide

This installation guide is reference for installing the Barracuda Max S4, S6, S8 Water Quality Units into a precast concrete structure in the field.



(1) Deflector Plate



(1) Center Funnel Extender



(2) A/C Stainless Steel Tooth Set



(2) B/D Stainless Steel Tooth Set



(1) Barracuda Max Plastic Funnel

S4	 (4) Stainless Steel Funnel Mounting Flanges	 (1) Roll of Conseal®	 (16) Concrete Anchor ¼ x 2¼"
S6	 (4) Stainless Steel Funnel Mounting Flanges	 (3) Roll of Conseal®	 (16) Concrete Anchor ¼ x 2¼"
S8	 (8) Stainless Steel Funnel Mounting Flanges	 (4) Roll of Conseal®	 (22) Concrete Anchor ¼ x 2¼"

Please check that all components are on site. Below is a list of tools that may be required for installation.

- □ 1/4" Diameter Carbide Tipped Concrete Bit
- □ Standard Electrical or Battery Operated Drill
- □ Adjustable Wrench
- □ Marker for writing on the concrete wall
- □ Hammer Drill for Concrete (Fits the 1/4" Diameter Concrete Drill Bit)
- □ 7/16" Driver or deep socket for installation of provided ¼" Concrete Wedge Anchors
- □ Hammer
- □ Level
- □ Ladder that will extend to bottom of the structure
- □ Safety Glasses
- □ Hard Hat
- □ Protective Gloves
- □ Site Drawings
- □ ADS Design Layout

Installation Instructions (These directions assume the manhole base and riser have been assembled, but that the top slab/cone has not been set).

*Do not insert the inlet or outlet pipes until after the Barracuda Max internals have been installed. If pipes must be inserted in advance, the pipes should not protrude into the structure as they will interfere with installation of the bowl.

1. Install mounting flanges for the Barracuda Max plastic funnel. These flanges need to be installed at the same height, as indicated by model in Table 1. For example, the anchor holes for S4 flanges should be drilled 77" (1925 mm) from the sump floor. S4 and S6 models have four flanges and they need to be evenly spaced at 12, 3, 6, and 9 o'clock positions. S8 funnels require eight flanges that also need to be evenly spaced (i.e., forty-five degrees on a circle) around the inside of the manhole. This flange points are typically located in the third manhole section from the sump and also contain the pipe openings for the Barracuda Max unit. Use the same anchor procedure as you will when mounting the teeth (see step #4 below), using the ¼" (6.25 mm) concrete drill bit to drill 1¼" (31.25 mm) deep holes. Do not over drill the depth of the anchors. Lightly hammer the anchors in place and use locking nuts to firmly secure the flanges (Figure 1).
2. Next, mount the four sets of teeth vertically inside the manhole sump. Using the engineer's plans or the ADS layout, determine the correct orientation for the plastic funnel outlet hole in relation to the outlet pipe (Figures 2 and 5). The first set of teeth (marked as "A" on the teeth part) will be mounted under the center of the outlet hole from the Bowl. Mark that location with a plumb vertical line, this will serve as the "12 o' clock" landmark in the manhole (Figure 3). Repeat this process to mark lines at the 3, 6, and 9 o' clock positions for a total of four.
3. Each kit includes four sets of teeth. Two of these sets are stamped with the letters A and C. The other two sets are stamped B and D. The ADS shop drawing layout will label the teeth letters and all designs will be the A/B configuration (Figure 5). You will install each set of teeth in the correct location, with the indicated letter facing up (Figure 4). See Table 1 for the correct elevation for the top anchor location of each tooth set, measured from the sump floor for each Barracuda Max Unit. The teeth anchors are all at the same elevation. For example, for an S4 Barracuda the top anchor of an A or B indicated set of teeth will be 60" (1500 mm) off the sump floor. Mark the top anchor elevations on each of your four vertical lines (Figure 3), noting that A and B sets of teeth will be at the same height.



Figure 1



Figure 2



Figure 3

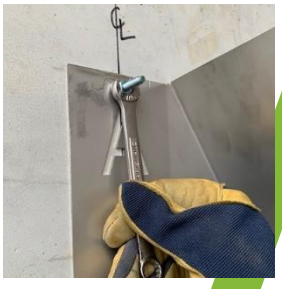
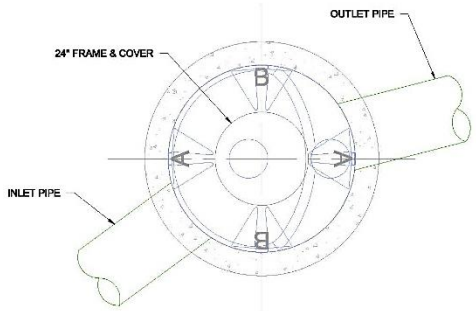


Figure 5

Figure 4



4. To fasten the sets of the teeth to the manhole, use the ¼" concrete drill bit and drill holes approximately 1¼" (31.25 mm) deep at your marked top anchor locations. Do not over drill into the concrete wall. Using a hammer, lightly tap the concrete anchors into the drilled holes (Figure 4). Hang the tooth set on the top anchor with the correct letter facing up and use a locking nut to loosely secure the tooth set to the wall (do not fully tighten the locking nut at this point). With the set of teeth hanging from the top anchor, line up and mark the bottom anchor location and drill the hole. Then hammer the bottom anchor in place and secure the teeth with a lock nut. Use an adjustable or socket wrench to tighten all the top and bottom locking nuts, except for the top nut on the outlet set of teeth (see step #5 below for the deflector plate installation, which will share the top anchor post), so that the teeth are firmly secured to the wall.

5. To attach the deflector plate to the concrete manhole you will use the exit tooth's top concrete anchor and share that linking point with the center tab of the deflector plate. Place the center tab of the deflector plate over the anchor bolt "post" on the outlet set of teeth and hand tighten the nut. Ideally, the plate will be held in place by this center point. Mark the location of the additional mounting tabs for the deflector plate while holding the plate relatively level. All deflector plate concrete anchors will be at the same elevation as the top tooth linking points and the anchors will be installed like the description in step #4. Once the two outer deflector plate linking points have been located, the installer can draw a vertical line and measure the exact location corresponding to the "high" teeth anchoring elevation. Once the deflector plate concrete anchors are installed tighten the nuts to complete the fastening of the deflector plate to the wall of the structure. See Figure 6 to show this more clearly.

6. Lower the plastic funnel into the structure (Figure 7), orienting the weir and outlet hole as depicted in the ADS layout (as identified in step 1). S6 and S8 units have eyebolts threaded holes on the top of the funnel to assist in lifting, and the eyebolts are provided in the equipment kit. If the eyebolts are misplaced, S6 units have ⅜" (9 mm) -16 threads and S8 units utilize ½" (12 mm) -13 threads. After the bowl is in place, install the center funnel extender through the hole and seat it until the tabs of the extender touch the bowl itself (Figure 8). This is a friction-based attachment and no fasteners are needed.

7. Next, you'll use Conseal to fill any gaps around the funnel. S6 and S8 units are provided with a metal funnel plug. This plug is placed in the funnel opening for worker safety and must be utilized ANYTIME SOMEONE ENTERS THE STRUCTURE. Unroll the Conseal and wedge it between the funnel and manhole to create a seal (Figure 9). Conseal should also be used to seal between the vertical edges of the weir wall and the manhole. The plastic funnel can expand with high temperature. Install the funnel during cooler parts of the day, or keep the funnel shaded until installation can mitigate fitment issues. Once the Conseal is installed, the internal component installation is complete. The funnel plug may be discarded (if applicable), and the top slab can be set. If the application calls for a grated inlet, orient the slab so the grate is above the inlet (large bowl) side of the plastic funnel.

For maintenance details, please refer to the Barracuda Max Maintenance Manual. If the application requires a trash rack or oil boom, reference the appropriate supplementary installation instructions.



Figure 6



Figure 7



Figure 8

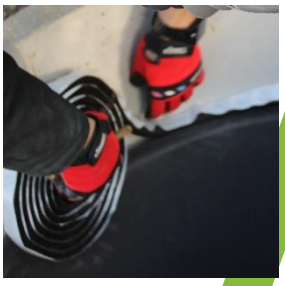


Figure 9

Table 1

	S4	S6	S8
Top Anchor Elevation from Sump Floor (A and B tooth indication)	60” (1270 mm)	68” (1475 mm)	90” (1880 mm)
Funnel Flange Anchor Elevation from Sump Floor	77” (1960 mm)	77” (1960 mm)	127” (3220 mm)

Note: Distances can be +/- 1-2 inches (25-50 mm) from these locations for the A, and B teeth, but flange elevations should be adhered to as much as possible and can only be lowered a maximum of 1 inch (25 mm) from these values listed above.
This guide is intended for field installations of Barracuda Max S4, S6, and S8 water quality units into precast manholes. For pre-casters installing internal components prior to job site delivery, contact ADS for possible modifications to component elevations.

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Barracuda® Max & Barracuda Maintenance Guide

One of Barracuda's advantages is the ease of maintenance. Like any system that collects pollutants, the Barracuda must be maintained for continued effectiveness. Maintenance is a simple procedure performed using a vacuum truck or similar equipment. The systems were designed to minimize the volume of water removed during routine maintenance, reducing disposal costs.

Contractors can access the pollutants stored in the manhole through the manhole cover. This allows them to gain vacuum hose access to the bottom of the manhole to remove sediment and trash. There is no confined space entry necessary for inspection or maintenance.

The entire maintenance procedure typically takes 2 to 4 hours, depending on the system's size, the captured material, and the vacuum truck's capacity.

Local regulations may apply to the maintenance procedure. Safe and legal disposal of pollutants is the responsibility of the maintenance contractor. Maintenance should be performed only by a qualified contractor.

Inspection and Cleaning Cycle

Periodic inspection is needed to determine the need for and frequency of maintenance. You should begin inspecting as soon as construction is complete and then on an annual basis. Typically, the system needs to be cleaned every 1-3 years.

Excessive oils, fuels or sediments may reduce the maintenance cycle. Periodic inspection is important.

Determining When to Clean

To determine the sediment depth, the maintenance contractor should lower a stadia rod into the manhole until it contacts the top of the captured sediment and mark that spot on the rod. Then push the probe through to the bottom of the sump and mark that spot to determine sediment depth.

Maintenance should occur when the sediment has reached the levels indicated in the Storage Capacity Chart.

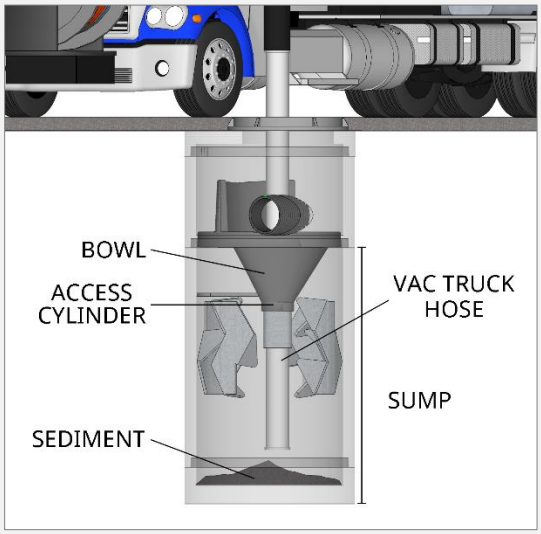
Barracuda Storage Capacities

Model	Manhole Diameter in. (mm)	Total System Volume Gallons (Liters)	Treatment Chamber Capacity Gallons (Liters)	Standard Sediment Capacity (20" depth) Yards^3 (meters^3)	NJDEP Sediment Capacity (50% of standard depth) Yards^3 (meters^3)
S3	36 (900)	264 (999)	212 (803)	0.44 (0.34)	0.22 (0.17)
S4	48 (1200)	665 (2517)	564 (2135)	0.78 (0.60)	0.39 (0.30)
S6	72 (1800)	1497 (5667)	1269 (4804)	1.75 (1.34)	0.88 (0.67)
S8	96 (2400)	4196 (15884)	3835 (14517)	3.10 (2.37)	1.55 (1.19)

Maintenance Instructions

1. Remove the manhole cover to provide access to the pollutant storage. Pollutants are stored in the sump, below the bowl assembly visible from the surface. Access this area through the 8" (200 mm), 10" (250 mm), 15" (375 mm) or 20" (500 mm) diameter access cylinder.
2. Use a vacuum truck or other similar equipment to remove all water, debris, oils and sediment. See figure 1.
3. Use a high pressure hose to clean the manhole of all the remaining sediment and debris. Then, use the vacuum truck to remove the water.
4. Fill the cleaned manhole with water until the level reaches the invert of the outlet pipe.
5. Replace the manhole cover.
6. Dispose of the polluted water, oils, sediment and trash at an approved facility.
    a. Local regulations prohibit the discharge of solid material into the sanitary system. Check with the local sewer authority for authority to discharge the liquid.
    b. Some localities treat the pollutants as leachate. Check with local regulators about disposal requirements.
    c. Additional local regulations may apply to the maintenance procedure.

Figure 1



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Project: Proposed Storage Building

Address: 699 Silver Street, Agawam, MA

BPM Name:

Responsible Party:

Date:

Page: 1 of 1

Operation & Maintenance Inspection Checklist

BMP Element:	Potential Problem:	Resolution:	Pass	Fail	Recommended Remediation
Bituminous Concrete Roadway	Build-up of sediment over the winter months and collection of leaves during the fall months.	Sweep roadway using a high-efficiency street sweeper.			
Deep-Sump Catch Basin	Sediment has accumulated to a depth greater than the original design depth for sediment storage, approximately 2-ft of sediment.	Remove the sediment and dispose of in accordance with local and state regulations.			
Stormwater Piping	Blockage of inlet/outlet pipes due to debris or sediment accumulation.	Remove any debris and sediment via proper means. Dispose of debris/sediment in accordance with local & state regulations			
Flared End Sections	Vegetation has started to grow within the riprap area.	Remove vegetation immediately.			
	Accumulation of sediment/debris at the culvert inlet.	Remove sediment or debris such that the culvert has free flow.			
	Erosion is occuring where riprap has been dislodged.	Remedy scoured area and replace riprap immediately.			
Subsurface Infiltration Basin	Accumulation of sediment at the inlet structure above maintenance level.	Remove the sediment and conduct proper maintanence to the up-gradient pretreatment devices.			
Roof Leaders	Downspout connections have been damaged or disconnected.	Repair and reconnect downspout connections			
Water Quality Units	Sediment has accumulated to a depth greater that the original design depth for sediment storage.	Remove sediment and disposed of in accordance with local and state regulations.			
Level Spreader	Downgradient low spots have formed due to sheet flow concentration	Fill low spots with native backfill, No. 6 pea-stone, topsoil and erosion contol blanket. Sod or re-seed with stabilized erosion control grass mix			

Inspector's Signature

Date

Appendix H: Illicit Discharge Compliance Statement

Illicit Discharge Compliance Statement

The owners of the land/responsible party will be responsible for prohibiting illicit discharges to the stormwater management system during construction and during its life of operation. The stormwater management system is comprised of the components for conveying, treating, and infiltrating stormwater runoff on-site, including stormwater best management practices and any pipes intended to transport stormwater to the groundwater, a surface water, or municipal separate storm sewer system. An illicit discharge shall constitute any connection or discharge to the stormwater management system including, but not limited to, wastewater discharges, discharge of stormwater contaminated by contact with process wastes, raw materials, toxic pollutants, hazardous substances, oil, or grease.

Responsible Party*:
MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

*The party listed shall be responsible for implementation and record keeping of the requirements listed in this operation and maintenance plan. Upon sale of property or any other transition of ownership, the responsible party shall be reinstated as the new owner or any other group created as determined by the owner.

_____ _____

Signature of Responsible Party Representative Date

Appendix I: Low Impact Development Considerations

Low Impact Development Considerations

Proposed Storage Building

699 Silver Street
Agawam, MA 01001
(Parcel ID: G6-2-12)

Applicant/Property Owner:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

RLA Project File: 250903

March 5, 2026

R LEVESQUE ASSOCIATES, INC
A LAND PLANNING SERVICES COMPANY
40 School Street · Westfield, MA 01085
p 413.568.0985 · f 413.568.0986 · www.rlaland.com

Introduction

Per the Massachusetts Stormwater Handbook, project proponents must consider environmentally sensitive site design and low impact development techniques to effectively manage stormwater. As a part of the proposed project, the proponent has considered a number of environmentally sensitive, low impact development techniques to prevent the generation of stormwater and non-point source pollution.

The following is a detailed description of the considerations for each low impact development measure. For ease of review, RLA has provided the consideration of each measure as detailed in the Massachusetts Stormwater Report Checklist.

Low Impact Development (Lid) Measures

1. Environmentally Sensitive Project Approach
   The applicant is proposing to develop the locus property by constructing a storage building and expanding the existing parking areas. A stormwater management system is being utilized to mitigate the impacts of the proposed project utilizing several LID techniques that have been incorporated into the design.

2. No disturbance to any Wetland Resource Areas
   Wetland resource areas are located adjacent to the subject property. All proposed site improvements are located outside of existing wetland resource areas. Portions of the proposed site improvements are located within wetland buffer zones. Disturbance to existing wetland buffer zones has been reduced to functional minimums for applicant needs and city requirements.

3. Site Design Practices (e.g. clustered development, reduced frontage setbacks)
   This LID is not applicable for this project. The proposed project does not include any changes to existing property lines therefore no cluster or reduced frontage options are available.

4. Reduced Impervious Area (Redevelopment Only)
   The proposed project is not part of a redevelopment project. Impervious areas have been reduced to functional minimums required for applicant needs.

5. Minimizing disturbance to existing trees and shrubs
   The demolition of trees and shrubs has been reduced to functional minimums required for applicant needs.

6. LID Site Design Credit Requested
   No LID Site Design Credit is requested for the proposed project.

7. Use of "country drainage" versus curb and gutter conveyance and pipe
   Country drainage conveyance requires a larger footprint than curb and gutter conveyance and creates areas with undulating terrain. Due pre-existing constraints and limitations of the project site, country drainage was not utilized.

8. Bioretention Cells (includes Rain Gardens)
   Due to stormwater burdens from the 100-year storm event, an infiltration basin was determined to be the only BMP capable of meeting required city regulations.

9. Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
   Constructed stormwater wetlands require very specific design scenarios such as large tributary areas to support wetland characteristics and high groundwater elevations among others. No evidence of groundwater was encountered within the project site, so a constructed stormwater wetland is not feasible.

10. Treebox Filter
    The extensive costs associated with treebox filters, along with the climatic conditions of the area over the winter, present unique circumstances that would only provide a maintenance problem and a potential hazard for the owner. Due to the commercial nature of this project, treebox filters are not an applicable stormwater BMP.

11. Water Quality Swale
    Water quality swales are best management practices that require a greater footprint of development in order to facilitate the grading of the swale. Due to the limited available pervious areas within the project site, water quality swales were not utilized.

12. Grass Channel
    Grassed channels are best management practices that require a greater footprint of development in order to facilitate the grading of the swale. Due to the limited available pervious areas within the project site, water quality swales were not utilized.

13. Green Roof
    Based on project size and scope, green roofs were not selected as a cost-effective BMP for this project.

14. Other
    Please see the Stormwater Report for more information.

Site Plans

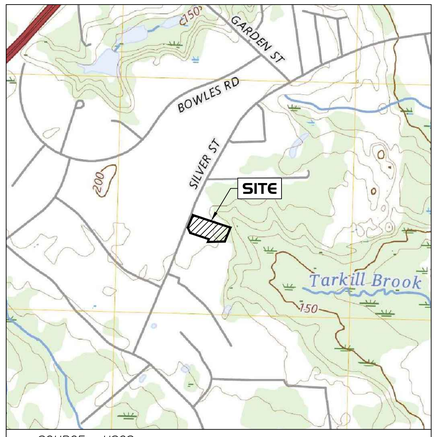
Proposed Storage Building

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

AS PREPARED FOR

MSR Properties, LLC
c/o Rick Mahan

699 Silver Street
Agawam, MA 01001



SOURCE: USGS

NORTH

March 5, 2026

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SHEET NO.	SHEET NAME	ISSUE DATE	REVISION DATE
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C-1	NOTES, SYMBOL & LINE LEGEND, AND ABBREVIATIONS	3/5/26	
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D-1	DETAILS	3/5/26	
D-2	DETAILS	3/5/26	
D-3	DETAILS	3/5/26	

BY

R LEVESQUE ASSOCIATES INC
A LAND PLANNING SERVICES COMPANY

40 School Street · Westfield, MA · 01085
ph 413.568.0985 · fax 413.568.0986
www.rlaland.com

RLA Project Number: 250903

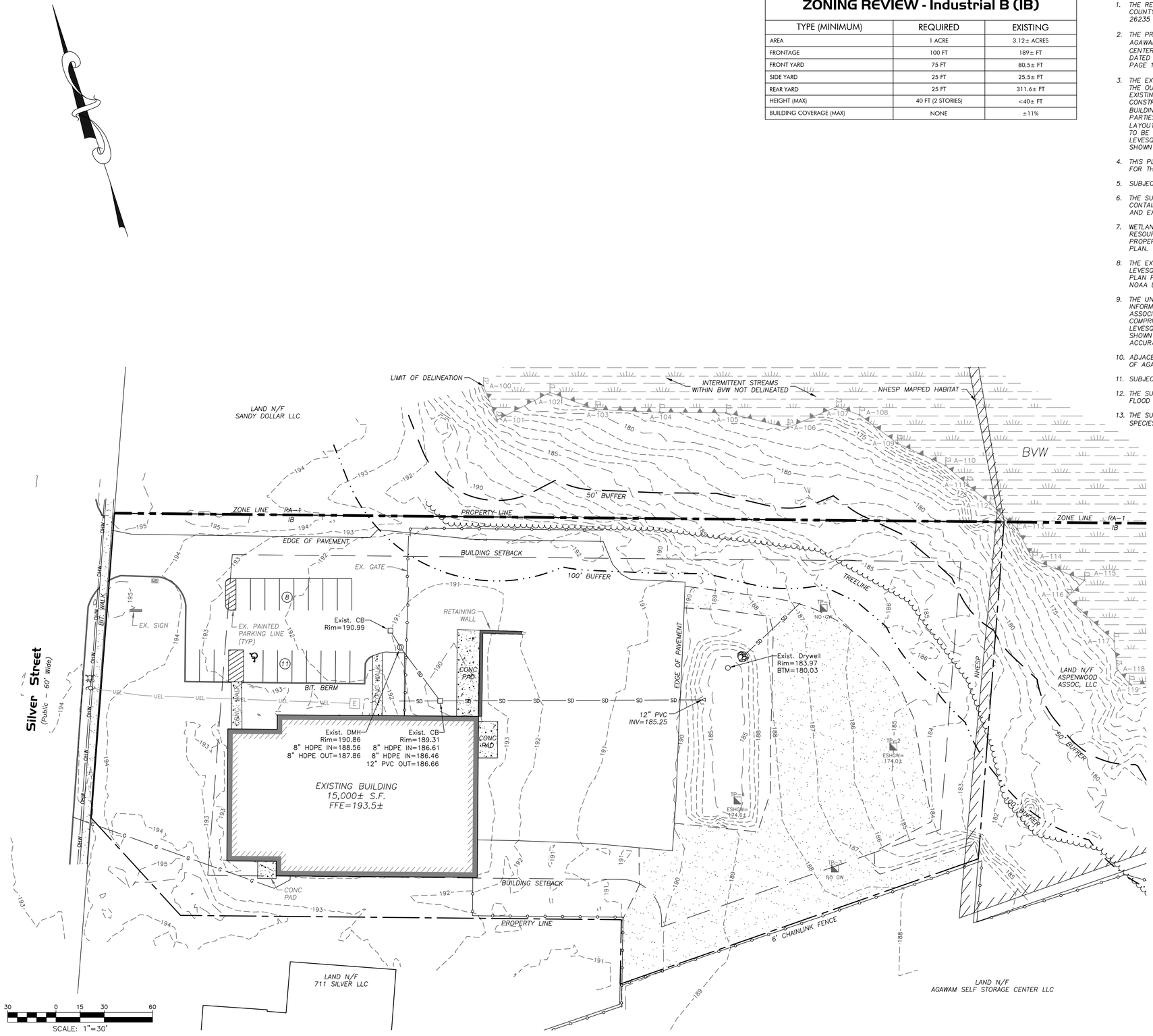
PERMITTING
NOT FOR CONSTRUCTION

ZONING REVIEW - Industrial B (IB)

TYPE (MINIMUM)	REQUIRED	EXISTING
AREA	1 ACRE	3.12± ACRES
FRONTAGE	100 FT	189± FT
FRONT YARD	75 FT	80.5± FT
SIDE YARD	25 FT	25.5± FT
REAR YARD	25 FT	311.6± FT
HEIGHT (MAX)	40 FT (2 STORIES)	<40± FT
BUILDING COVERAGE (MAX)	NONE	±11%

NOTES

1. THE RECORD OWNER OF THE SUBJECT PARCEL IS MSR PROPERTIES, LLC. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK 22411 PAGE 254, BOOK 20869 PAGE 318, AND BOOK 26235 PAGE 356.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON A PLAN TITLED, "PLAN OF LAND IN AGAWAM, MASSACHUSETTS SURVEYED AND MAPPED FOR (OWNERS) AGAWAM SELF STORAGE CENTER, LLC., 711 SILVER, LLC., AND MSR PROPERTIES, LLC." PREPARED BY THIS OFFICE, DATED AUGUST 19, 2025. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK OF PLANS 403 PAGE 110.
3. THE EXISTING BUILDING(S) SHOWN HEREON ARE BASED ON AN APPROXIMATE MEASUREMENT OF THE OUTSIDE PERIMETER OF THE EXISTING STRUCTURES. THE ACTUAL LOCATION OF THE EXISTING BUILDING WALLS AND CORNERS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION WORK THAT WOULD ABUT OR TAKE PLACE ADJACENT TO THE EXISTING BUILDING(S). IF THE PLAN HEREON IS USED FOR CONSTRUCTION LAYOUT PURPOSES, THE PARTIES CONDUCTING LAYOUT SHALL CONTACT R. LEVESQUE ASSOCIATES INC. PRIOR TO SAID LAYOUT TO DETERMINE PROPER CONTROL. PLEASE NOTE WHILE THE BUILDING(S) ARE SHOWN TO BE SQUARE, IT SHOULD NOT BE ASSUMED THAT THE WALLS ARE SQUARE OR PLUMB. R. LEVESQUE ASSOCIATES TAKES NO RESPONSIBILITY FOR THIRD PARTY LAYOUT OF THE PLAN SHOWN HEREON.
4. THIS PLAN HAS BEEN PREPARED FOR SITE PLANNING PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE.
5. SUBJECT PARCEL CONTAINS 136,158.9± S.F. OR 3.12± ACRES.
6. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
7. WETLANDS DELINEATED BY R LEVESQUE ASSOCIATES, INC. ON 09–12–2025. OFFSITE WETLAND RESOURCE AREAS HAVE BEEN SHOWN TO ACCURATELY SHOW BUFFER ZONES ON THE SUBJECT PROPERTY. THE DETERMINATION OF WETLAND RESOURCE AREAS IS THE THE SUBJECT OF THIS PLAN.
8. THE EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A SURVEY PERFORMED BY R LEVESQUE ASSOCIATES, INC. ON 09–15–2025, AN UNRECORDED EXISTING CONDITIONS SITE PLAN PREPARED BY SMITH ASSOCIATES SURVEYORS, INC., DATED DECEMBER 11, 2015, AND NOAA LIDAR.
9. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AVAILABLE RECORD DATA, AND THE TOWN OF AGAWAM WEB GIS. R LEVESQUE ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. R LEVESQUE ASSOCIATES, INC. FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HERE ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
10. ADJACENT PROPERTY LINES AND ABUTTERS SHOWN HEREON ARE REFERENCED FROM THE TOWN OF AGAWAM WEB GIS.
11. SUBJECT PARCEL IS ZONED INDUSTRIAL B ACCORDING TO THE TOWN OF AGAWAM ZONING MAP.
12. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 25013C0392E – EFFECTIVE DATE: 07–16–2013.
13. THE SUBJECT PROPERTY IS PARTIALLY LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.



RLA

R LEVESQUE ASSOCIATES INC

Landscape Architects
Civil Engineers · Land Surveyors
Environmental Consultants

ph: 413.568.0985 fax: 413.568.0986

40 School Street
Westfield, MA 01085

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EXISTING CONDITIONS PLAN

699 Silver Street
Agawam, MA 01001
Parcel ID# G6 2 12

COMMONWEALTH OF MASSACHUSETTS
MARC E. SHUTE
No. 33610
PROFESSIONAL LAND SURVEYOR

PREPARED FOR:

Mr. Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 4, 2026

REVISIONS:	DATE:

DRAFTED BY: J.L.

UNAUTHORIZED ALTERATION OF THIS DOCUMENT IS A VIOLATION OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 250903

DRAWING#	REV.
EX-1	-

S:\Projects\2025\250903 - Mahan - 699 Silver S., Agawam\05 Civil 3D\250903 - EXIST.dwg

SYMBOL & LINE LEGEND

- IRON PIPE FOUND
- IRON PIPE TO BE SET
- CONCRETE BOUND FOUND
- CONCRETE BOUND TO BE SET
- COMPUTED POINT
- EXISTING SIGN
- EXISTING MAILBOX
- EXISTING MONITORING WELL
- EXISTING LIGHT POLE
- UTILITY POLE
- GUY ANCHOR
- EXISTING ELECTRIC MANHOLE
- EXISTING TELEPHONE MANHOLE
- EXISTING CABLE TV BOX
- EXISTING WELL LOCATION
- EXISTING WATER VALVE
- EXISTING WATER SHUT–OFF
- EXISTING HYDRANT
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- EXISTING GAS VALVE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING CATCH BASIN
- EXISTING DRAIN MANHOLE
- PROPOSED CATCH BASIN
- PROPOSED MANHOLE
- SOIL BORING LOCATION
- TEST PIT LOCATION
- PERC TEST LOCATION
- WETLAND FLAG LOCATION
- M.A.H.W. FLAG LOCATION
- EXISTING STONE WALL
- TREE LINE
- × 102.4 EXISTING SPOT GRADE
- 219 EXISTING CONTOUR
- × 94.7 PROPOSED SPOT GRADE
- 214 PROPOSED CONTOUR
- EDGE OF WETLAND
- FENCE LINE
- GUARDRAIL
- OHW OHW EXISTING OVERHEAD WIRES
- UEL UEL EXISTING UNDERGROUND ELECTRIC
- TEL TEL EXISTING TELEPHONE LINE
- G G EXISTING GAS LINE
- W W EXISTING WATER LINE
- SD SD EXISTING STORM DRAIN
- SS SS EXISTING SANITARY SEWER
- LOW LOW LIMIT OF WORK LINE
- SF SF SF SILT FENCE LINE

ABBREVIATIONS

A.F.F.	–	ABOVE FINISHED FLOOR
A.F.S.	–	ABOVE FINISHED SLAB
APPROX.	–	APPROXIMATE
A.T.F.	–	ABOVE TOP OF FOUNDATION
BLDG.	–	BUILDING
BLK.	–	BLOCK
BOT.	–	BOTTOM
B.O.W.	–	BOTTOM OF WALL
BRG.	–	BEARING
CB.	–	CATCH BASIN
CL	–	CENTERLINE
C.I.	–	CAST IRON
CLR.	–	CLEAR
CONC.	–	CONCRETE
CONT.	–	CONTINUOUS
CONTR.	–	CONTRACTOR
DBL.	–	DOUBLE
DET.	–	DETAIL
D.I.	–	DUCTILE IRON
DIA.	–	DIAMETER
DIM.	–	DIMENSION
DT'L.	–	DETAIL
DWG.	–	DRAWING
EA.	–	EACH
ELEC.	–	ELECTRIC
ELEV.	–	ELEVATION
EXIST.	–	EXISTING
EXT.	–	EXTERIOR
FFE	–	FINISH FLOOR ELEVATION
FIN.	–	FINISH
FLR.	–	FLOOR
FOUND.	–	FOUNDATION
FT.	–	FOOT OR FEET
INSTL.	–	INSTALLED
LT.	–	LIGHT
MAX.	–	MAXIMUM
M.A.H.W.	–	MEAN ANNUAL HIGH WATER
MH.	–	MANHOLE
MIN.	–	MINIMUM
MISC.	–	MISCELLANEOUS
N.T.S.	–	NOT TO SCALE
O.A.	–	OVERALL
O.C.	–	ON CENTER
PCB	–	PROPOSED CATCH BASIN
PDMH	–	PROPOSED DRAIN MANHOLE
PFES	–	PROP. FLARED END SECTION
POCS	–	PROP. OUTLET CONTROL STRUCT.
PROP.	–	PROPOSED
PSMH	–	PROP. SANITARY SEWER MANHOLE
PWQU	–	PROP. WATER QUALITY UNIT
P.S.I.	–	POUNDS PER SQUARE INCH
REINF.	–	REINFORCING
R.H.	–	RIGHT HAND
SHT.	–	SHEET
SPEC.	–	SPECIAL OR SPECIFICATIONS
SQ.	–	SQUARE
ST.	–	STEEL
STA.	–	STATION
T.O.F.	–	TOP OF FOUNDATION
T.O.W.	–	TOP OF WALL
T.S.	–	TOP OF STEEL
TYP.	–	TYPICAL
W/	–	WITH
WTR.	–	WATER
W.W.M.	–	WELDED WIRE MESH

EROSION & SEDIMENT CONTROL NOTES

MANAGEMENT STRATEGIES

1. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO THE CONSTRUCTION ENTRANCE.
2. CONSTRUCTION SEQUENCE SHALL BE PHASED TO AVOID LEAVING LARGE AREAS EXPOSED FOR LONG PERIODS OF TIME.
3. TEMPORARY SEED AND MULCH SHALL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING.
4. SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED CONTINUOUSLY, ESPECIALLY FOLLOWING STORM EVENTS TO LOCATE FAILING CONTROL MEASURES AND CONDUCT ROUTINE MAINTENANCE OPERATIONS.
5. THE CONSTRUCTION SUPERINTENDENT SHALL INFORM ALL ON–SITE WORKERS OF THE SEDIMENTATION CONTROL PROGRAM.

VEGETATIVE CONTROL PRACTICES

1. TOPSOIL STOCKPILING: TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE DISTURBED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATION SHALL BE APPROVED BY THE OWNER AND ENGINEER AND BE WITHIN LIMIT OF WORK.
2. TEMPORARY SEEDING: THE TEMPORARY SEDIMENT BASIN, TOPSOIL STOCKPILE AND ROUGH GRADED AREAS SHALL BE SEEDED WITH WINTER RYE AT A RATE OF 30 LBS. PER ACRE ANY SOILS THAT ARE LEFT EXPOSED AND UNDISTURBED FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED.

A. SITE PREPARATION
- COMPLETE ALL ROUGH GRADING ACTIVITIES
- REMOVE ALL ROCKS AND DEBRIS LARGER THAN 3" IN DIAMETER FROM AREAS TO BE TEMPORARILY SEEDED. –EVENLY APPLY LIME TO ACHIEVE A PH VALUE OF 6.0.
- EVENLY APPLY 14 LBS. OF 5–10–10 ANALYSIS FERTILIZER TO A DEPTH OF 4" USING SUITABLE EQUIPMENT.
- SEEDBED IS TO BE LEFT IN FIRM AND SMOOTH CONDITION.
- THE LAST TILLAGE OPERATION SHALL BE PERFORMED ACROSS THE SLOPE.

B. ESTABLISHMENT
- EVENLY APPLY SEED IN ACCORDANCE WITH THE SPECIES AND RATE INDICATED ABOVE BY MEANS OF BROADCASTING OR HYDROSEEDING.
- UNLESS HYDROSEEDED, COVER SEED WITH 1/4" TO 1/2" OF TOPSOIL
- APPLY MULCH OR EROSION CONTROL BLANKET IMMEDIATELY FOLLOWING SEEDING.
- VERIFY SEEDING DATES WITH ENGINEER/LANDSCAPE ARCHITECT. IF ENGINEER/LANDSCAPE ARCHITECT DETERMINES THAT SEED CANNOT BE APPLIED DUE TO CLIMATE, TOPSOIL SHALL NOT BE SPREAD AND MULCHING SHALL BE APPLIED TO THE EXPOSED SURFACE TO STABILIZE SOILS UNTIL THE NEXT RECOMMENDED SEEDING PERIOD.
- PERMANENT SEEDING SHALL BE APPLIED BETWEEN APRIL 15 AND SEPTEMBER 30. TEMPORARY SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS OUTSIDE THIS TIME FRAME, UPON APPROVAL BY THE ENGINEER/LANDSCAPE ARCHITECT.

C. MAINTENANCE
- ALL SEEDED/MULCHED AREAS SHALL BE INSPECTED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE REPAIRED AS NECESSARY.

NONSTRUCTURAL CONTROL PRACTICES

1. SCARIFICATION: EXPOSED SLOPES EXCEEDING 4:1 SHALL BE SCARIFIED AT RIGHT ANGLES TO THE SLOPE. PROVIDE PERIODIC UPGRADING OF SERRATIONS DURING EXPOSED PERIOD UNTIL VEGETATION IS ESTABLISHED. PROVIDE VEGETATIVE COVER AS SOON AS POSSIBLE.
2. STRAW MULCH: STRAW MULCH SHALL BE APPLIED IN CONJUNCTION WITH TEMPORARY/PERMANENT SEEDING AND TO GRADED AREAS WHICH REMAIN EXPOSED OUTSIDE OF RECOMMENDED SEEDING DATES. MULCH SHALL BE APPLIED AT 90 LBS. PER 1000 S.F. CONTRACTOR SHALL PERIODICALLY INSPECT AND REAPPLY AS NECESSARY, PARTICULARLY FOLLOWING SIGNIFICANT STORM EVENTS.
3. TOPSOIL: DISTURBED AREAS SHALL BE TOPSOILED PRIOR TO SEED APPLICATION. APPLICATION STANDARDS:
- REMOVE ALL ROCKS AND DEBRIS OVER 1"–1 1/2" IN DIAMETER.
- SCARIFY SURFACE PRIOR TO SEED APPLICATION.
- APPLY 6" DEPTH OF TOPSOIL.
4. SILT FENCE: SILT FENCE SHALL BE INSTALLED AROUND THE PERIMETER OF THE SITE, AT CULVERT OUTLET LOCATIONS, OR AS INDICATED ON THE DRAWINGS. SILT FENCE SHALL BE INSPECTED AND REPAIRED ROUTINELY, ESPECIALLY FOLLOWING STORM EVENTS UNTIL THE SITE HAS BEEN STABILIZED (COVER > 70%) BY VEGETATION.

STRUCTURAL CONTROL PRACTICES

1. RIP–RAP OUTLET PROTECTION: RIP–RAP SHALL BE PROVIDED AT ALL PIPE OUTLETS. MATERIAL SHALL BE HARD, DURABLE FIELD OR QUARRY STONE WHICH IS ANGULAR AND RESISTS BREAKING DOWN WHEN EXPOSED TO WATER OR WEATHERING.
2. CONSTRUCTION ENTRANCE: CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DRAWINGS.
3. DUST CONTROL: A WATER TRUCK SHOULD BE LOCATED ON–SITE FOR DUST CONTROL WHILE WORK IS PROCEEDING. MAINTENANCE SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED WEEKLY AND AFTER EACH SIGNIFICANT RAINFALL EVENT. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

A. RIP–RAP OUTLET PROTECTION SHALL BE CHECKED REGULARLY FOR SEDIMENT ACCUMULATION. IF SIGNIFICANT AMOUNTS OF SEDIMENT ACCUMULATE, RIP–RAP SHALL BE REMOVED AND REPLACED.
B. SILT FENCING SHALL BE INSPECTED REGULARLY FOR UNDERMINING AND DETERIORATION. REMOVE SEDIMENT FROM BEHIND FENCE WHEN IT BECOMES 6 INCHES DEEP.
C. SEEDED/MULCHED AREAS SHALL BE INSPECTED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHALL BE REPAIRED AS NECESSARY.

SILT FENCE INSTALLATION NOTES

1. THIS SEDIMENT BARRIER UTILIZES MIRAFI ENVIROFENCE (100X) OR EQUAL. IT IS DESIGNED FOR SITUATIONS IN WHICH ONLY SHEET OR OVERLAND FLOWS ARE EXPECTED.
2. THE HEIGHT OF THE BARRIER SHALL NOT EXCEED 36 INCHES (HIGHER BARRIERS MAY IMPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE). IDEALLY THE FILTER FENCE SHALL BE PLACED 10 FEET AWAY FROM THE TOE OF SLOPE.
3. WHEN JOINTS ARE NECESSARY, FILTER FABRICS SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT STAKES WITH A MINIMUM 6–INCH OVERLAP, AND SECURELY SEALED. SEE MANUFACTURER'S RECOMMENDATION.
4. STAKES SHALL BE SPACED A MAXIMUM OF 10 FEET APART AT THE BARRIER LOCATION AND DRIVEN SECURELY INTO THE GROUND (MINIMUM OF 12 INCHES). IN APPLICATIONS WHERE HEAVY FLOWS ARE EXPECTED SUCH AS IN–STREAM INSTALLATIONS STAKE SPACING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS AND/OR THE ENGINEERS RECOMMENDATIONS.
5. A TRENCH SHALL BE EXCAVATED APPROXIMATELY 6 INCHES WIDE AND 6 INCHES DEEP ALONG THE LINE OF STAKES AND UPSLOPE FROM THE BARRIER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. THE PRE ASSEMBLED SILT FENCE SYSTEM SHALL BE UNROLLED, POSITION THE STAKES ON THE DOWNHILL SIDE OF THE TRENCH AND HAMMER THE STAKES AT LEAST 12 INCHES INTO THE GROUND.
7. THE BOTTOM SIX (6) INCHES OF THE FABRIC SHALL BE LAID INTO THE TRENCH TO PREVENT UNDERMINING BY STORM WATER RUNOFF.
8. BACKFILL THE TRENCH OVER THE FILTER FABRIC AND COMPACT SUFFICIENTLY TO PREVENT THE RUNOFF FROM ERODING THE BACKFILL.
9. THE FABRIC SHALL NOT EXTEND MORE THAT 36 INCHES ABOVE THE ORIGINAL GROUND SURFACE. FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES OR SUPPORTS OTHER THAN THE STANDARD STAKES.
10. INSTALLED SILT FENCE BARRIERS SHALL BE MAINTAINED ON A REGULAR SCHEDULE WHICH MAY BE PRESCRIBED BY THE LOCAL, STATE OF FEDERAL REGULATORY AUTHORITY; BUT, AT MINIMUM SHALL BE CHECKED WEEKLY AS WELL AS AFTER EACH STORM EVENT. MAINTENANCE SHALL CONSIST OF AN INSPECTION OF THE ENTIRE LENGTH OF THE BARRIER TO DETERMINE IF IT IS FUNCTIONING AS INTENDED. ALL BREAKS, DETACHED FABRIC, SLUMPED FABRIC, CLOGGED FABRIC, AND UNDERMINED AREAS SHALL BE FIXED THE DAY THAT THEY ARE DISCOVERED.
11. WHEN A MAXIMUM OF SIX (6) INCHES OF SEDIMENT HAS ACCUMULATED BEHIND THE SILT FENCE THIS SEDIMENT SHALL BE REMOVED AND THE FENCE SHALL BE INSPECTED FOR TEARS, CLOGGING OF BREAKS. ALL DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY EITHER BY REPAIR OF REPLACEMENT OF THE SILT FENCE BARRIER AND/OR STAKES AS NEEDED.
12. SILT FENCE BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN CLEANED OF SILT AND PERMANENTLY STABILIZED.

STRAW BALE INSTALLATION & MAINTENANCE (AS REQ'D)

1. STRAW BALES SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.
2. ALL BALES SHALL BE EITHER WIRE BOUND OR STRING TIES. BALES SHALL BE INSTALLED SO THAT BINDINGS ARE ORIENTED AROUND THE SIDES RATHER THAN ALONG THE TOPS AND BOTTOMS OF THE BALES TO PREVENT DETERIORATION OF THE BINDINGS.
3. THE BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE EXCAVATED THE WIDTH OF A BALE AND THE LENGTH OF THE PROPOSED BARRIER TO A MINIMUM DEPTH OF FOUR (4) INCHES AND A MAXIMUM DEPTH OF SIX (6) INCHES. AFTER THE BALES ARE STAKED AND CHINKED, THE EXCAVATED SOIL SHALL BE BACKFILLED AGAINST THE BARRIER. BACKFILL SOIL SHALL CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHALL BE BUILT UP TO FOUR (4) INCHES AGAINST THE UPHILL SIDE OF THE BARRIER.
4. EACH BALE SHALL BE SECURELY ANCHORED BY AT LEAST TWO (2) STAKES OR REBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE TO FORCE THE BALES TOGETHER. STAKES OR REBARS SHALL BE DRIVEN DEEP ENOUGH INTO THE GROUND TO SECURELY ANCHOR THE BALES.
5. THE GAPS BETWEEN BALES SHALL BE CHINKED (FILLED BY WEDGING) WITH STRAW TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES. (LOOSE STRAW SCATTERED OVER THE AREA IMMEDIATELY UPHILL FROM A STRAW BALE BARRIER TENDS TO INCREASE BARRIER EFFICIENCY.)
6. STRAW BALES GENERALLY DETERIORATE IN 2–6 MONTHS AND THUS NEED REPLACEMENT.
7. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
8. BALE BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS, BUT NOT BEFORE THE UPSLOPE AREAS HAVE BEEN PERMANENTLY STABILIZED.

SITE PREP

1. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATION, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES SPECIFICATIONS AND SHALL BE APPROVED BY SUCH.
2. CONTRACTOR SHALL ERECT AND MAINTAIN SAFETY BARRICADES AND POST PROPER NOTICES PRIOR TO THE COMMENCEMENT OF WORK.
3. CONTRACTOR SHALL PROTECT EXISTING SITE IMPROVEMENTS, APPURTENANCES, AND LANDSCAPING TO REMAIN.
4. CONTRACTOR SHALL MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM FROM DAMAGE DURING DEMOLITION OPERATIONS.
5. DO NOT DAMAGE EXISTING UTILITIES TO REMAIN WITHIN PROJECT AREA. ALL DAMAGE TO EXISTING UTILITIES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE UTILITY OWNER.
6. THERE SHALL BE NO BURNING OF DEMOLISHED MATERIAL ALLOWED ON SITE.
7. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ANY ITEMS TO BE TURNED OVER TO OWNER.
8. DEMOLISH AND REMOVE ALL PAVEMENT, SLABS, FOOTINGS, SUBSURFACE ELEMENTS, MISCELLANEOUS DEBRIS, ETC. WITHIN PROPERTY LINES UNLESS NOTED OTHERWISE.
9. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST SO THAT DUST DOES NOT CREATE A NUISANCE ON ADJACENT ROADS OR PROPERTIES. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND CATCH BASIN CLEANING AFTER EACH PHASE OF CONSTRUCTION AND AS NEED IS DETERMINED BY THE ENGINEER.
10. CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY ABANDONED SUBSURFACE SOIL ABSORPTION SYSTEM (SAS) AND MISCELLANEOUS DEBRIS.
11. NO ACTIVITY OTHER THAN NORMAL MAINTENANCE SHALL OCCUR OUTSIDE OF LIMIT OF WORK LINES AS SHOWN ON PLAN WITHOUT THE APPROVAL OF THE ENGINEER.
12. THE CONTRACTOR SHALL NOTIFY DIG SAFE @ 1–888–344–7233 PRIOR TO COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITY.

LANDSCAPE NOTES

1. THE CONTRACTOR SHALL VERIFY FINAL SELECTION OF PLANT MATERIALS WITH THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO INSTALLATION.
2. NO PLANT MATERIAL WILL BE ACCEPTED WHICH DISPLAYS MAJOR IRREGULARITIES OR DAMAGE. THE OWNER/LANDSCAPE ARCHITECT RETAINS THE RIGHT TO REJECT ANY PLANT MATERIAL DEEMED UNFIT.
3. WARRANTEE: FOR A PERIOD OF TWO GROWING SEASONS FROM THE DATE THAT THE WORK UNDER THIS CONTRACT IS CERTIFIED AS SUBSTANTIALLY COMPLETE, THE CONTRACTOR SHALL: 1) WARRANTEE ALL PLANTS AND SEEDED AREAS UNDER THIS CONTRACT; 2)REMOVE AND REPLACE DURING THIS GUARANTEE PERIOD PLANTS WHICH DIE OR ARE IN POOR CONDITION AS DETERMINED BY THE OWNER; 3) REPLANT WITH STOCK OF SAME SIZE AND QUALITY AS ORIGINALLY SPECIFIED; 4) GUY AND MAINTAIN AS SPECIFIED HEREIN AT NO ADDITIONAL COST TO THE OWNER.
4. ALL NEW LAWN AREAS SHALL RECEIVE A MINIMUM OF 4 INCHES TOPSOIL OF THE PROPER pH AND ORGANIC CONTENT SUITABLE FOR THE HEALTHY GROWTH OF LAWNS. THESE AREAS SHALL BE SEEDED WITH A FINE BLADE LAWN GRASS SEED OR SODDED. ADDITIONAL OFF–SITE TOPSOIL MAY BE REQUIRED.
5. ALL AREAS TO BE MULCHED SHALL RECEIVE 4 INCHES MINIMUM 100% SHREDDED BARK MULCH WITHIN 48 HOURS OF PLANTING UNLESS OTHERWISE NOTED IN PLANTING DETAILS.
6. ALL TREE AND SHRUB PITS SHALL BE AT LEAST 2 FEET WIDER AND 1 FOOT DEEPER THAN THE TREE OR SHRUB ROOT BALL TO BE PLANTED IN IT. BACKFILL SHALL BE HIGH QUALITY LOAM OF THE PROPER pH AND ORGANIC CONTENT SUITABLE FOR THE HEALTHY GROWTH OF PLANT MATERIALS.
7. ALL PLANTS SHALL BE NURSERY GROWN AND CONFORM TO THE LATEST EDITION OF "ANSI Z60.1, AMERICAN STANDARD FOR NURSERY STOCK".
8. EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, MECHANICAL INJURIES, AND IN ALL RESPECTS BE SUITABLE FOR FIELD PLANTING.
9. EACH PLANT TO BE IN THE TOP OF ITS SIZE CLASS AFTER SHEARING AND PRUNING.
10. ADJACENT TO THE TOP OF ANY WALLS OVER 36" A FENCE OR WALL SHALL BE CONSTRUCTED PER PLAN THAT MEETS LOCAL BUILDING CODE AND ALL OTHER APPLICABLE STATE AND FEDERAL LAWS.
11. SEE DETAIL SHEETS FOR ADDITIONAL DETAILS & SPECIFICATIONS.
12. SHOULD GC OR ANY SUBCONTRACTOR ENCOUNTER A DISCREPANCE/CONFLICT IN THE PLAN AN THE ACTUAL LOCATION OF A SITE FEATURE, THE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT/ENGINEER AND OWNER IMMEDIATELY.
13. ALL AREAS DISTURBED DURING CONSTRUCTION NOT DESIGNATED TO RECEIVE OTHER TREATMENT SHALL BE LOAMED TO A MINIMUM DEPTH OF 4" AND SEEDED IN ACCORDANCE WITH THE FOLLOWING:
   A. INCORPORATE GROUND LIMESTONE INTO ALL AREAS TO BE SEEDED AT A RATE OF 50 LBS/1,000 S.F.
   B. APPLY 10–6–4 FERTILIZER TO ALL AREAS TO BE SEEDED AT A RATE OF 2 LBS/1,000 S.F.
   C. THOROUGHLY INCORPORATE LIME AND FERTILIZER INTO SEED BED TO DEPTH OF 3" BY DISCING OR OTHER APPROVED METHOD.
   D. SEED WITH THE FOLLOWING MIXTURE, APPLIED AT A RATE OF 10 LBS/1,000 S.F. SEED MIX:

NAME OF SEED	% BY WEIGHT IN MIXTURE	MIN. % PURITY	MIN. GERMINATION
POS PRETENSES "BARON" BARON BLUEGRASS	50	90	75
FESTUCA RUBRA "PENNLAWN" PENNLAWN FESCUE	25	95	85
LOLIUM PERENNE "PENNFINE" PENNFINE	25	98	95

   E. MULCH ALL SEEDED AREAS WITH STRAW AT A RATE OF 5 LBS/1,000 S.F.UNLESS HYDROSEEDING WAS USED.
   F. ALL SLOPES OF 3:1 OR GREATER AFTER BEING LOAMED, SEEDED AND MULCHED IN ACCORDANCE WITH THE ABOVE SHALL SECURED WITH EROSION CONTROL BLANKETS (NO. AMERICAN GREEN S150 OR EQUAL). OVERLAP ALL NETTING JOINTS A MINIMUM OF 6" AND SECURE WITH DOUBLE ROW OF STAPLES.

PERMITTING
NOT FOR CONSTRUCTION

RLA
R LEVESQUE ASSOCIATES INC
Landscape Architects
Civil Engineers · Land Surveyors
Environmental Consultants
ph: 413.568.0985 fax: 413.568.0986
40 School Street
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NOTES, SYMBOL & LINE LEGEND AND ABBREVIATIONS

699 Silver Street Agawam, MA Parcel ID: G6-2-12

COMMONWEALTH OF MASSACHUSETTS — ROBERT M. BOUCHER — REGISTERED LANDSCAPE ARCHITECT — NO. 1398 — 3/5/26

PREPARED FOR:
MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

UNAUTHORIZED ALTERATION OF THIS DOCUMENT IS A VIOLATION OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 250903

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GENERAL CONSTRUCTION NOTES

1. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR OR HIS AUTHORIZED REPRESENTATIVE SHALL CONVENE A PRE-CONSTRUCTION CONFERENCE BETWEEN THE CITY/TOWN REPRESENTATIVES, CONSULTING ENGINEER/LANDSCAPE ARCHITECT, UTILITY COMPANY REPRESENTATIVES, AND ANY OTHER AFFECTED PARTIES.
2. THE OWNER, R LEVESQUE ASSOCIATES, INC., AND/OR THEIR REPRESENTATIVES, IN PREPARING THESE PLANS HAVE ATTEMPTED TO LOCATE ALL EXISTING UTILITIES IN THE PROJECT AREA. HOWEVER, THERE MAY BE UTILITIES THAT WERE NOT OR COULD NOT BE LOCATED. UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL CALL ALL APPROPRIATE UTILITY COMPANIES FOR LOCATIONS OF THEIR UTILITIES AT LEAST 48 HOURS BEFORE COMMENCING EXCAVATION. IN THE EVENT THAT A UTILITY IS SITUATED SUCH THAT CONSTRUCTION CANNOT PROCEED AS SHOWN ON THE PLANS, THE PROJECT ENGINEER/LANDSCAPE ARCHITECT AND OWNER SHALL BE NOTIFIED IMMEDIATELY.
3. THE SITE CONTRACTOR IS RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES.
4. ALL FILL WORK REQUIRED TO BRING THE PROPOSED ROADWAY UP TO SUB-GRADE LEVEL SHALL CONFORM TO MHD SPECIFICATIONS SECTION 150.
5. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
6. ALL WORK IN THE CITY/TOWN RIGHT-OF-WAY AND EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN SPECIFICATIONS AND MASSACHUSETTS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION.
7. THE CONTRACTOR SHALL GIVE THE CITY/TOWN A MINIMUM OF 48 HOURS NOTICE BEFORE BEGINNING EACH PHASE OF CONSTRUCTION.
8. CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF DAMAGE TO ANY EXISTING IMPROVEMENTS DURING CONSTRUCTION, SUCH AS, BUT NOT LIMITED TO, DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. REPAIRS SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
9. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE CONDITIONS OF APPROVAL OUTLINED IN ALL STATE AND LOCAL PERMITS. COPIES OF THE CONDITIONS ARE INCLUDED WITHIN THE PROJECTS TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THIS INFORMATION PRIOR TO CONSTRUCTION AND CONFORMING TO THE CONDITIONS AS REQUIRED DURING CONSTRUCTION.
10. THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. THE WORK AREAS ARE TO BE PICKED UP AT THE END OF EACH WORK DAY.
11. ANY TEMPORARY FACILITIES FOR THE STORAGE OR PROTECTION OF TOOLS, EQUIPMENT OR MATERIALS SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES DURING CONSTRUCTION, AND COMPLIANCE WITH STATE AND FEDERAL REGULATIONS REGARDING SAFETY SHALL BE THE GENERAL CONTRACTORS RESPONSIBILITY.
12. THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. NO EXTRAS DUE TO UNFAMILIARITY WITH THE EXISTING SITE OR WORKING CONDITIONS WILL BE ALLOWED.
13. CONTRACTOR SHALL BE REQUIRED TO PERFORM FINAL CLEANUP CONSISTING OF CLEANING THE PROPOSED DRAINAGE AND SEWER SYSTEMS OF ALL DEBRIS PRIOR TO THE ACCEPTANCE BY THE OWNER. ADDITIONALLY, THE PROPOSED ROADWAY SHALL BE CLEANED AND SWEPT BY THE CONTRACTOR PRIOR TO ACCEPTANCE.
14. ALL EXCAVATION SHALL COMPLY WITH OSHA'S LATEST STANDARDS. ALL REQUIREMENTS OF OSHA'S EXCAVATION STANDARDS SHALL BE PROVIDED BY THE CONTRACTOR INCLUDING, BUT NOT LIMITED TO, THE PROVISION FOR A COMPETENT PERSON ON SITE MANAGER AND ANY REQUIRED DOCUMENTATION THAT MAY REQUIRE CERTIFICATION BY A PROFESSIONAL ENGINEER. THE OWNER, THROUGH ITS ENGINEER, SHALL EXPRESSLY NOT PROVIDE ANY OF THE ABOVE REQUIREMENTS DESIGNATED BY OSHA'S EXCAVATION STANDARD.
15. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE COST OF LAYING OUT ALL ITEMS OF THE WORK BASED ON CERTAIN HORIZONTAL CONTROL AND BENCHMARK SUPPLIED BY THE SURVEYOR OF RECORD. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER.
16. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, PERMITS AND APPURTENANCES NECESSARY TO PROVIDE A COMPLETE PROJECT AS INDICATED ON THE PLANS AND IN THESE SPECIFICATIONS.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A THOROUGH SITE EXAMINATION IN ORDER TO PREPARE SITE FOR CONSTRUCTION.
18. ANY AND ALL DEMOLISHED TREES, STRUCTURES AND OTHER RUBBLE MATERIAL PERTAINING TO THIS PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR OFF-SITE AT HIS EXPENSE IN ACCORDANCE WITH ALL OF THE CITY/TOWN ORDINANCES AND ALL APPLICABLE STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
19. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
20. ALL STREET EXCAVATIONS SHALL BE COMPLETELY CLOSED AT THE END OF EACH WORKING DAY BY BACKFILLING OR COVERING WITH STEEL PLATES.
21. ALL MATERIALS AND METHODS ARE TO COMPLY WITH THE CITY/TOWN DPW STANDARDS OR MASSACHUSETTS DEPARTMENT OF TRANSPORTATION (MASSDOT) (WHERE APPLICABLE), UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
22. PERMITS WILL BE REQUIRED BY CONTRACTOR WHEN WORKING WITHIN OR OCCUPYING PUBLIC WAY. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED WORK PERMITS AND MAINTAINING A COPY OF ALL PERMITS IN A THREE RING BINDER OR PROJECT BOOK AND ON-SITE AT ALL TIMES.
23. BACKFILL WILL BE PLACED IN SUCCESSIVE LAYERS NOT MORE THAN TWELVE INCHES IN THICKNESS AND SHALL BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY DETERMINED BY STANDARD PROCTOR TEST (ASTM 698) FOR ALL APPLICABLE TYPES OF BACKFILL MATERIAL. NO FROZEN MATERIAL SHALL BE USED AS BACKFILL. IF, IN THE OPINION OF THE ENGINEER OR THE DPW, THE EXCAVATED MATERIAL IS UNSUITABLE, THE ENTIRE MATERIAL FOR BACKFILLING SHALL CONSIST OF APPROVED GRAVEL OR APPROVED BORROW, AS DIRECTED. AFTER THOROUGH TAMPING AROUND AND BENEATH THE UTILITY, A SIX-INCH LAYER OF BACKFILL WILL BE THOROUGHLY COMPACTED AS FOLLOWS: IF DRY, SHALL BE MOISTENED AND THEN COMPACTED WITH MECHANICAL TAMPERS OR BY HAND TAMPERS HAVING A TAMPING FACE NOT EXCEEDING 25 SQUARE INCHES IN AREA. THE FINAL TWELVE INCHES OF FILLING WILL, IN ALL CASES, CONSIST OF APPROVED GRAVEL THOROUGHLY TAMPED.
24. CONTRACTOR SHALL PROVIDE FIELD COMPACTION VERIFICATION UTILIZING ASTM D5195-02, STANDARD TEST METHOD FOR DENSITY OF SOIL & ROCK IN-PLACE AT DEPTHS BELOW THE SURFACE BY NUCLEAR METHODS.
25. CONTRACTOR SHALL PROVIDE FIELD COMPACTION RESULTS TO ENGINEER WITHIN 24-HOURS PRIOR TO PLACEMENT OF INFRASTRUCTURE OR BITUMINOUS BINDER.
26. ALL FILL TO BRING PROPOSED ROADWAY UP TO THE SUB-GRADE LEVEL SHALL EXTEND PAST THE EDGE OF THE RIGHT-OF-WAY AT A 2:1 SLOPE. THIS IS TO PROVIDE ADEQUATE SUPPORT FOR THE RIGHT-OF-WAY.

LAYOUT NOTES

1. ALL CONSTRUCTION IN CITY/TOWN RIGHT-OF-WAYS AND/OR EASEMENTS SHALL BE IN ACCORDANCE WITH THE CITY/TOWN STANDARD SPECIFICATIONS.
2. IN THE EVENT OF DISCREPANCIES BETWEEN LOCAL SPECIFICATIONS AND SITE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
3. SITE CONTRACTOR SHALL PROTECT ALL BENCHMARKS AND PROPERTY MONUMENTATION AND SHALL REPLACE OR REPAIR, AT HIS OWN EXPENSE, BENCHMARKS AND MONUMENTATION DISTURBED DURING CONSTRUCTION.
4. ALL STRIPING, PAVEMENT MARKINGS, AND TRAFFIC SIGNAGE SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE PLANS.
5. ALL WORK SHALL COMPLY WITH FEDERAL, STATE AND LOCAL CODES AND ORDINANCES INCLUDING BUT NOT LIMITED TO: AASHTO, OSHA, EPA, DEP, MASSDOT , ETC. THE GENERAL CONTRACTOR SHALL APPLY FOR ALL PERMITS AND SHALL PAY ALL PERMIT RELATED FEES. ALL NECESSARY PERMITS SHALL BE OBTAINED PRIOR TO THE START OF WORK.
6. ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS ARE TO BE VERIFIED BY THE CONTRACTOR. IF FIELD CONDITIONS VARY SIGNIFICANTLY ENOUGH TO REQUIRE A CHANGE TO THE CONTRACT DOCUMENTS, THE PROJECT PROPONENT AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
7. THE SITE/GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL CONTACT THE OWNER AND ENGINEER SHOULD HE FIND ANY CONFLICT OR INCONSISTENCY BETWEEN THE WORK SHOWN ON THE DRAWINGS AND NORMAL ACCEPTED CONSTRUCTION PRACTICES, OR HE SHALL ASSUME RESPONSIBILITY FOR ALL CORRECTIONS.
8. ANY CORRECTIONS REQUIRED FOR REVISIONS TO THE CONTRACT DRAWINGS INITIATED BY THE GENERAL CONTRACTOR OR SUBCONTRACTORS WITHOUT PRIOR APPROVAL OF THE OWNER AND OR THE ENGINEER SHALL BE ACCOMPLISHED AT THE CONTRACTORS RISK.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL & LEGAL DISPOSAL OF ALL MATERIAL NECESSARY TO PREPARE THE SITE FOR THE NEW CONSTRUCTION AS SHOWN ON THE SITE DRAWINGS.
10. REPAIR DAMAGED CITY/TOWN ROADS AND CURBS IN ACCORDANCE WITH MASSDOT AND/OR THE CITY/TOWN REGULATIONS.
11. CONTRACTOR SHALL SAWCUT PAVEMENT EDGE WHERE PAVEMENT TO REMAIN IS ADJACENT TO PAVEMENT TO BE REMOVED.
12. CONTRACTOR SHALL PREPARE SITE AS NECESSARY FOR CONSTRUCTION SHOWN ON THE PLANS.

EARTHWORK NOTES

1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
2. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
3. STORM PIPE SHALL BE AS NOTED ON PLANS.
4. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
5. EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
6. PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
7. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
8. ALL STORM PIPE ENTERING STRUCTURES SHALL BE SEALED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
9. ALL STORM SEWER MANHOLES FRAMES AND GRATES ARE TO BE SET EQUAL TO FINISH GRADES, AND SHALL HAVE TRAFFIC BEARING RING & COVERS (H20).
10. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE.
11. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
12. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL GRASS DISTURBED AREAS IN ACCORDANCE WITH THE SPECIFICATIONS UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
13. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
14. IF CONTRACTOR RELOCATES OR SETS NEW BENCHMARKS, THE VERTICAL ELEVATIONS OF THE BENCHMARKS SHALL BE SET WITHIN A TOLERANCE OF 0.010 FT.
15. CONTRACTOR SHALL LEAVE GRADE BEHIND CURB IN ALL PLANTER AREAS A MINIMUM OF 4" LOW FOR THE PLACEMENT OF SUITABLE TOPSOIL OR PLANTING MIX.

SITE UTILITY NOTES

GENERAL:

1. ALL FILL MATERIAL IS TO BE IN PLACE, AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. TOPS OF EXISTING MANHOLES SHALL BE SET EQUAL TO FINISH GRADE. IN GRASSED LANDSCAPED AREAS WITH WATER TIGHT LIDS.
3. ALL CONCRETE FOR ENCASEMENTS SHALL HAVE A MINIMUM 28 DAY COMPRESSION STRENGTH AT 3000 P.S.I.
4. DRAWINGS DO NOT PURPORT TO SHOW ALL EXISTING UTILITIES.
5. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
6. SITE/GENERAL CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE LOCAL AUTHORITIES AT THE CITY WITH REGARD TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
8. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.
9. CONTRACTOR SHALL COORDINATE INSPECTION OF UTILITY LINES WITH APPROPRIATE AUTHORITIES PRIOR TO BACKFILLING TRENCHES.
10. CONTRACTOR SHALL COMPLY WITH THE LATEST OSHA STANDARDS OR DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF ALL SUPPORT SYSTEMS, SLOPING, BENCHING, AND OTHER MEANS OF PROTECTION.
11. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES WITH LOCAL COMPANIES TO AVOID CONFLICTS AND TO ASSURE THAT PROPER DEPTHS ARE ACHIEVED. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY COMPANIES FOR EXACT LOCATION AND SCHEDULING OF CONNECTIONS TO THEIR FACILITIES.
12. THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. DUE TO THE LACK OF AVAILABLE DOCUMENTATION. ALL UTILITIES, INCLUDING CURB BOXES, MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL CALL THE "DIG SAFE CENTER" TO HAVE ALL UTILITIES MARKED ON THE GROUND PRIOR TO THE START OF CONSTRUCTION
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH OCCUR DUE TO HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
14. DO NOT INTERRUPT EXISTING UTILITIES WITHOUT AUTHORIZATION FROM THE OWNER, OWNERS OF ADJACENT PROPERTIES, AND THE CORRESPONDING UTILITY OWNER. CONTRACTOR SHALL ARRANGE TO SHUT OFF UTILITIES, AS REQUIRED, WITH THE UTILITY OWNERS.
15. COORDINATE UTILITY TERMINATION WITH UTILITY OWNERS.

SEWER:

1. SANITARY SEWER MAINS AND LATERALS SHALL BE PVC PIPE CONFORMING TO ASTM D 3034-SDR35. THE MINIMUM SIZE FOR SEWER MAINS SHAL BE 8"; SEWER LATERALS SHALL BE 4" MIN.
2. ALL SANITARY SEWERS, SEWER FORCE MAINS, AND SEWER LATERALS SHALL BE INSTALLED IN FIRST-CLASS BEDDING AND IN ACCORDANCE WITH THE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS. SEWERS SHALL BE INSTALLED TO THE LINE AND GRADE INDICATED ON THE PLANS.
3. ONLY PRECAST CONCRETE MANHOLES OF A DESIGN APPROVED BY THE TOWN ENGINEER SHALL BE INSTALLED ON A SANITARY SEWER MAIN.
4. NO GROUNDWATER OR SURFACE WATER SHALL BE DISCHARGED INTO THE SANITARY SEWER.
5. WHERE ROCK IS ENCOUNTERED, IT SHALL BE REMOVED TO A DEPTH OF ONE FOOT BELOW THE FLOWLINE OF THE SEWER AND THE PIPE LAID IN A PROPERLY COMPACTED GRANULAR MATERIAL APPROVED BY THE TOWN ENGINEER.
6. ONLY GRANULAR MATERIAL APPROVED BY THE TOWN ENGINEER SHALL BE USED AS BACKFILL IN ANY TRENCH EXCAVATION.

WATER:

1. CONTRACTOR SHALL CONTACT THE CITY/TOWN WATER DEPARTMENT FOR SPECIFICATIONS AND MAKE OF VALVES, VALVE BOXES, FIRE HYDRANTS AND ALL OTHER WATER LINE APPURTENANCES.
2. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH LOCAL DPW SPECIFICATIONS AND WATER DISTRIBUTION SYSTEM. CONTRACTOR SHALL COORDINATE TESTING WITH THE CITY WATER DEPARTMENT.
3. ALL WATER MAIN SHALL BE DUCTILE IRON (D.I.), CLASS 52, AWWA C-151 (ANSI A21.40). D.I. PIPE SHALL BE DOUBLE CEMENT LINED WITH A SEAL COAT CONFORMING TO AWWA C-104 (ANSI A-21.4).
4. JOINTS FOR D.I. PIPE SHALL BE PUSH-ON OR OTHERWISE APPROVED, AWWA C151(ANSI A-21.51) WITH GASKETS CONFORMING TO AWWA C-111 (ANSI A-21.11) MAXIMUM LENGTH OF PIPE TO BE 20 L.F.
5. ALL FITTINGS SHALL BE DUCTILE IRON CLASS 53 WITH PRESSURE RATING OF 350 PSI AND MECHANICAL JOINTS CONFORMING TO AWWA C-151 (ANSI A21.51).
6. RETAINER GLANDS: RETAINER GLANDS SHALL BE DESIGNED TO IMPART MULTIPLE WEDGING ACTION AGAINST THE PIPE, INCREASE ITS RESISTANCE AS THE PRESSURE INCREASES. GLANDS SHALL BE MANUFACTURED OF DUCTILE IRON CONFORMING TO ASTM A536-80. RESTRAINING DEVICES SHALL BE DUCTILE IRON HEAT-TREATED TO A MINIMUM HARNESS OF 370 BHN. TWIST-OFF NUTS SHALL BE USED TO INSURE PROPER ACTUATING OF THE RETAINER GLAND. DIMENSIONS OF THE GLAND SHALL BE SUCH THAT IT CAN BE USED WITH THE STANDARD MECHANICAL JOINT BELL AND TEE-HEADED BOLTS CONFORMING TO ANSI/AWWA A21.1 AND ANSI/WWA 153/A21.5. THE RETAINER GLAND SHALL HAVE A WORKING PRESSURE OF 250 PSI WITH A MINIMUM SAFETY FACTOR OF 2:1 AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE COMPATIBLE WITH THE PIPE CLASS AND PIPE MANUFACTURER FOR ALL SIZES PROVIDED ON THE JOB. THE RETAINER GLAND SHALL BE MEGA-LUG AS MANUFACTURED EBAA IRON, INC., OR APPROVED EQUAL.
7. ALL WATER MAINS, UNLESS OTHERWISE NOTED, SHALL BE INSTALLED WITH A MINIMUM FIVE FEET OF COVER. WHEN CROSSING ABOVE OR BELOW WATER PIPELINES, A MINIMUM VERTICAL SEPARATION OF SIX INCHES SHALL BE PROVIDED. WHEN CROSSING SANITARY SEWERS, A MINIMUM OF 18" SHALL BE PROVIDED.

SITE UTILITY NOTES (CONTINUED)

8. THE INSTALLED WATER MAIN SHALL BE PRESSURE TESTED, FLUSHED AND DISINFECTED BY CONTRACTOR IN ACCORDANCE WITH AWWA C-600 AND AWWA C-651 OR PER CITY/TOWN WATER DEPARTMENT STANDARDS.
9. DUCTILE IRON PIPES SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C-600.
10. ALL MECHANICAL JOINTS ARE TO BE RESTRAINED. FITTINGS SHALL BE RESTRAINED BY MECHANICAL JOINT RESTRAINTS. THE PIPE CONNECTED TO THE FITTING SHALL BE RESTRAINED PER THE MANUFACTURER'S SCHEDULE.
11. THE CONTRACTOR SHALL MARK THE LOCATION OF THE PROPOSED WATER MAIN AT LEAST 48 HOURS PRIOR TO EXCAVATING. EXCAVATION SHALL NOT PROCEED WITHOUT AUTHORIZATION BY THE ENGINEER.
12. ALL WATER MAINS, HYDRANT BRANCHES, AND SERVICES SHALL HAVE UTILITY WARNING TAPE. THE TAPE SHALL BE BURIED APPROXIMATELY 2 FEET BELOW FINISHED GRADE.
13. BACKFILL SHALL BE COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698. COMPACTION EQUIPMENT USED MUST BE SPECIFICALLY DESIGNED FOR COMPACTION. TAMPING WITH THE BACK OF THE BACK HOE BUCKET IS UNACCEPTABLE COMPACTION.
14. ALL WATER SERVICES SHALL BE 1" DIA. COPPER TUBING TYPE K, SOFT TEMPER CONFORMING TO ASTM B88 UNLESS OTHERWISE NOTED.
15. DEPRESS WATER MAIN UNDER EXISTING SERVICES AND HYDRANT BRANCHES TO MAINTAIN 5'-0" OF COVER.
16. ALL WATER MAINS SHALL BE LAID PER THE PLANS TO MAINTAIN THE MAXIMUM SEPARATION FROM EXISTING OR PROPOSED SANITARY SEWER. DISTANCE SHALL BE MEASURED EDGE TO EDGE.
17. IDENTIFY EACH PIPE LENGTH & FITTING CLEARLY WITH MANUFACTURE'S NAME & TRADEMARK. NOMINAL PIPE SIZE & MATERIAL DESIGNATION.
18. ALL WATER MAINS & SERVICE PIPES SHALL BE LAID IN A TRENCH SEPARATE FROM ANY OTHER UTILITY (GAS, ELECTRIC, TELEPHONE, ETC.) SHALL BE A MINIMUM NO LESS THAN FIVE (5) FEET FROM ANOTHER UTILITY.
19. ALL MATERIAL SHALL BE IN ACCORDANCE WITH CITY/TOWN WATER DEPARTMENT "RULES & REGULATIONS". ALL WORK TO BE PERFORMED IN ACCORDANCE WITH CITY/TOWN WATER DEPARTMENT "SPECIFICATIONS". CITY/TOWN WATER DEPARTMENT STANDARDS SHALL TAKE PRECEDENCE OVER ANY REQUIREMENTS LISTED ABOVE.

PERMITTING
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CONSTRUCTION NOTES

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

COMMONWEALTH OF MASSACHUSETTS
ROMEO LEVESQUE
NO. 1395
REGISTERED LANDSCAPE ARCHITECT
3/5/26

PREPARED FOR:
MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

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SCALE: As Noted

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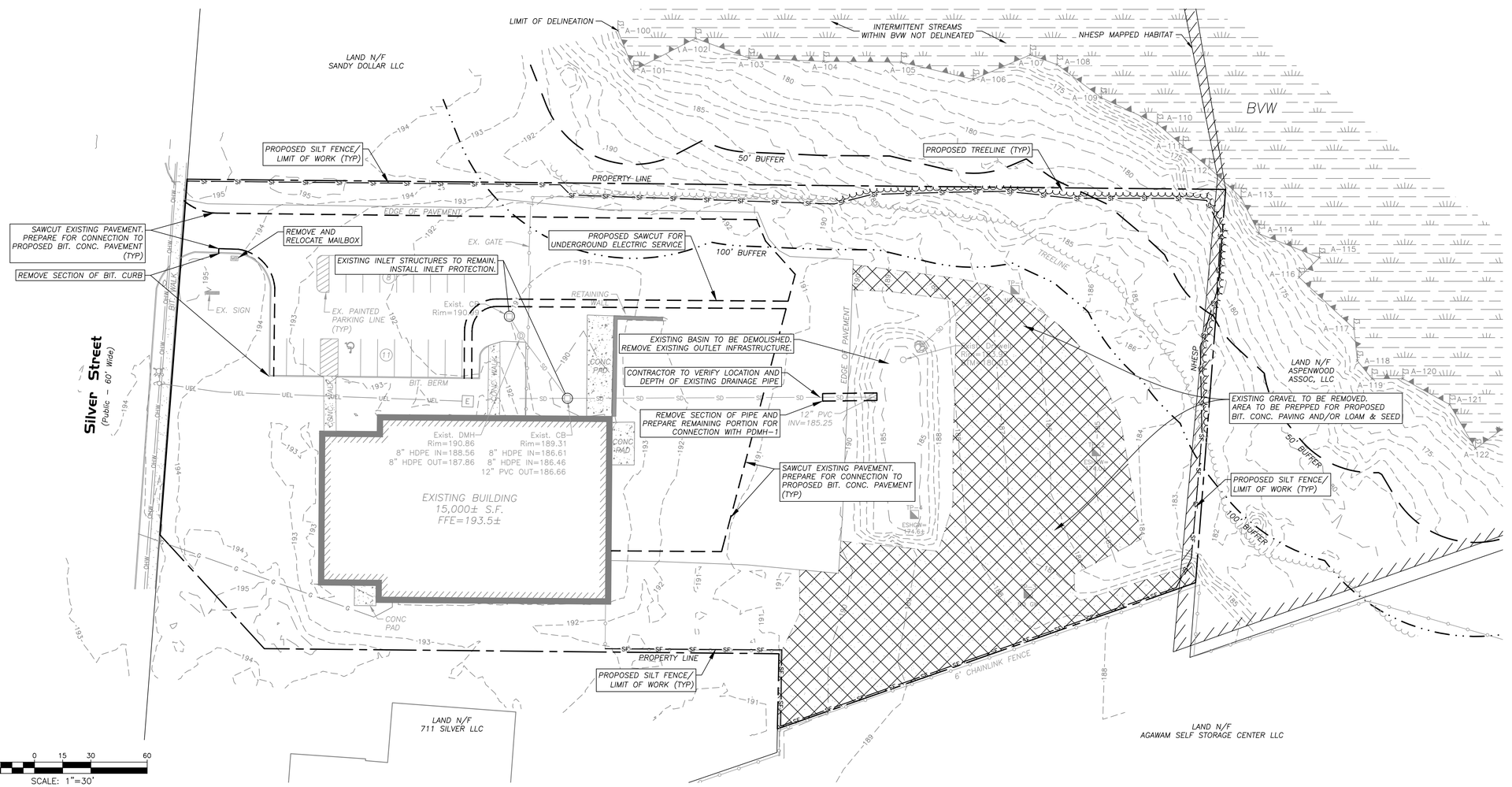
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DEMOLITION NOTES

1. THE INFORMATION SHOWN HEREON IS NOT INTENDED TO BE AN EXHAUSTIVE SURVEY OF ALL APPURTENANCES THAT MAY OR MAY NOT BE IN PLACE TO SERVE THE EXISTING ON-SITE STRUCTURES AND USE. SEPTIC SYSTEM COMPONENTS, UNDERGROUND TANKS, AND OTHER SUB-SURFACE STRUCTURES MAY BE IN PLACE AND MAY REQUIRE ATTENTION BEFORE CONSTRUCTION MAY PROCEED.
2. CONTRACTOR SHALL CONDUCT A PRE-DEMOLITION SURVEY TO IDENTIFY ANY AND ALL UTILITIES AND UTILITY COMPONENTS TO BE DISCONTINUED, REMOVED, OR DEMOLISHED IN PLACE AND THE PRESENCE OR ABSENCE OF ANY HAZARDOUS MATERIALS.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEMOLITION, REMOVAL OR RELOCATION, INCLUDING BUT NOT LIMITED TO: ALL UTILITIES, STORM DRAINAGE, SIGNS, TRAFFIC SIGNALS & POLES, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH GOVERNING AUTHORITIES' SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COSTS SHALL BE INCLUDED IN BASE BID.
4. CONTRACTOR SHALL ERECT AND MAINTAIN SAFETY BARRICADES AND POST PROPER NOTICES PRIOR TO THE COMMENCEMENT OF WORK.
5. CONTRACTOR SHALL PROTECT EXISTING SITE IMPROVEMENTS, APPURTENANCES AND LANDSCAPING TO REMAIN.
6. CONTRACTOR SHALL MAINTAIN EXISTING UTILITIES TO REMAIN IN SERVICE AND PROTECT THEM FROM DAMAGE DURING DEMOLITION OPERATIONS. ANY DAMAGE TO EXISTING UTILITIES TO REMAIN SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE UTILITY OWNER.
7. ALL UTILITY DISCONNECTION SHALL BE PERFORMED TO THE SATISFACTION OF THE RELEVANT UTILITY COMPANY AND COMPLY WITH ANY LOCAL, STATE AND/OR FEDERAL REGULATORY AGENCIES.
8. CONTRACTOR SHALL PROMPTLY TRANSPORT AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS OFF OWNERS PROPERTY. DO NOT ALLOW DEMOLISHED MATERIAL TO COLLECT ON SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DISPOSAL.
9. THERE SHALL BE NO BURNING OF DEMOLISHED MATERIAL ALLOWED ON SITE.
10. CONTRACTOR SHALL COORDINATE WITH OWNER FOR ANY ITEMS TO BE TURNED OVER TO OWNER.
11. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST SO THAT DUST DOES NOT CREATE A NUISANCE ON ADJACENT ROADS OR PROPERTIES. SITE CONTRACTOR SHALL BE RESPONSIBLE FOR STREET SWEEPING AND CATCH BASIN CLEANING AFTER EACH PHASE OF CONSTRUCTION AND AS NEED IS DETERMINED BY THE LANDSCAPE ARCHITECT/ENGINEER.
12. NO ACTIVITY SHALL OCCUR OUTSIDE OF LIMIT OF WORK LINE AS SHOWN ON PLAN WITHOUT THE APPROVAL OF THE LANDSCAPE ARCHITECT/ENGINEER AND LANDOWNER.
13. THE CONTRACTOR SHALL NOTIFY DIG SAFE @ 1-888-344-7233 A MINIMUM OF 72 HOURS (M-F) PRIOR TO COMMENCEMENT OF ANY DEMOLITION/CONSTRUCTION ACTIVITY.
14. THE LANDSCAPE ARCHITECT/ENGINEER IS NOT RESPONSIBLE FOR ANY ITEMS THAT MAY BE DISCOVERED ON-SITE DURING DEMOLITION OR CONSTRUCTION THAT WAS NOT PREVIOUSLY INDICATED ON THE SURVEYS OR INFORMATION PROVIDED.
15. PAVEMENT SHALL BE SAWCUT AT THE LIMIT OF WORK. ALL PAVING, FOOTINGS, UTILITIES, CURBING AND OTHER EXISTING IMPROVEMENTS SHALL BE REMOVED OR SUITABLY MILLED TO THE SATISFACTION OF THE OWNER AND GENERAL CONTRACTOR.

CONSTRUCTION SEQUENCE

1. CONTACT THE TOWN OF AGAWAM AT LEAST FORTY-EIGHT HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION, OR EARTHWORK ACTIVITY ON THIS PROJECT.
2. CONSTRUCT ANTI-TRACKING PAD AT ENTRANCE AND INSTALL ANY REQUIRED INLET PROTECTION AS DEPICTED ON THE PLAN.
3. INSTALL SILT FENCE AS SHOWN ON THE PLANS.
4. UPON COMPLETION OF EROSION CONTROL MEASURES, CLEARING AND GRUBBING AND EARTHWORK MAY COMMENCE.
5. CLEAR AND GRUB SITE. STOCKPILE ANY CHIPPING OR TOPSOIL MATERIAL TO REMAIN ON SITE FOR LONGER THAN 14 DAYS AND INSTALL SILT FENCE AROUND THE PERIMETER OF THE STOCKPILE.
6. COMMENCE EARTHWORK BY EXCAVATING FOR THE CUT/FILL SLOPES AS SHOWN ON THE PLANS. STABILIZE/SEED ANY SLOPES THAT HAVE ACHIEVED FINAL GRADE.
7. INSTALL UTILITIES AS SHOWN ON PLANS INCLUDING WATER SERVICE, SEWER SERVICE, GAS SERVICE, ELECTRICAL SERVICE AND STORMWATER MANAGEMENT SYSTEM.
8. GRADE THE SITE TO ACCEPT PAVEMENT SECTION MATERIALS.
9. INSTALL PAVEMENT AS SPECIFIED ON THE PLANS.
10. UPON INSTALLATION OF PAVEMENT SURFACE, INSTALL INLET PROTECTION AS REQUIRED ON ANY NEW INLET STRUCTURES.
11. FINAL GRADING AND STABILIZATION OF ANY REMAINING EXPOSED AREAS.
12. AT THE DIRECTION OF THE TOWN OF AGAWAM, EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED.



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DEMOLITION & REMOVALS PLAN

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

MASSACHUSETTS REGISTERED LANDSCAPE ARCHITECT ROBERT A. LEVESQUE NO. 1395 35726

PREPARED FOR:
MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

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ZONING REVIEW - Industrial B (IB)

TYPE (MINIMUM)	REQUIRED	PROPOSED
AREA	1 ACRE	3.12± ACRES
FRONTAGE	100 FT	189.86 FT
FRONT YARD	75 FT	80.5± FT
SIDE YARD	25 FT	25.5± FT
REAR YARD	25 FT	131.6± FT
HEIGHT (MAX)	40 FT (2 STORIES)	<40± FT
BUILDING COVERAGE (MAX)	NONE	±16%
PARKING	30*	31

* PARKING REQUIREMENTS: Service Industrial Building - 1 space per 500 square feet of gross floor area
15,000 S.F. / 500 S.F. = 30 REQUIRED SPACES

NOTES

1. THE RECORD OWNER OF THE SUBJECT PARCEL IS MSR PROPERTIES, LLC. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK 22411 PAGE 254, BOOK 20869 PAGE 318, AND BOOK 26235 PAGE 356.
2. THE PROPERTY LINES SHOWN HEREON ARE BASED UPON A PLAN TITLED, "PLAN OF LAND IN AGAWAM, MASSACHUSETTS SURVEYED AND MAPPED FOR (OWNERS) AGAWAM SELF STORAGE CENTER, LLC., 711 SILVER, LLC., AND MSR PROPERTIES, LLC." PREPARED BY THIS OFFICE, DATED AUGUST 19, 2025. SEE HAMPDEN COUNTY REGISTRY OF DEEDS BOOK OF PLANS 403 PAGE 110.
3. THE EXISTING BUILDING(S) SHOWN HEREON ARE BASED ON AN APPROXIMATE MEASUREMENT OF THE OUTSIDE PERIMETER OF THE EXISTING STRUCTURES. THE ACTUAL LOCATION OF THE EXISTING BUILDING WALLS AND CORNERS SHOULD BE VERIFIED IN THE FIELD PRIOR TO ANY CONSTRUCTION WORK THAT WOULD ABUT OR TAKE PLACE ADJACENT TO THE EXISTING BUILDING(S). IF THE PLAN HEREON IS USED FOR CONSTRUCTION LAYOUT PURPOSES, THE PARTIES CONDUCTING LAYOUT SHALL CONTACT R. LEVESQUE ASSOCIATES INC. PRIOR TO SAID LAYOUT TO DETERMINE PROPER CONTROL. PLEASE NOTE WHILE THE BUILDING(S) ARE SHOWN TO BE SQUARE, IT SHOULD NOT BE ASSUMED THAT THE WALLS ARE SQUARE OR PLUMB. R. LEVESQUE ASSOCIATES TAKES NO RESPONSIBILITY FOR THIRD PARTY LAYOUT OF THE PLAN SHOWN HEREON.
4. THIS PLAN HAS BEEN PREPARED FOR SITE PLANNING PURPOSES AND SHALL NOT BE USED FOR THE CONVEYANCE OF LAND OR FOR ANY OTHER USE.
5. SUBJECT PARCEL CONTAINS 136,158.9± S.F. OR 3.12± ACRES.
6. THE SUBJECT PROPERTIES SHOWN HEREON MAY BE SUBJECT TO RIGHTS AND EASEMENTS AS CONTAINED IN THE VARIOUS DEEDS OF RECORD DESCRIBING SAID PROPERTIES. THE LOCATION AND EXTENT OF ANY SUCH RIGHTS AND EASEMENTS IS NOT THE SUBJECT OF THIS PLAN.
7. WETLANDS DELINEATED BY R LEVESQUE ASSOCIATES, INC. ON 09-12-2025. OFFSITE WETLAND RESOURCE AREAS HAVE BEEN SHOWN TO ACCURATELY SHOW BUFFER ZONES ON THE SUBJECT PROPERTY. THE DETERMINATION OF WETLAND RESOURCE AREAS IS THE THE SUBJECT OF THIS PLAN.
8. THE EXISTING CONDITIONS INFORMATION SHOWN IS BASED UPON A SURVEY PERFORMED BY R LEVESQUE ASSOCIATES, INC. ON 09-15-2025, AN UNRECORDED EXISTING CONDITIONS SITE PLAN PREPARED BY SMITH ASSOCIATES SURVEYORS, INC., DATED DECEMBER 11, 2015, AND NOAA LIDAR.
9. THE UNDERGROUND UTILITIES SHOWN HEREON HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, AVAILABLE RECORD DATA, AND THE TOWN OF AGAWAM WEB GIS. R LEVESQUE ASSOCIATES, INC. MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. R LEVESQUE ASSOCIATES, INC. FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN HERE ARE IN THE EXACT LOCATION INDICATED, ALTHOUGH THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.
10. ADJACENT PROPERTY LINES AND ABUTTERS SHOWN HEREON ARE REFERENCED FROM THE TOWN OF AGAWAM WEB GIS.
11. SUBJECT PARCEL IS ZONED INDUSTRIAL B ACCORDING TO THE TOWN OF AGAWAM ZONING MAP.
12. THE SUBJECT PARCEL IS NOT LOCATED WITHIN A SPECIAL FLOOD ZONE AREA ACCORDING TO FLOOD INSURANCE RATE MAP NUMBER 25013C0392E – EFFECTIVE DATE: 07-16-2013.
13. THE SUBJECT PROPERTY IS PARTIALLY LOCATED WITHIN NATURAL HERITAGE & ENDANGERED SPECIES PROGRAM (NHESP) JURISDICTION.

LAYOUT NOTES

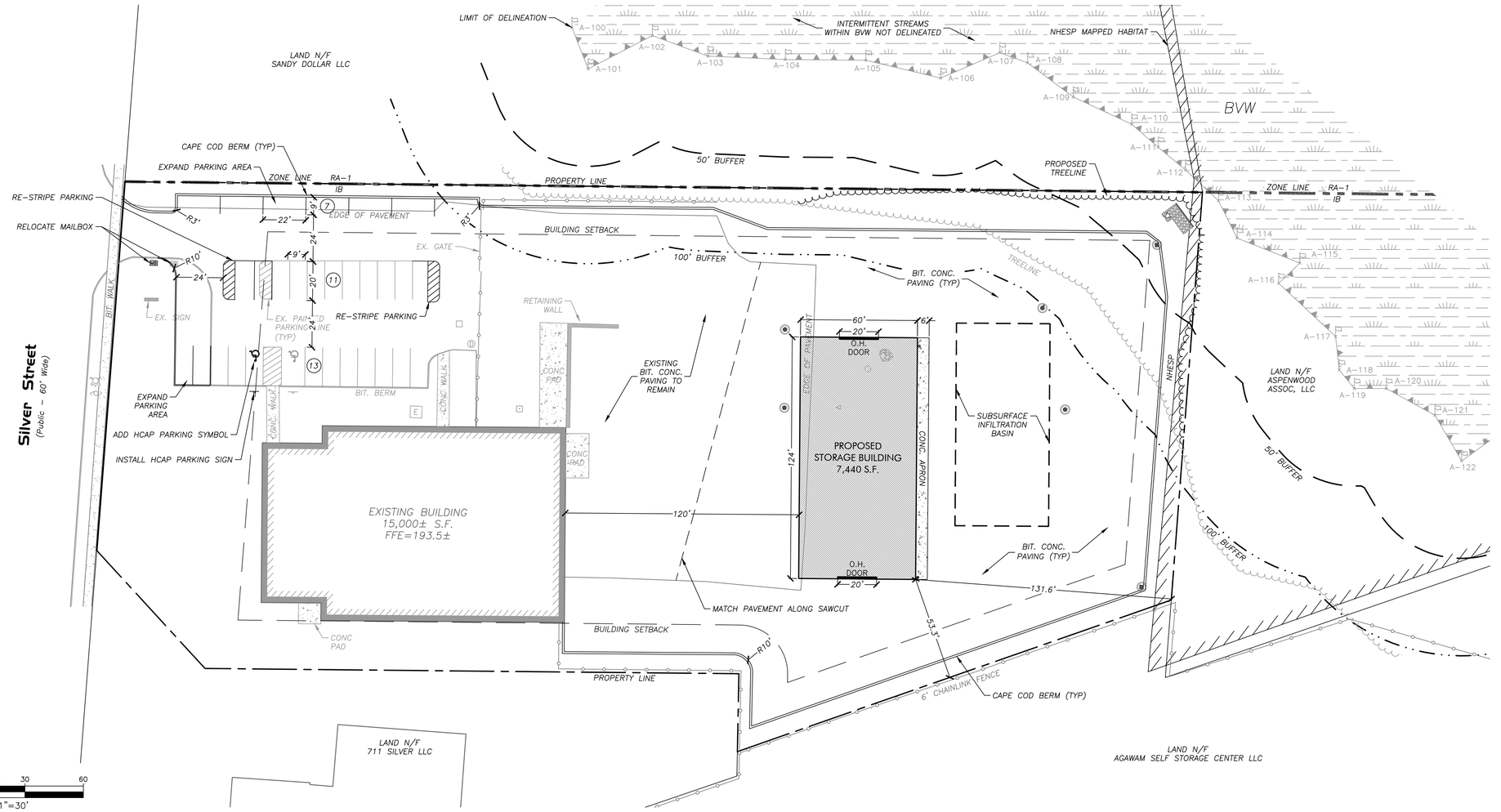
1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING SITE LAYOUT.
2. IT SHALL BE THE SITE CONTRACTORS RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH SITE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING THEIR BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SAID SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.

SIGNAGE AND PAVEMENT MARKING NOTES

1. STRIPE ALL PARKING AREAS AS SHOWN, INCLUDING PARKING SPACES, STOP BARS, CROSSWALKS, AND ACCESSIBLE ROUTE MARKINGS AND SYMBOLS USING WHITE TRAFFIC PAINT. PAINTED ISLANDS, FIRE LANES, AND TRAVEL WAY CENTERLINES SHALL BE PAINTED USING YELLOW TRAFFIC PAINT. ALL TRAFFIC PAINT SHALL CONFORM TO AASHTO M248 TYPE "N".
2. STOP BARS SHALL BE 12" WIDE (WHITE).
3. ALL PARKING STALL LINES SHALL BE 4" WIDE (WHITE).
4. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS", MASSDOT, STATE BUILDING CODE AND ADA REQUIREMENTS, AND AS SHOWN ON THE PLANS & DETAILS.

ACCESSIBILITY NOTES

1. ALL ACCESSIBLE ROUTES, TRANSITIONS, AND ACCESSIBLE PARKING/LOADING AREAS, INCLUDING ALL ENTRANCES TO BUILDING, SHALL ADHERE TO 521 CMR.
2. SHOULD THE ARCHITECT PROVIDE ADDITIONAL ENTRANCES OR MEANS OF EGRESS, ADDITIONAL ACCESSIBLE ROUTES MAY BE REQUIRED.
3. IT IS THE RESPONSIBILITY OF THE ARCHITECT AND CONTRACTOR TO NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT OF ANY CHANGES TO THE PROPOSED BUILDING THAT WOULD AFFECT THE ACCESSIBILITY REQUIREMENTS OF THE PROPOSED SITE.
4. THE CONTRACTOR SHALL REVIEW IN DETAIL THE REQUIREMENTS OF 521 CMR AND SHALL BE RESPONSIBLE FOR CONFORMANCE WITH SAID REGULATIONS.



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SCALE: 1"=30'

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LAYOUT & MATERIALS PLAN

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

MASSACHUSETTS REGISTERED LANDSCAPE ARCHITECT ROBERT J. LEVESQUE NO. 1398
3/5/26

PREPARED FOR:
MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

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SHORT–TERM EROSION CONTROL MAINTENANCE

1. THE CONTRACTOR OR SUBCONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING EACH CONTROL SHOWN ON THE SEDIMENTATION AND EROSION CONTROL PLAN.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL MEASURES WILL BE INSTALLED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFF–SITE SEDIMENTATION IF DEEMED NECESSARY BY ON–SITE INSPECTION.
3. EFFECTIVE EROSION CONTROL MEASURES SHALL BE INITIATED PRIOR TO THE COMMENCEMENT OF CLEARING, GRADING, EXCAVATION, OR OTHER OPERATIONS THAT WILL DISTURB THE NATURAL PROTECTION.
4. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND AFTER ANY STORM EVENT GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24–HOUR PERIOD, AND THE INSPECTION SHALL BE DOCUMENTED IN WRITING. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY.
5. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO AVOID EXCESS EROSION OF THE SITE DUE TO THE CONSTRUCTION OF THIS PROJECT.
6. SILT SHALL BE REMOVED FROM BEHIND BARRIERS IF GREATER THAN 6–INCHES DEEP OR AS NEEDED. SEDIMENT THAT IS COLLECTED IN STRUCTURES SHALL BE DISPOSED OF PROPERLY AND COVERED IF STORED ON–SITE.
7. DAMAGED OR DETERIORATED ITEMS WILL BE REPAIRED IMMEDIATELY AFTER IDENTIFICATION.
8. ALL DITCHES SHALL BE STABILIZED AS SOON AS IS PRACTICABLE TO MINIMIZE EROSION.
9. THE CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES IN A GOOD, WORKING STATE OF REPAIR UNTIL THEIR USE IS NO LONGER WARRANTED. AT THAT TIME, THE EROSION CONTROL DEVICES SHALL BE REMOVED AND DISPOSED OF SO AS TO CAUSE NO OFF–SITE SILTATION.
10. INSPECT AND MAINTAIN CONSTRUCTION ENTRANCE STONE SUCH THAT SEDIMENT DOES NOT TRACK ONTO THE STREET. ANY SEDIMENT TRACKED ONTO THE STREET SHALL BE CLEANED DAILY.
11. AFTER CATCH BASINS HAVE BEEN CONSTRUCTED AND THE SITE HAS BEEN PAVED, THE CONTRACTOR SHALL PROTECT THE INLETS BY CONSTRUCTING INLET PROTECTION AS SHOWN ON THE PLANS. INLET PROTECTION TO REMAIN IN PLACE AND MAINTAINED UNTIL DISTURBED AREAS HAVE BEEN STABILIZED, LOAMED AND SEEDED.
12. EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN SUBSTANTIALLY STABILIZED. AFTER REMOVAL OF MEASURES, DISTURBED AREAS SHALL BE REGRADED AND STABILIZED AS NECESSARY.
13. THIS PLAN IS PROVIDED AS A BASIS FOR THE INITIAL SEDIMENTATION AND EROSION CONTROL MEASURES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UPDATE AND EXPAND THIS PLAN AS SITE CONDITIONS DICTATE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PREVENT THE OCCURRENCE OF SILTATION TO WETLAND RESOURCE AREAS AND THE MOVEMENT OF SEDIMENT BEYOND THE SITE BOUNDARIES.

CONSTRUCTION NOTES

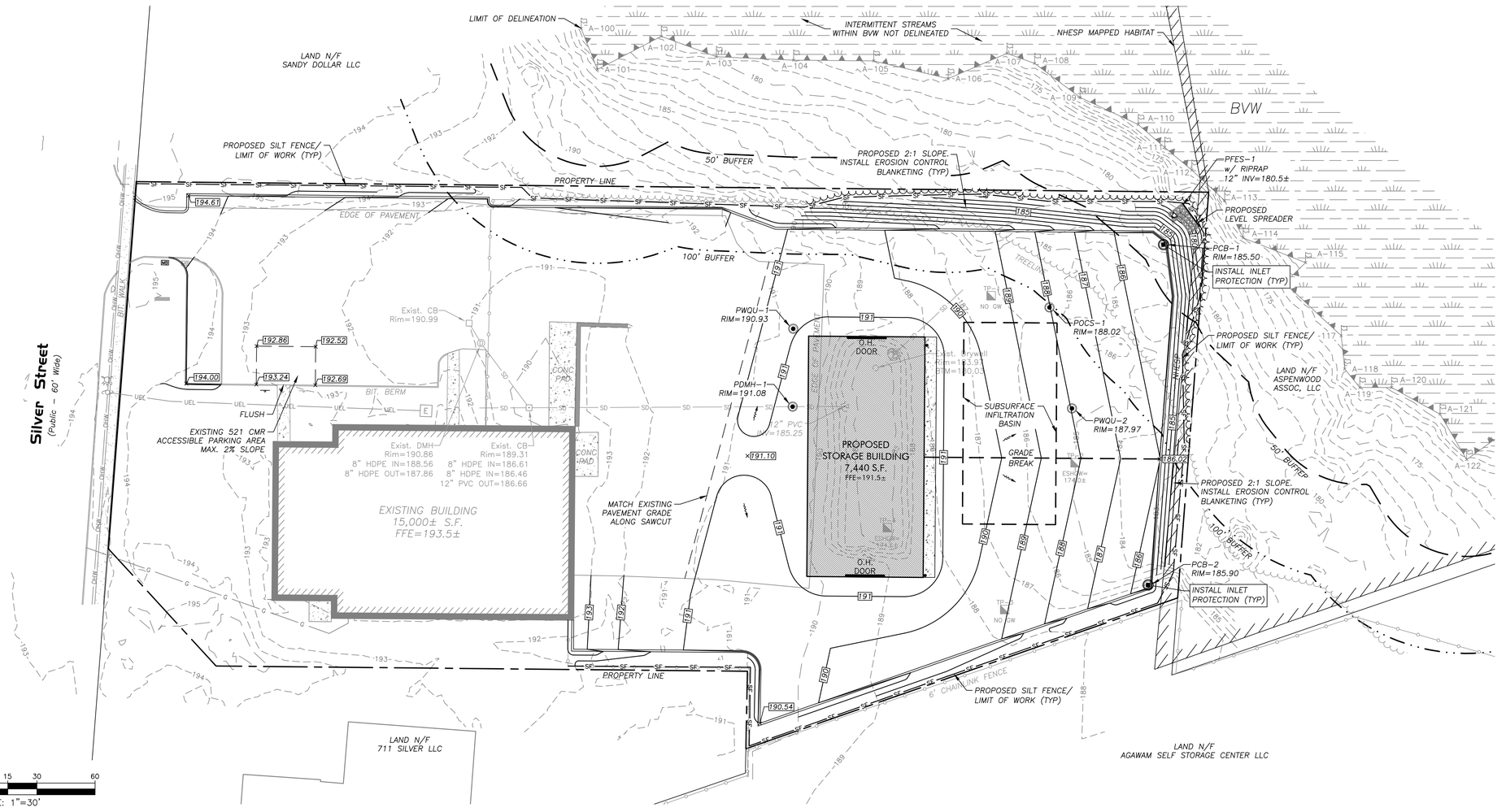
1. THE CONTRACTOR/OWNER/DEVELOPER TO BE AWARE THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND AN ILLICIT DISCHARGE COMPLIANCE STATEMENT ARE REQUIRED PRIOR TO ANY LAND DISTURBANCE.
2. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA AND ARE APPROXIMATE. ACTUAL FIELD LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO NOTIFY DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION ACCORDING TO MA GENERAL LAWS.
4. APPROVED PLANS TO BE ON SITE AT ALL TIMES.
5. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES TO BE APPROVED BY DESIGN ENGINEER, FIELD INSPECTOR AND CITY/TOWN ENGINEER.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
7. CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
8. TREES, BRUSH AND STUMPS REMOVED BY CLEARING AND GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
9. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE REAPPLIED.
10. ALL CONSTRUCTION METHODS TO CONFORM TO AGAWAM PLANNING BOARD REGULATIONS AND DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.
11. AGAWAM DEPARTMENT OF PUBLIC WORKS APPROVAL IS NOT TO BE CONSTRUED AS AN ALL INCLUSIVE APPROVAL AS OTHER APPROVALS MAY BE NECESSARY, I.E. TOWN ENGINEER, CONSERVATION, FIRE DEPARTMENT, WATER DEPARTMENT, ETC.
12. EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO START OF CONSTRUCTION.

GRADING & DRAINAGE NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTORS RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT/ENGINEER OF ANY UNEXPECTED CONDITIONS THAT ARE ENCOUNTERED DURING CONSTRUCTION.
5. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST–CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE CITY DEPARTMENT SPECIFICATIONS.
7. CONTRACTOR TO ACHIEVE POSITIVE DRAINAGE AWAY FROM PROPOSED BUILDINGS.

ACCESSIBILITY NOTES

1. ALL ACCESSIBLE ROUTES, TRANSITIONS, AND ACCESSIBLE PARKING/LOADING AREAS, INCLUDING ALL ENTRANCES TO BUILDING, SHALL ADHERE TO 521 CMR.
2. SHOULD THE ARCHITECT PROVIDE ADDITIONAL ENTRANCES OR MEANS OF EGRESS, ADDITIONAL ACCESSIBLE ROUTES MAY BE REQUIRED.
3. IT IS THE RESPONSIBILITY OF THE ARCHITECT AND CONTRACTOR TO NOTIFY THE ENGINEER AND LANDSCAPE ARCHITECT OF ANY CHANGES TO THE PROPOSED BUILDING THAT WOULD AFFECT THE ACCESSIBILITY REQUIREMENTS OF THE PROPOSED SITE.
4. THE CONTRACTOR SHALL REVIEW IN DETAIL THE REQUIREMENTS OF 521 CMR AND SHALL BE RESPONSIBLE FOR CONFORMANCE WITH SAID REGULATIONS.



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RLA
R LEVESQUE ASSOCIATES INC
Landscape Architects
Civil Engineers · Land Surveyors
Environmental Consultants
ph: 413.568.0985 fax: 413.568.0986
40 School Street
Westfield, MA 01085
rlaland.com

GRADING, EROSION & SEDIMENTATION CONTROL PLAN

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

COMMONWEALTH OF MASSACHUSETTS
ROBERT J. LEVESQUE
REGISTERED LANDSCAPE ARCHITECT
NO. 1986
5/5/26

PREPARED FOR:
MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

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SCALE: As Noted

RLA PROJ. NUMBER: 250903

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GRADING & DRAINAGE NOTES

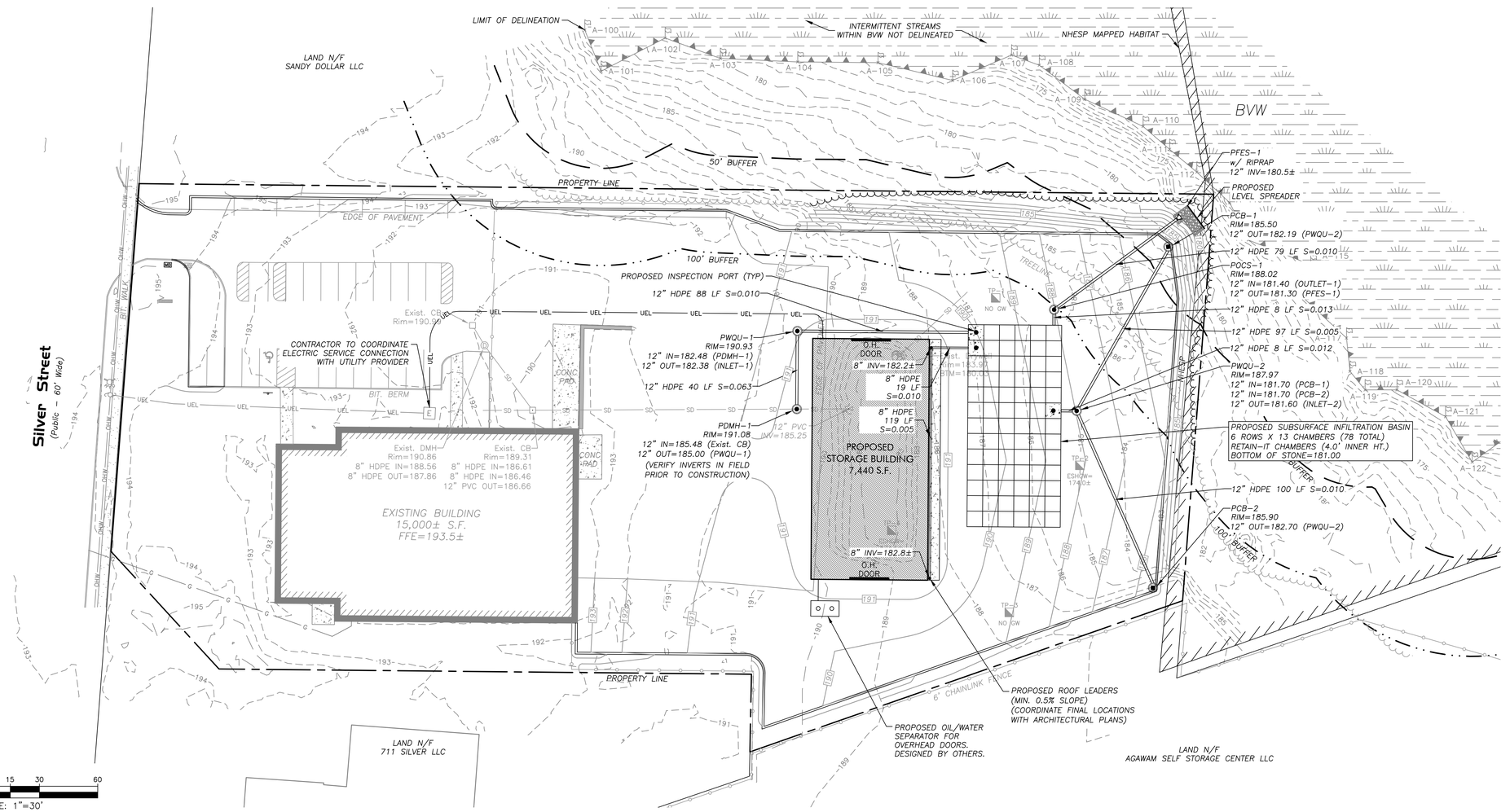
1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR SHALL NOTIFY DESIGNER/ENGINEER OF ANY UNEXPECTED CONDITIONS THAT ARE ENCOUNTERED DURING CONSTRUCTION.
5. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
6. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE AGAWAM DEPARTMENT SPECIFICATIONS.
7. ALL FILL MATERIAL DISCOVERED UNDER INFILTRATION SITES SHALL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO INSTALLATION OF INFILTRATION STRUCTURE.
8. A LICENSED SOIL EVALUATOR AND/OR PROFESSIONAL ENGINEER MUST BE PRESENT DURING GRADING AND CONSTRUCTION OF THE SUBSURFACE INFILTRATION SYSTEM TO ENSURE NATIVE OR SIMILAR SOILS UNDERLAY THE STRUCTURES.

CONSTRUCTION NOTES

1. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON SURFACE FEATURES AS LOCATED BY SURVEY AND AVAILABLE RECORD DATA AND ARE APPROXIMATE. ACTUAL FIELD LOCATIONS SHOULD BE VERIFIED WITH THE APPROPRIATE UTILITY COMPANY AND/OR MUNICIPAL DEPARTMENT PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO NOTIFY DIG SAFE A MINIMUM OF 72 HOURS PRIOR TO START OF CONSTRUCTION ACCORDING TO MA GENERAL LAWS.
3. APPROVED PLANS TO BE ON SITE AT ALL TIMES.
4. CHANGES TO THIS PLAN MAY OCCUR AS UNFORESEEN CONDITIONS ARISE. ALL CHANGES TO BE APPROVED BY DESIGN ENGINEER, FIELD INSPECTOR AND CITY/TOWN ENGINEER.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND SAFETY OF TRAFFIC ON THE PUBLIC AND PRIVATE WAYS AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
6. CONTRACTOR SHALL PROTECT ALL SLOPES, VEGETATION, PAVING, WALKS, AND IMPROVEMENTS OUTSIDE THE AREAS TO BE AFFECTED BY THE CONSTRUCTION OF THIS PROJECT.
7. TREES, BRUSH AND STUMPS REMOVED BY CLEARING AND GRUBBING OPERATIONS SHALL BE TRANSPORTED OFF THE PROJECT SITE TO AN APPROVED DISPOSAL LOCATION.
8. CALCIUM CHLORIDE/WATER FOR DUST CONTROL TO BE AVAILABLE AT ALL TIMES.
9. ALL PAVEMENT MARKINGS CHANGED, ALTERED OR REMOVED SHALL BE REAPPLIED.
10. ALL CONSTRUCTION METHODS TO CONFORM TO AGAWAM PLANNING BOARD REGULATIONS AND BOARD OF PUBLIC WORKS SPECIFICATIONS.
11. AGAWAM DEPARTMENT OF PUBLIC WORKS APPROVAL IS NOT TO BE CONSTRUED AS AN ALL INCLUSIVE APPROVAL AS OTHER APPROVALS MAY BE NECESSARY, I.E. TOWN ENGINEER, CONSERVATION, FIRE DEPARTMENT, WATER DEPARTMENT, ETC.
12. ALL CATCH BASINS TO HAVE 48" SEALED SUMPS AND HOODS.
13. EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO START OF CONSTRUCTION.

UTILITY NOTES

1. SITE CONTRACTOR SHALL REFER TO REMAINING PLAN SET FOR INFORMATION REGARDING GRADING AND DRAINAGE.
2. IT SHALL BE THE SITE CONTRACTORS RESPONSIBILITY TO CROSS REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH GRADING AND DRAINAGE INFORMATION SHOWN HEREON.
3. PRIOR TO SUBMITTING A BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND THE SPECIFICATIONS WITH THE PROJECT PROPONENT AND LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
4. CONTRACTOR TO VERIFY ALL UTILITY CONNECTIONS AND INVERTS FROM EXISTING/PROPOSED BUILDING TO SERVICES IN THE STREET. IF ANY DISCREPANCIES EXISTS BETWEEN PLAN AND INFORMATION FOUND IN THE FIELD, CONTACT ENGINEER AND LANDSCAPE ARCHITECT IMMEDIATELY.
5. SEE ARCHITECTURAL PLANS FOR BUILDING CONNECTIONS OF ALL UTILITIES.
6. UTILITY CONNECTIONS (NATURAL GAS, ELECTRICAL, TELECOMMUNICATIONS, ETC) SHOWN HEREON ARE SCHEMATIC IN NATURE TO DEPICT CONNECTION OF SAID UTILITIES TO THE SUBJECT BUILDING(S). THE RESPECTIVE UTILITY PROVIDER SHALL BE RESPONSIBLE FOR THE FINAL DESIGN OF THE RELEVANT UTILITY.
7. ONCE DRAINAGE SYSTEM IS INSTALLED AND FUNCTIONING, THE OWNER/SITE CONTRACTOR SHALL COORDINATE WITH R LEVESQUE ASSOCIATES, INC. (RLA) TO CONDUCT A POST-CONSTRUCTION ANALYSIS OF THE DRAINAGE SYSTEM DURING ACTUAL STORM EVENTS TO DETERMINE THE FUNCTIONALITY OF THE INSTALLED DRAINAGE SYSTEM DURING SAID EVENTS. SHOULD THE DRAINAGE SYSTEM NOT FUNCTION AS DESIGNED UNDER REAL WORLD CONDITIONS, RLA WILL RECOMMEND ADJUSTMENTS TO THE DRAINAGE SYSTEM TO BE IMPLEMENTED BY THE OWNER/SITE CONTRACTOR.
8. ALL UTILITY CONSTRUCTION SHALL CONFORM TO THEIR RESPECTIVE TOWN DEPARTMENT SPECIFICATIONS.



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rlaland.com

DRAINAGE & UTILITIES PLAN

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

COMMONWEALTH OF MASSACHUSETTS
FILIPE J. CRAVO
CIVIL
NO. 46576
PROFESSIONAL ENGINEER
3/5/26

PREPARED FOR:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

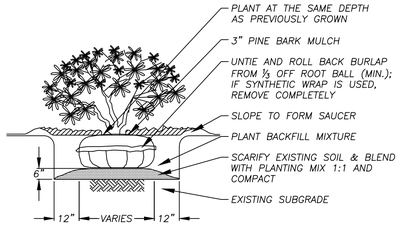
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RLA PROJ. NUMBER: 250903

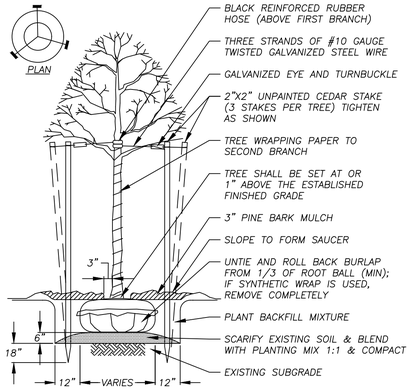
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SHRUB PLANTING DETAIL

NO SCALE



TREE PLANTING DETAIL

NO SCALE

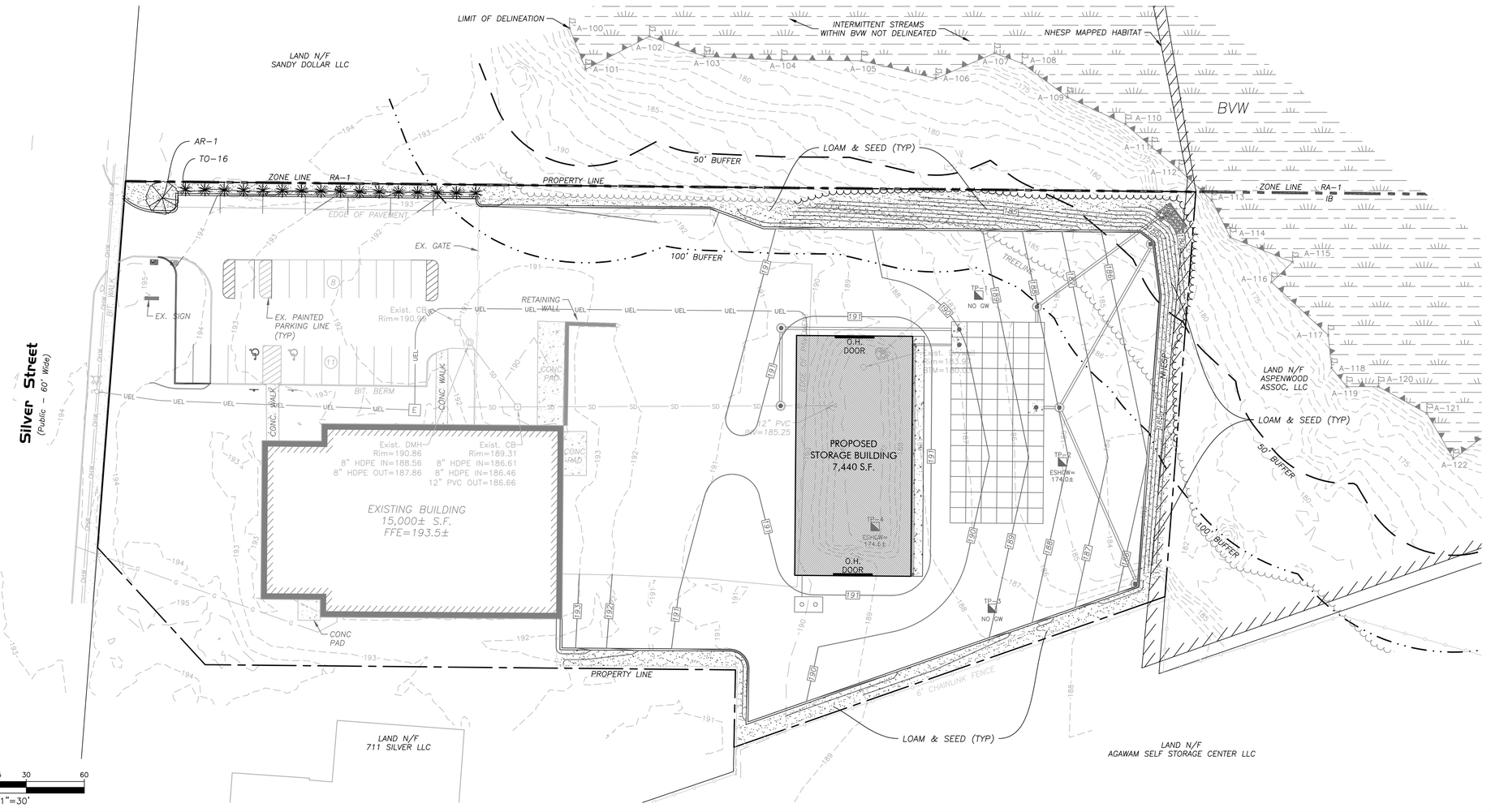
PLANT LIST

KEY	QTY.	BOTANICAL NAME	COMMON NAME	SIZE/SPACING
TO	16	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	2–3' HT.
AR	1	ACER RUBRUM	RED MAPLE	2.5–3" CAL.
	–	LAWN AREA (MIN. 4" LOAM & SEED)		RATE PER SUPPLIER REC.
	–	PERENNIAL PLANTING BED*		MAX. 3' O.C.

* PERENNIAL PLANTING BEDS MAY TYPICALLY INCLUDE NATIVE AND NON–INVASIVE VARIETIES SUCH AS VERNONIA NOVEBORACENSIS, PHLOX PANICULATA, ACHILLEA MILLEFOLIUM, ASTILBE VAR., HEUCHERA VAR., SAPONARIA OCYMOIDES, VERONICASTRUM VIRGINICUM ALBUM, RUDBECKIA HIRTA, AND ORNAMENTAL NON–SPREADING GRASSES. ANNUAL PLANTINGS MAY BE CHOSEN TO PROVIDE ADDITIONAL SEASONAL INTEREST.

LANDSCAPE NOTES

1. SITE CONTRACTOR SHALL REFER TO SHEET C–1, C–2, DETAIL SHEETS AND REMAINING PLAN SET FOR INFORMATION REGARDING LANDSCAPING.
2. IT SHALL BE THE SITE CONTRACTOR'S RESPONSIBILITY TO CROSS–REFERENCE INFORMATION CONTAINED IN OTHER SHEETS WITH THE LANDSCAPE INFORMATION SHOWN HEREON.
3. ALL SITE PLANTINGS ARE TO MEET OR EXCEED THE MINIMUM SPECIFICATIONS DETAILED IN THE AFOREMENTIONED NOTES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE SPECIFICATIONS FOR EACH INDIVIDUAL PLANTING AND SOURCE IT APPROPRIATELY.
4. PRIOR TO SUBMITTING THEIR BID FOR CONSTRUCTION, THE SITE CONTRACTOR SHALL COMMUNICATE ANY DISCREPANCIES BETWEEN THE PROPOSED DESIGN AND SAID SPECIFICATIONS WITH THE PROJECT PROPONENT, LANDSCAPE ARCHITECT/ENGINEER. SHOULD THE SITE CONTRACTOR FAIL TO COMMUNICATE ANY DISCREPANCIES, HE/SHE SHALL BE RESPONSIBLE FOR ANY COSTS RESULTING FROM SAID DISCREPANCY.
5. LANDSCAPE CONTRACTOR SHALL HAVE EXCAVATING CONTRACTOR, "DIGSAFE", AND ANY APPLICABLE NON–[DIGSAFE] MEMBER UTILITIES MARK ALL UNDERGROUND UTILITIES AND PRIOR TO ANY PLANTING. LANDSCAPE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT AND PROJECT PROPONENT IF ANY CONFLICTS ARISE AND STOP ALL WORK UNTIL CONFLICT IS RESOLVED.



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SITE LANDSCAPING PLAN

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

MASSACHUSETTS ROBERT A. LEVESQUE REGISTERED LANDSCAPE ARCHITECT NO. 1395
3/5/26

PREPARED FOR:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

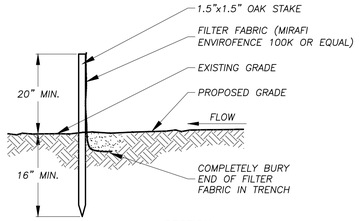
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SCALE: As Noted

RLA PROJ. NUMBER: 250903

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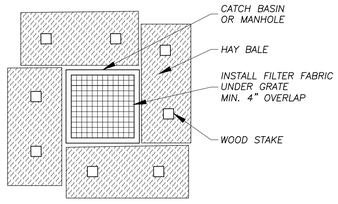
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SECTION

SILT FENCE DETAIL

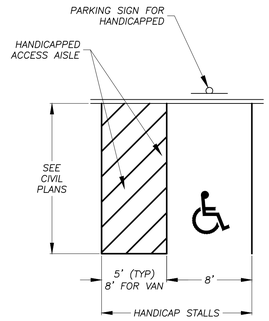
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NOTE
INSTALL BARRIER AT EACH CATCH BASIN AND DRAINAGE BASIN. CATCH BASINS IN PAVEMENT AREAS ARE TO RECEIVE ONLY THE FILTER FABRIC TREATMENT.

INLET PROTECTION - HAY BALES

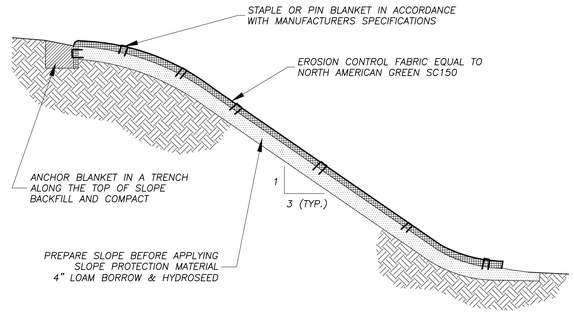
NO SCALE



NOTES:
1. ALL DIMENSIONS TO CENTER OF 4" PAVEMENT STRIPING.
2. ALL STRIPING SHALL BE 4" SOLID WHITE PAVEMENT MARKING PAINT UNLESS OTHERWISE NOTED.
3. CONTRACTOR TO ENSURE HANDICAP ACCESSIBLE PARKING SPACE SHALL HAVE A SLOPE OF 2% OR LESS IN ALL DIRECTIONS.
4. SEE AAB 521 CMR 23.00 FOR REQUIRED NUMBER AND PROPORTION OF VAN ACCESSIBLE SPACES.

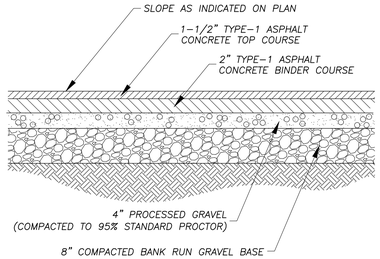
HANDICAP PARKING STALL

NO SCALE



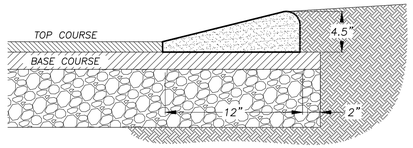
SLOPE PROTECTION MATERIAL INSTALLATION (AS REQ'D)

NO SCALE



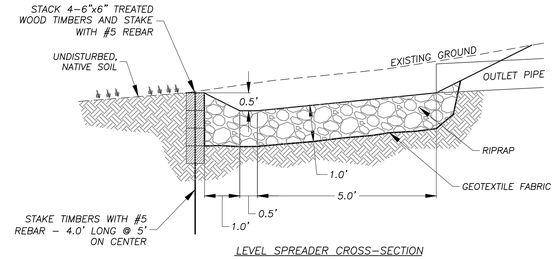
BITUMINOUS CONCRETE PAVING DETAIL

NO SCALE

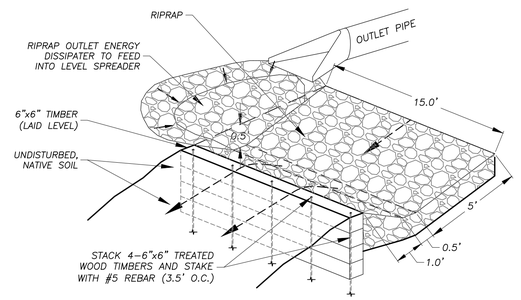


BITUMINOUS CONCRETE BERM (CAPE COD)

NO SCALE



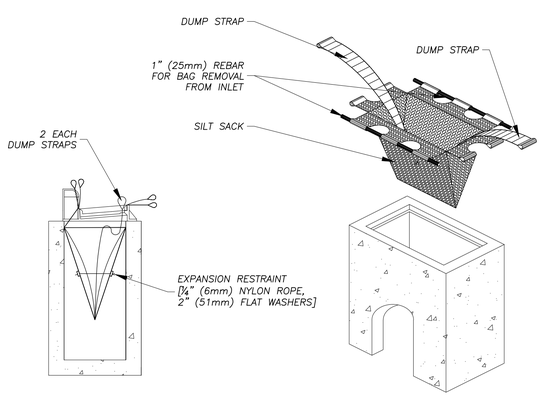
LEVEL SPREADER CROSS-SECTION



NOTES
1.) LEVEL SPREADER SHALL BE INSTALLED WITH A LEVEL INSTRUMENT. CONSTRUCT LEVEL UP TO 0% GRADE TO ENSURE UNIFORM SHEET FLOW. LEVEL SPREADER SHALL BE CONSTRUCTED ON UNDISTURBED SOIL.
2.) CONSTRUCTION OF LEVEL SPREADER SHALL BE FROM UPHILL SIDE ONLY. LEVEL LIP AND AREA BELOW SPREADER SHALL BE AT EXISTING GRADES AND UNDISTURBED BY EARTHWORK OR EQUIPMENT.
3.) CONSTRUCT SPREADER WITH LIP AT EXISTING GRADE AS SPECIFIED.
4.) DOWNGRADIENT RECEIVING AREA MUST BE NATURALLY WELL VEGETATED.

LEVEL SPREADER DETAIL

NO SCALE



INLET PROTECTION - SEDIMENT FILTER SACK

NO SCALE

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DETAILS

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COMMONWEALTH OF MASSACHUSETTS
ROBERT M. LEVESQUE
REGISTERED LANDSCAPE ARCHITECT
NO. 1395
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PREPARED FOR:
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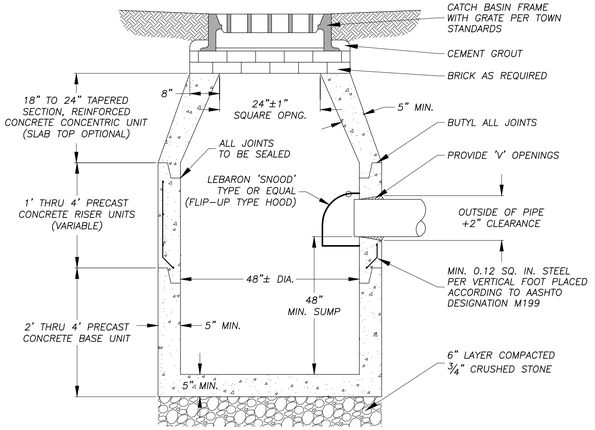
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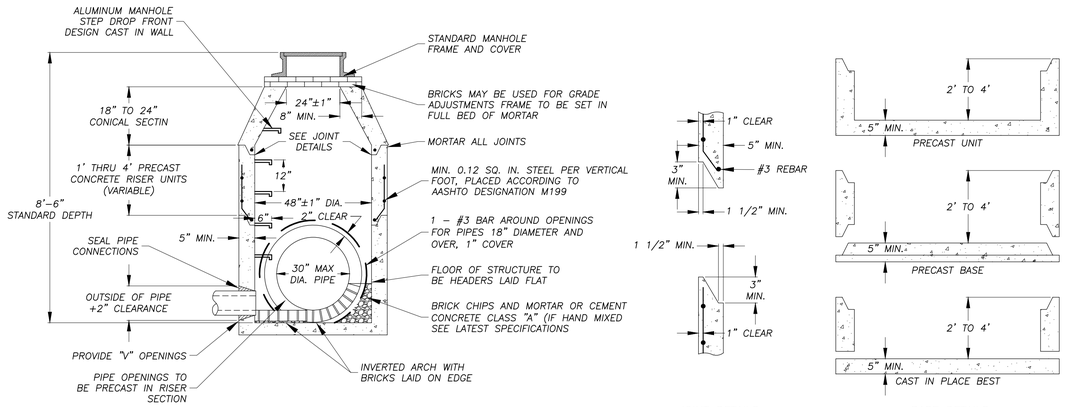
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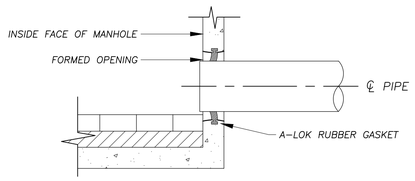
STANDARD PRECAST CONCRETE CATCH BASIN

NO SCALE

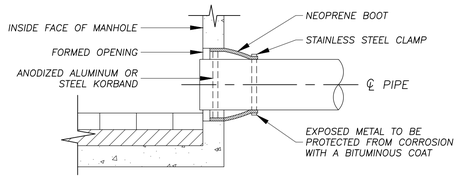


PRECAST CONCRETE MANHOLE

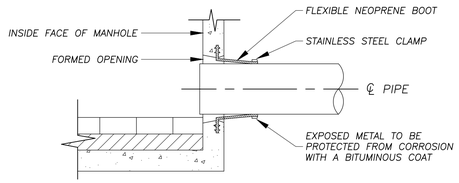
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A-LOK SYSTEM



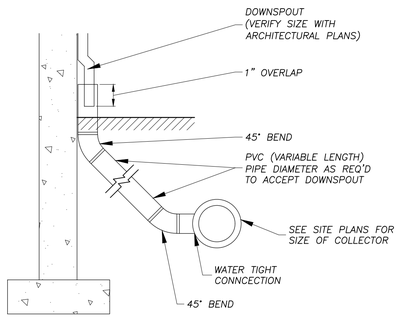
KOR-N-SEAL BOOT



FLEXIBLE SLEEVE

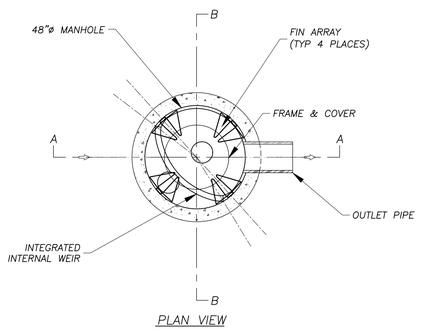
PIPE CONNECTION DETAILS

NO SCALE

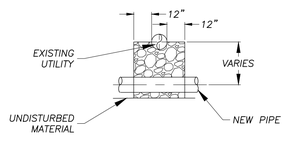


DOWNSPOUT COLLECTOR DETAIL

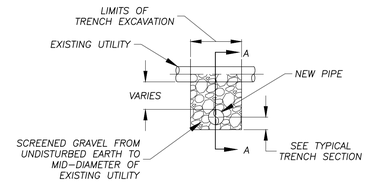
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PLAN VIEW



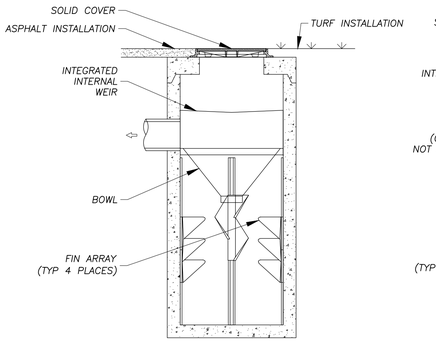
SECTION "A-A"



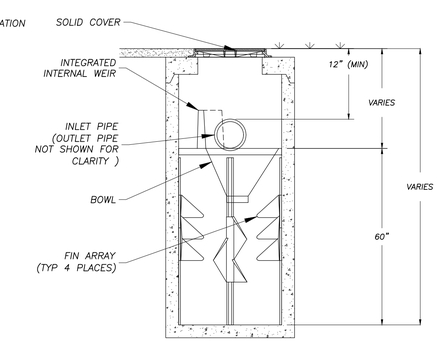
TYPICAL SECTION

UTILITY CROSSING DETAIL

NO SCALE



SECTION VIEW A-A



SECTION VIEW B-B

WATER QUALITY UNIT - BARRACUDA MAX S4

NO SCALE

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Agawam, MA
Parcel ID: G6-2-12

COMMONWEALTH OF MASSACHUSETTS
FILIPE J. CRAVO
CIVIL
NO. 46376
REGISTERED PROFESSIONAL ENGINEER
3/5/26

PREPARED FOR:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

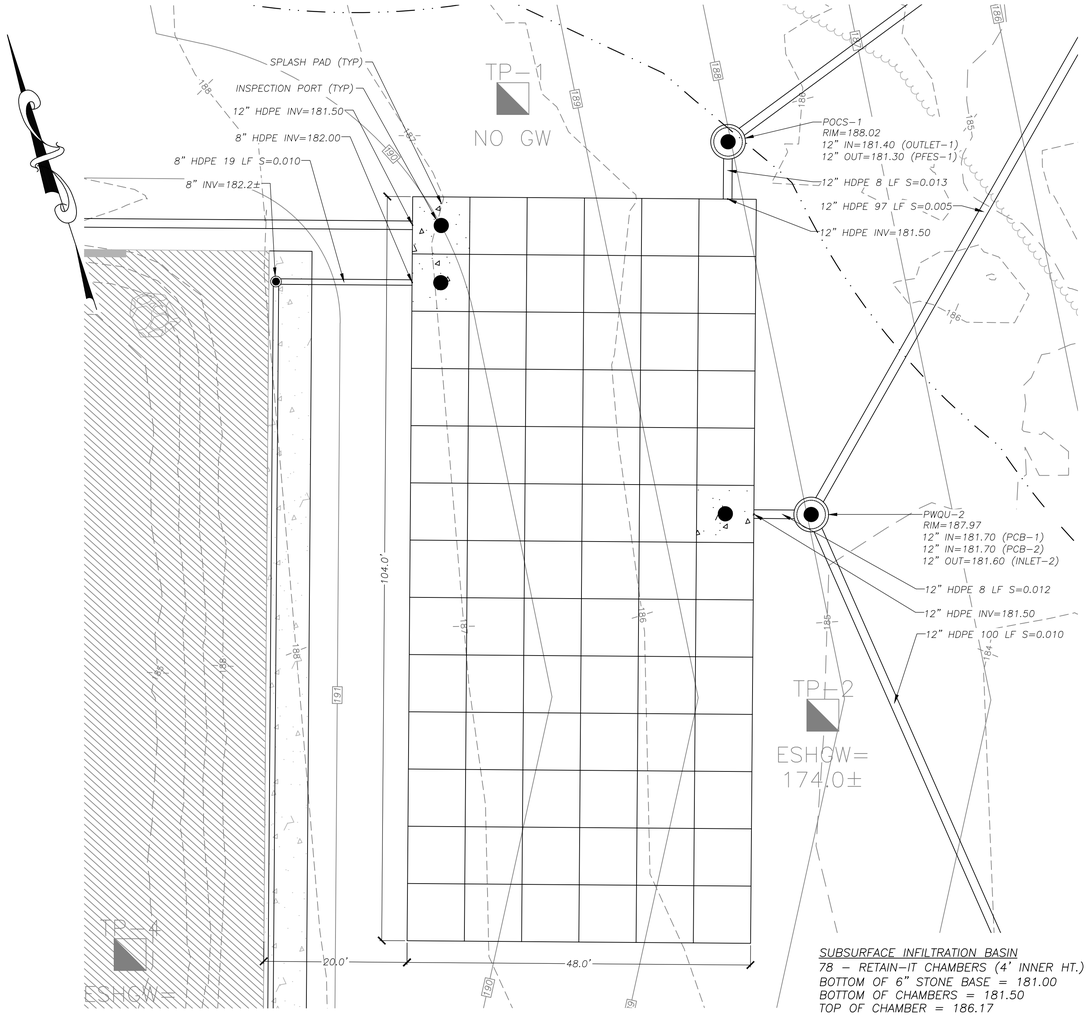
UNAUTHORIZED ALTERATION OF THIS DOCUMENT IS A VIOLATION OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 250903

DRAWING#	REV.
D-2	-

S:\Projects\2025\250903 - Mahan - 699 Silver S., Agawam\05 Civil 3D\250903 - SITE.dwg



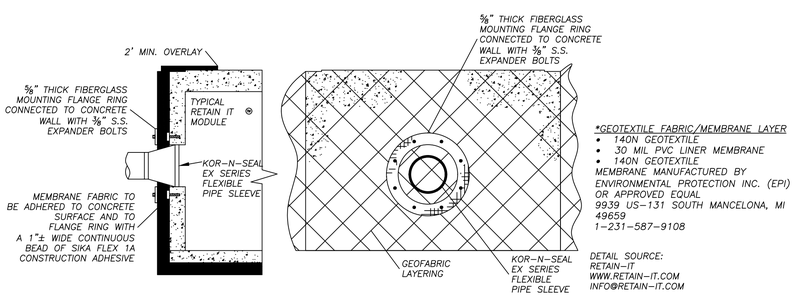
SUBSURFACE INFILTRATION BASIN
78 – RETAIN-IT CHAMBERS (4' INNER HT.)
BOTTOM OF 6" STONE BASE = 181.00
BOTTOM OF CHAMBERS = 181.50
TOP OF CHAMBER = 186.17

SUBSURFACE INFILTRATION BASIN DETAIL

1" = 10'

10 0 5 10 20

1" = 10'



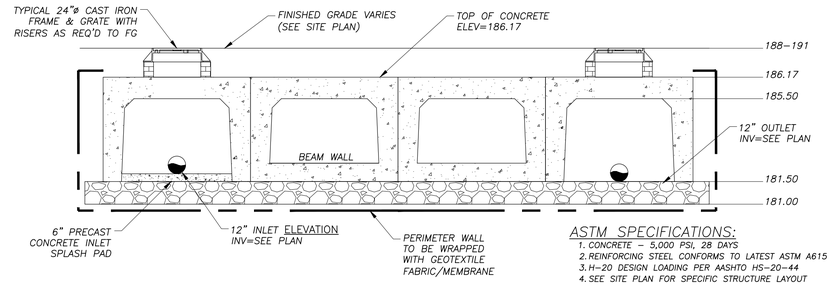
*GEOTEXTILE FABRIC/MEMBRANE LAYER
- 140N GEOTEXTILE
- 30 MIL PVC LINER MEMBRANE
- 140N GEOTEXTILE

MEMBRANE MANUFACTURED BY ENVIRONMENTAL PROTECTION INC. (EPI) OR APPROVED EQUAL
9939 US-131 SOUTH MANCELONA, MI 49659
1-231-587-9108

DETAIL SOURCE:
RETAIN-IT
WWW.RETAIN-IT.COM
INFO@RETAIN-IT.COM

WATERTIGHT PIPE CONNECTION DETAIL

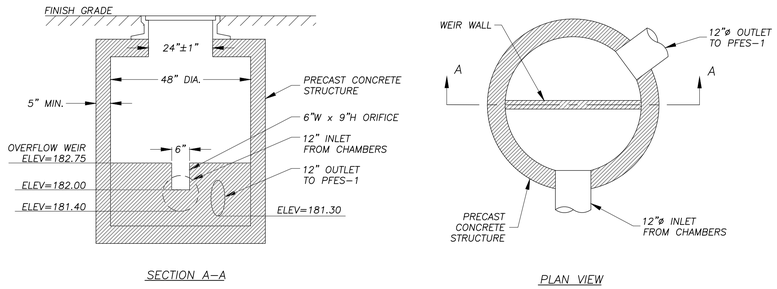
NO SCALE



ASTM SPECIFICATIONS:
1. CONCRETE – 5,000 PSI, 28 DAYS
2. REINFORCING STEEL CONFORMS TO LATEST ASTM A615
3. H-20 DESIGN LOADING PER AASHTO HS-20-44
4. SEE SITE PLAN FOR SPECIFIC STRUCTURE LAYOUT

RETAIN-IT PRECAST CONCRETE STORMWATER MANAGEMENT SYSTEM

NO SCALE

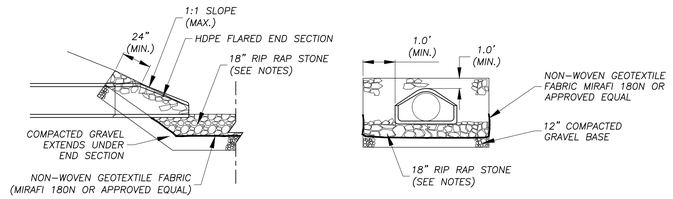


SECTION A-A

PLAN VIEW

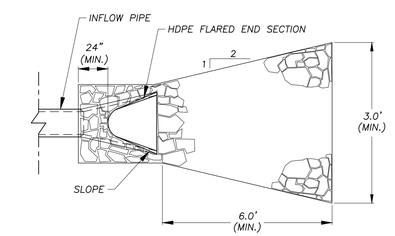
OUTLET CONTROL STRUCTURE (POCS-1)

NO SCALE



SIDE SECTION

FRONT SECTION



PLAN VIEW

NOTES
1. FLARED END SECTION PIPE JOINT SHALL BE SIMILAR TO THE MAIN RUN OF PIPE JOINTS
2. STONE RIPRAP SHALL NOT BE LESS THAN 50 POUNDS NOR MORE THAN 125 POUNDS AND AT LEAST 75% OF THE VOLUME SHALL BE AT LEAST 75 POUNDS

STANDARD RIP RAP PIPE OUTLET

NO SCALE

PERMITTING
NOT FOR CONSTRUCTION

RLA
R LEVESQUE ASSOCIATES INC
Landscape Architects
Civil Engineers · Land Surveyors
Environmental Consultants
ph: 413.568.0985 fax: 413.568.0986
40 School Street
Westfield, MA 01085
rlaland.com

DETAILS

699 Silver Street
Agawam, MA
Parcel ID: G6-2-12

COMMONWEALTH OF MASSACHUSETTS
FILIPE J. CRAVO
CIVIL
NO. 46376
REGISTERED PROFESSIONAL ENGINEER
3/5/26

PREPARED FOR:

MSR Properties, LLC
c/o Rick Mahan
699 Silver Street
Agawam, MA 01001

ISSUANCE DATE: March 5, 2026

REVISIONS:	DATE:

DRAFTED BY: M.B.

UNAUTHORIZED ALTERATION OF THIS DOCUMENT IS A VIOLATION OF MASSACHUSETTS STATE LAW

SCALE: As Noted

RLA PROJ. NUMBER: 250903

DRAWING#	REV.
D-3	-

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COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE
436 DWIGHT STREET, SPRINGFIELD, MA 01103 413-784-1100

MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lieutenant Governor

REBECCA L. TEPPER
Secretary

BONNIE HEIPLE
Commissioner

DATE: March 17, 2026

Municipality AGAWAM
(city/town)

RE: NOTIFICATION OF WETLANDS PROTECTION ACT FILE NUMBER

The Department of Environmental Protection has received a Notice of Intent filed in accordance with the Wetlands Protection Act (M.G.L. c. 131, §40):

Applicant:	MSR PROPERTIES, LLC	Owner:	MSR PROPERTIES, LLC
Address:	699 SILVER STREET AGAWAM, MA 01001	Address:	699 SILVER STREET AGAWAM, MA, 01001
LOCUS:	699 SILVER STREET		

This project has been assigned the following file # : WE 087-0712

A FILE NUMBER ONLY INDICATES THAT THE APPLICATION CONTAINS THE MINIMAL SUBMITTAL REQUIREMENTS AND IS ADMINISTRATIVELY COMPLETE - NOT THAT THE INFORMATION IN THE APPLICATION IS ADEQUATE FOR ISSUANCE OF AN ORDER OF CONDITIONS.

Although a file # is being issued, please note the following:

[1] in order to prevent a point source from being created, the level spreader must be maintained. At a minimum, it should be designed and constructed per the design specifications in the stormwater management handbook, Volume 2, Chapter 2.

[2] To help ensure that conservation commissions have sufficient expertise available to address specific issues regarding an applicant's filing, M.G.L. c. 44, section 53g gives Commissions authority to charge a fee for the employment of outside consultants that allow for the use of the fee to ensure that they have the necessary information for them to make a decision pursuant to the Wetlands Protection Act, M.G.L. c. 131, sec. 40 and 310 CMR 10.00.

If you have any questions regarding this letter, please contact: MARK STINSON @ (413)-961-9583

Cc: Agawam Conservation Commission, DPW Inspection Services 1000 Suffield Street, Agawam, MA, 01001
Owner: MSR PROPERTIES, LLC, 699 SILVER STREET, AGAWAM, MA, 01001
Representative: R LEVESQUE ASSOCIATES, INC., 40 SCHOOL STREET, WESTFIELD, MA, 01085

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.
http://www.mass.gov/dep
Printed on Recycled Paper

MSR PROPERTIES, LLC
699 SILVER STREET
AGAWAM, MA 01001

Massachusetts Department of Environmental Protection
Bureau of Water Resources - Wetlands

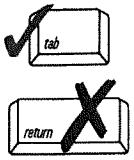
WPA Form 1- Request for Determination of Applicability

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

Municipality

A. General Information

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



1. Applicant:

Jenny / James — First Name
Cory / Typrowicz — Last Name
15 Barbara Lane — Address
Feeding Hills — City/Town
MA — State
01030 — Zip Code
413-519-7534 / 413-427-3057 — Phone Number
jennycory1976@yahoo.com — Email Address

2. Property Owner (if different from Applicant):

First Name
Last Name
Address
City/Town
State
Zip Code
Phone Number
Email Address (if known)

3. Representative (if any)

First Name
Last Name
Company Name
Address
City/Town
State
Zip Code
Phone Number
Email Address (if known)

B. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

15 Barbara Lane — Street Address
Feeding Hills — City/Town

How to find Latitude and Longitude

42.04056 — Latitude (Decimal Degrees Format with 5 digits after decimal e.g. XX.XXXXX)
-72.70560 — Longitude (Decimal Degrees Format with 5 digits after decimal e.g. -XX.XXXXX)

and how to convert to decimal degrees

Assessors' Map Number
5 — Assessors' Lot/Parcel Number

b. Area Description (use additional paper, if necessary):

See map - Area by rear of home to put an above ground pool

c. Plan and/or Map Reference(s): (use additional paper if necessary)

Septic Drawing from Title IV inspections - 04/2025 — Title
03/10/26 — Date
GIS Map — Title
03/10/26 — Date

B. Project Description (cont.)

2. a. Activity/Work Description (use additional paper and/or provide plan(s) of Activity, if necessary):

Put in an above ground pool in the back yard - please see map. The pool will be more than 10ft away from our septic tank, more than 10ft away from our side property line and more than 10ft away from our rear property line as well as more than 10ft away from the wetlands shown on our property map

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single-family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)

C. Determinations

1. I request the Conservation Commission make the following determination(s). Check any that apply:
Conservation Commission

☐ a. whether the **area** depicted on plan(s) and/or map(s) referenced above is an area subject to jurisdiction of the Wetlands Protection Act.

☐ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced above are accurately delineated.

☐ c. whether the **Activities** depicted on plan(s) referenced above is subject to the Wetlands Protection Act and its regulations.

☒ d. whether the area and/or Activities depicted on plan(s) referenced above is subject to the jurisdiction of any **municipal wetlands' ordinance** or **bylaw** of:

Agawam/Feeding Hills
Name of Municipality

☐ e. whether the following **scope of alternatives** is adequate for Activities in the Riverfront Area as depicted on referenced plan(s).

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Signatures:

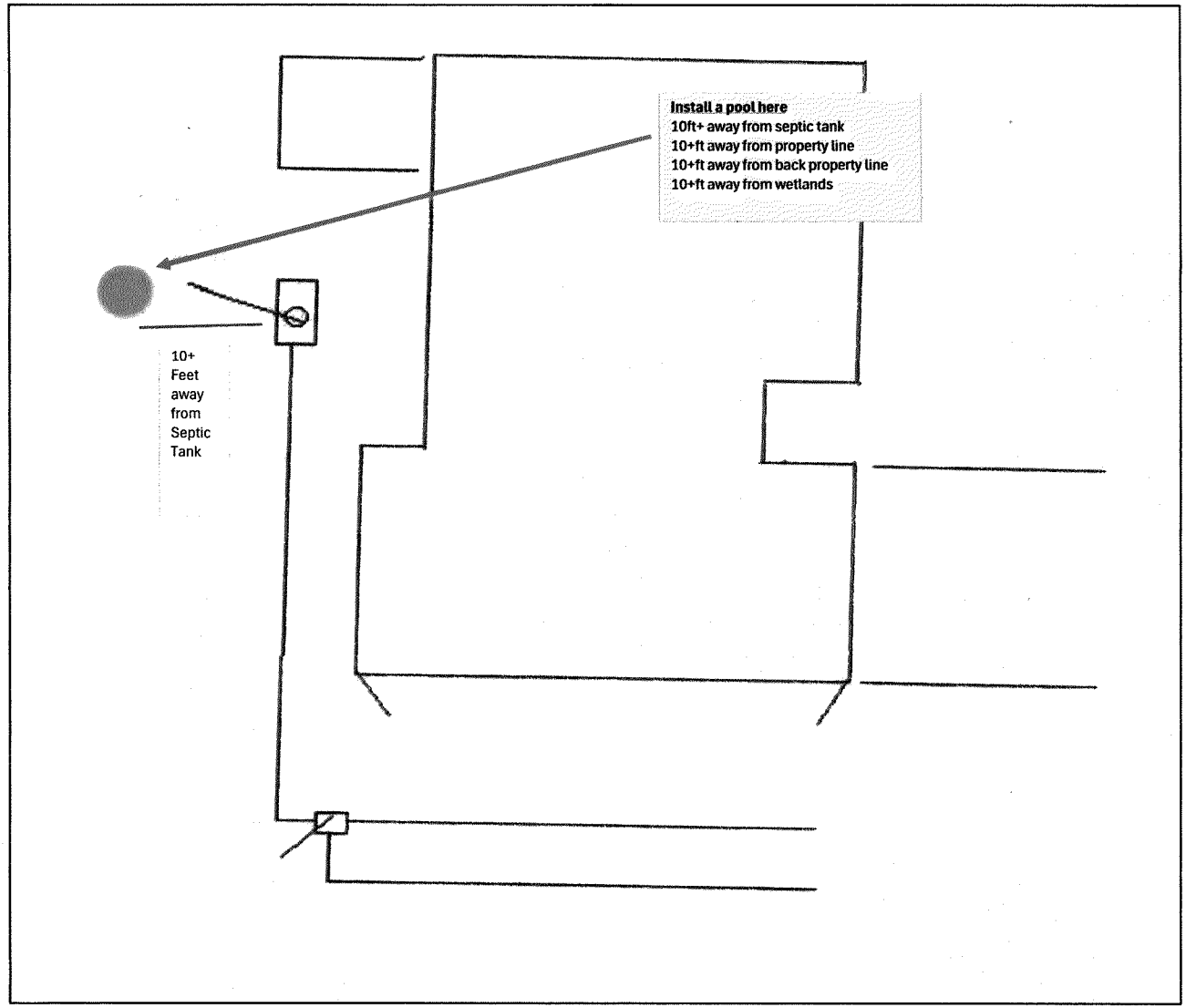
I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Jenny Cary — 03/11/2026
Signature of Applicant — Date

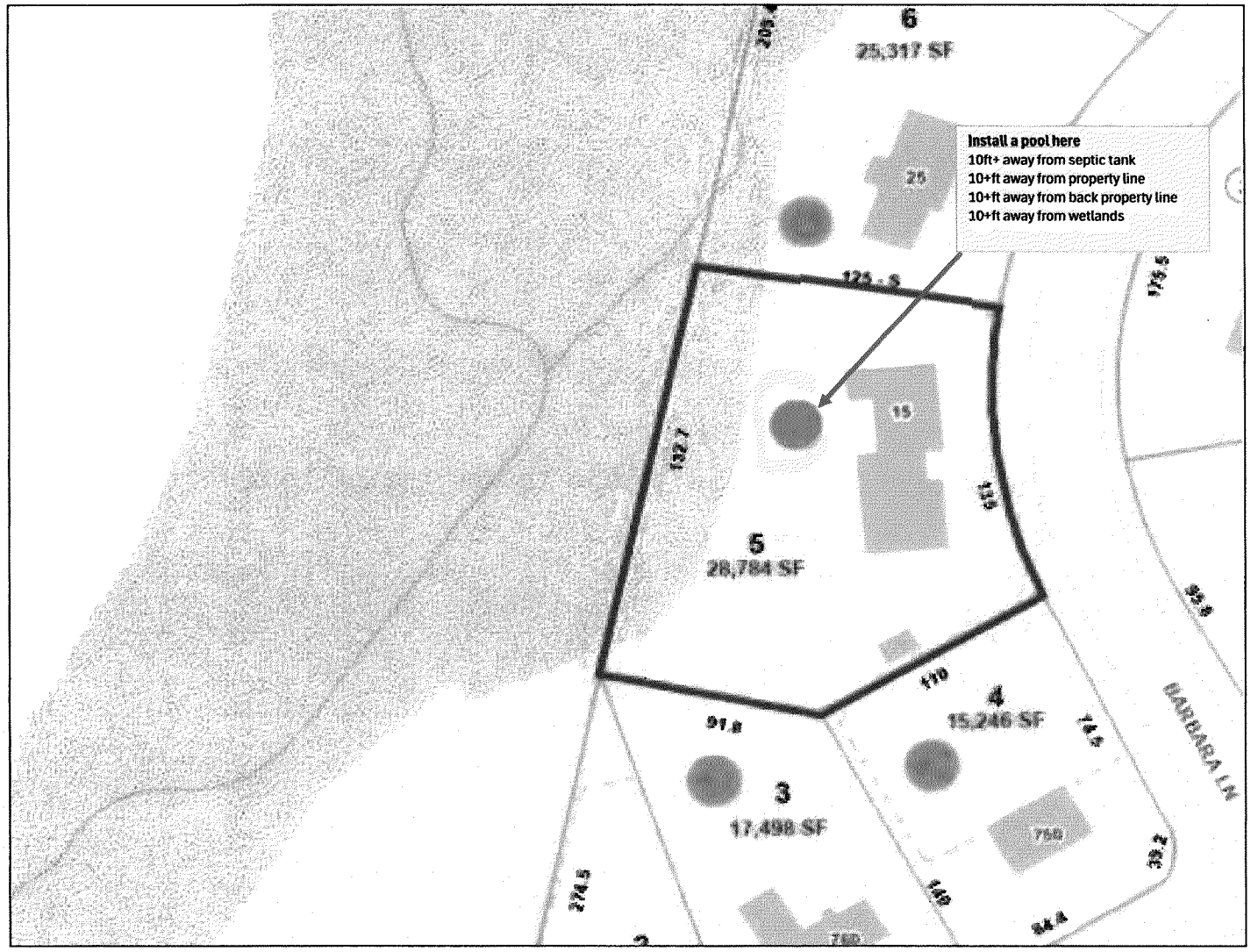
Signature of Representative (if any) — Date

James Tuprowicz
home owner

Septic Drawing from Title IV inspection - 04/2025 - 15 Barbara Lane



GIS Map - 15 Barbara Lane



COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE
436 DWIGHT STREET, SPRINGFIELD, MA 01103 413-784-1100

MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lieutenant Governor

REBECCA L. TEPPER
Secretary

BONNIE HEIPLE
Commissioner

DATE: March 5, 2026

Municipality AGAWAM
(city/town)

RE: NOTIFICATION OF WETLANDS PROTECTION ACT FILE NUMBER

The Department of Environmental Protection has received a Notice of Intent filed in accordance with the Wetlands Protection Act (M.G.L. c. 131, §40):

Applicant:	AMERESCO, INC.	Owner:	TIMOTHY ZIELINSKI
Address:	20 WINTHROP SQUARE BOSTON, MA 02110	Address:	85026 BARSONAGE CT FERNANDINA BEACH, FL, 32034
LOCUS:	311 SHOEMAKER LANE		

This project has been assigned the following file # : WE 087-0711

A FILE NUMBER ONLY INDICATES THAT THE APPLICATION CONTAINS THE MINIMAL SUBMITTAL REQUIREMENTS AND IS ADMINISTRATIVELY COMPLETE - NOT THAT THE INFORMATION IN THE APPLICATION IS ADEQUATE FOR ISSUANCE OF AN ORDER OF CONDITIONS.

Although a file # is being issued, please note the following:

[1] The commission might review the approved wetlands delineation (since expired as the OOC received a COC) from file number 087-0628, near the boundary with this lot. That file number did approve Riverfront alteration when the OOC was issued though the applicant in this case is attempting to overcome the perennial presumption. Guidance will be provided to the commission regarding overcoming said perennial presumption.

[2] The commission should make sure the correct map/parcel ID is correct.

[3] The applicant is only requesting approval of BVW and Bank (for the 100 foot buffer).

[4] Regarding the July 16, 2016 dry observation date, that date was considered to be in a drought watch, therefore it could not be used. Please review https://www.mass.gov/info-details/history-of-drought-declarations-in-massachusetts#drought-tables-before-2019

[5] Much of the field does show hydric soil like conditions. See Section 4.0 of the narrative. Aerial photos will be provided.

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.
http://www.mass.gov/dep
Printed on Recycled Paper

AMERESCO, INC.
20 WINTHROP SQUARE
BOSTON, MA 02110

[6] To help ensure that conservation commissions have sufficient expertise available to address specific issues regarding an applicant's filing, M.G.L. c. 44, section 53g gives Commissions authority to charge a fee for the employment of outside consultants that allow for the use of the fee to ensure that they have the necessary information for them to make a decision pursuant to the Wetlands Protection Act, M.G.L. c. 131, sec. 40 and 310 CMR 10.00.

If you have any questions regarding this letter, please contact: MARK STINSON @ (413)-961-9583

Cc: Agawam Conservation Commission, DPW Inspection Services 1000 Suffield Street, Agawam, MA, 01001
Owner: Timothy Zielinski, 85026 Barsonage CT, FERNANDINA BEACH, FL, 32034
Representative: Fleetwood Environmental Solutions, LLC, 84 Russell Street, HADLEY, MA, 01035

This information is available in alternate format. Call Donald M. Gomes, ADA Coordinator at 617-556-1057. TDD# 1-866-539-7622 or 1-617-574-6868.
http://www.mass.gov/dep
Printed on Recycled Paper


WESTFIELD ST
ARCEL 2B SHOEMAKER LN
G4_1_11
DEMAKER LN
SHOEMAKER LN
G4_1_9
281 SHOEMA
G2_1_
Long: -72.6534
Lat: 42.041430
dd


ELD ST
G4_1_9
MAKER LN
MAKER LN

Abbreviated Notice of Resource Area Delineation

Related to Property ID:

G4_1_11

at

311 Shoemaker Lane
Agawam, Massachusetts

February 24, 2026

Prepared on Behalf of:

Ameresco, Inc.
20 Winthrop Square
Boston, MA 02110
npollis@ameresco.com

Prepared by:

fleetwood
ENVIRONMENTAL SOLUTIONS
84 Russell Street
Hadley, MA 01035
413.325.7372
www.fleetwoodenv.com

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

A. General Information

1. Project Location (**Note:** electronic filers will click on button for GIS locator):

311 Shoemaker Lane (a. Street Address) | Agawam (b. City/Town) | 01001 (c. Zip Code)

Latitude and Longitude: 42.041429 (d. Latitude) | -72.653405 (e. Longitude)

G4 (f. Assessors Map/Plat Number) | 1_11 (g. Parcel /Lot Number)

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

2. Applicant:

Nikki (a. First Name) | Pollis (b. Last Name)

Ameresco, Inc. (c. Organization)

20 Winthrop Square (d. Mailing Address)

Boston (e. City/Town) | MA (f. State) | 02110 (g. Zip Code)

508.598.3254 (h. Phone Number) | (i. Fax Number) | npollis@ameresco.com (j. Email Address)

3. Property owner (if different from applicant): ☐ Check if more than one owner (attach additional sheet with names and contact information)

Timothy (a. First Name) | Zielinski (b. Last Name)

(c. Organization)

85026 Barsonage CT (d. Mailing Address)

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

Fernandina Beach (e. City/Town) | FL (f. State) | 32034 (g. Zip Code)

413.246.7311 (h. Phone Number) | (i. Fax Number) | timzie218@gmail.com (j. Email Address)

4. Representative (if any):

David (a. Contact Person First Name) | Cameron (b. Contact Person Last Name)

Fleetwood Environmental Solutions, LLC (c. Organization)

35 Russell Street (d. Mailing Address)

Hadley (e. City/Town) | MA (f. State) | 01035 (g. Zip Code)

413.325.7372 (h. Phone Number) | (i. Fax Number) | david@fleetwoodenv.com (j. Email Address)

Fees will be calculated for online users.

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

$2,000.00 (a. Total Fee Paid) | $987.50 (b. State Fee Paid) | $1012.50 (c. City/Town Fee Paid)

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

B. Area(s) Delineated

1. Bordering Vegetated Wetland (BVW) ~ 5,762 Linear Feet of Boundary Delineated

2. Check all methods used to delineate the Bordering Vegetated Wetland (BVW) boundary:

   a. ☐ MassDEP BVW Field Data Form (attached)

   b. ☒ Other Methods for Determining the BVW boundary (attach documentation):

      1. ☒ 50% or more wetland indicator plants
      2. ☒ Saturated/inundated conditions exist
      3. ☐ Groundwater indicators
      4. ☒ Direct observation
      5. ☒ Hydric soil indicators
      6. ☒ Credible evidence of conditions prior to disturbance

3. Indicate any other resource area boundaries that are delineated:

a. Resource Area	b. Linear Feet Delineated
Bank (off-site - just for the purposes of Buffer Zone projections)	~1,082
c. Resource Area	d. Linear Feet Delineated

C. Additional Information

Applicants must include the following plans with this Abbreviated Notice of Resource Area Delineation. See instructions for details. **Online Users:** Attach the Document Transaction Number (provided on your receipt page) for any of the following information you submit to the Department.

1. ☒ ANRAD (Delineation Plans only)
2. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
3. ☒ Plans identifying the boundaries of the Bordering Vegetated Wetlands (BVW) (and/or other resource areas, if applicable).
4. ☒ List the titles and final revision dates for all plans and other materials submitted with this Abbreviated Notice of Resource Area Delineation.

D. Fees

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

The fees for work proposed under each Abbreviated Notice of Resource Area Delineation must be calculated and submitted to the Conservation Commission and the Department (see Instructions and Wetland Fee Transmittal Form).

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

Applicants must submit the following information (in addition to the attached Wetland Fee Transmittal Form) to confirm fee payment:

254	2/9/26
2. Municipal Check Number	3. Check date
255	2/9/26
4. State Check Number	5. Check date
David	Cameron
6. Payor name on check: First Name	7. Payor name on check: Last Name

E. Signatures

I certify under the penalties of perjury that the foregoing Abbreviated Notice of Resource Area Delineation and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made 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.

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 subject to this Notice, and to require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

I acknowledge that failure to comply with these certification requirements is grounds for the Conservation Commission or the Department to take enforcement action.

1. Signature of Applicant	2. Date
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any)	6. Date

For Conservation Commission:
Two copies of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; two copies of the ANRAD Wetland Fee Transmittal Form; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; one copy of the ANRAD Wetland Fee Transmittal Form; and a copy of the state fee payment must be sent to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

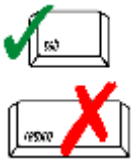
The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

ANRAD Wetland Fee Transmittal Form

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

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



A. Applicant Information

1. Location of Project:

311 Shoemaker Lane	Agawam
a. Street Address	b. City/Town
$987.50	255
c. Fee amount	d. Check number

2. Applicant:

Nikki	Pollis	Ameresco, Inc.
a. First Name	b. Last Name	c. Company

20 Winthrop Square
d. Mailing Address

Boston	MA	02110
e. City/Town	f. State	g. Zip Code

508.598.3254
h. Phone Number

3. Property Owner (if different):

Timothy	Zielinski	
a. First Name	b. Last Name	c. Company

85026 Barsonage CT
d. Mailing Address

Fernandina	FL	32034
e. City/Town	f. State	g. Zip Code

413.246.7311
h. Phone Number

B. Fees

The fee is calculated as follows for each Resource Area Delineation included in the ANRAD (check applicable project type). The maximum fee for each ANRAD, regardless of the number of Resource Area Delineations, is $200 activities associated with a single-family house and $2,000 for any other activity.

☐ **Online users:** check box if fee exempt.

Bordering Vegetated Wetland Delineation Fee:

1. ☐	single family house project	a. feet of BVW	x $2.00 = 2	b. Fee for BVW
2. ☒	all other projects	5,762 a. feet of BVW	x $2.00 =	11,524 b. Fee for BVW

Other Resource Area (e.g., bank, riverfront area, etc.):

3. ☐	single family house project	a. linear feet	x $2.00 =	b. Fee
4. ☒	all other projects	1,082 a. linear feet	x $2.00 = 2	2,164 b. Fee

Total Fee for all Resource Areas: $2,000 Fee

State share of filing fee: $987.50 5. 1/2 of total fee **less** $12.50

City/Town share of filing fee: 1012.50 6. 1/2 of total fee **plus** $12.50

C. Submittal Requirements

a.) Send a copy of this form, with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

c.) **To DEP Regional Office**: Send one copy of the Abbreviated Notice of Resource Area Delineation (and any additional documentation required as part of a Simplified Review Buffer Zone Project); a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 4A – Abbreviated Notice of Resource Area Delineation

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Agawam
City/Town

understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made 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.

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 subject to this Notice, and to require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.

I acknowledge that failure to comply with these certification requirements is grounds for the Conservation Commission or the Department to take enforcement action.

1. Signature of Applicant Timothy Richter Trustee	2. Date 2/20/2026
3. Signature of Property Owner (if different)	4. Date 2-5-2026
5. Signature of Representative (if any)	6. Date

For Conservation Commission:
Two copies of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; two copies of the ANRAD Wetland Fee Transmittal Form; and the city/town fee payment must be sent to the Conservation Commission by certified mail or hand delivery.

For MassDEP:
One copy of the completed Abbreviated Notice of Resource Area Delineation (Form 4A), including supporting plans and documents; one copy of the ANRAD Wetland Fee Transmittal Form; and a copy of the state fee payment must be sent to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery. (E-filers may submit these electronically.)

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.

Taryn Egerton, Conservation Officer
Conservation Commission
1000 Suffield Street
Agawam, MA 01001

February 24, 2026

Subject: ***Abbreviated Notice of Resource Area Delineation*** **for 311 Shoemaker Lane, Agawam, MA.**

Dear Ms. Egerton:

On behalf of Ameresco, Inc., Fleetwood Environmental Solutions, LLC ("Fleetwood") conducted a field evaluation of resource areas subject to the Massachusetts Wetlands Protection Act ("WPA) at the address referenced above. The following provides the background of this Abbreviated Notice of Resource Area Delineation ("ANRAD"), as well as Fleetwood's methods and findings regarding the evaluation.

BACKGROUND

Fleetwood understands the subject property ("property", "parcel" or "Site") is presently designated as Assessors Map G4 Lot 1_11 (see site locus at Figure 1, below). The parcel is 36.4 acres in size, and owned by Timothy Zielinski (see Site Plan at Appendix B). The parcel is presently and has been an agricultural field for many decades. This ANRAD is seeking confirmation of the Resource Areas delineated on the parcel.

Figure 1. USGS Topographic/Site Locus Map (asterisk denotes Site location)



84 Russell Street
Hadley, MA 01035
413.325.7372

EVALUATION METHODS

During September and October of 2025, Fleetwood conducted a visual inspection of the Site, which entailed a meander survey throughout the parcel. These field investigations were preceded by a desktop evaluation of publicly-accessible maps, historic aerial images and related resources. A detailed description of the methods employed are outlined in the Wetland Delineation report provided at Appendix C.

Previous Evaluations

In 2015 and 2016 the property owner retained GZA to conduct a natural resources evaluation, including a streamflow assessment for a small stream immediately west of the subject parcel. The report that summarizes the methods and findings of that investigation is provided at Appendix D.

FINDINGS

The investigation resulted in the identification of the parcel being a large cornfield (Figure 2, below).

Figure 2. 2023 Aerial Image of Site



Three separate areas along its periphery were flagged as Resource Area boundaries: 1) a man-made ditch along the eastern and southern limits of the cornfield, which was designated as a linear Bordering Vegetated Wetland ("BVW"); 2) another BVW along much of the cornfield's western boundary; and 3) the Bank of an intermittent stream just off-site to the west, which partially projects 100-foot Buffer Zone onto the subject parcel. This stream was determined to have no flow at least four days within a consecutive 12-month period through an evaluation conducted by GZA in 2015 and 2016, and documentation of these conditions is provided in the aforementioned report at Appendix D. Ameresco is seeking the Commission's confirmation of the BVW boundaries, and those portions of Buffer Zone from the off-site stream that project into the parcel.

84 Russell Street
Hadley, MA 01035
413.325.7372

Thank you for your attention to this ANRAD. Do contact me with any questions.

Sincerely,

David Cameron

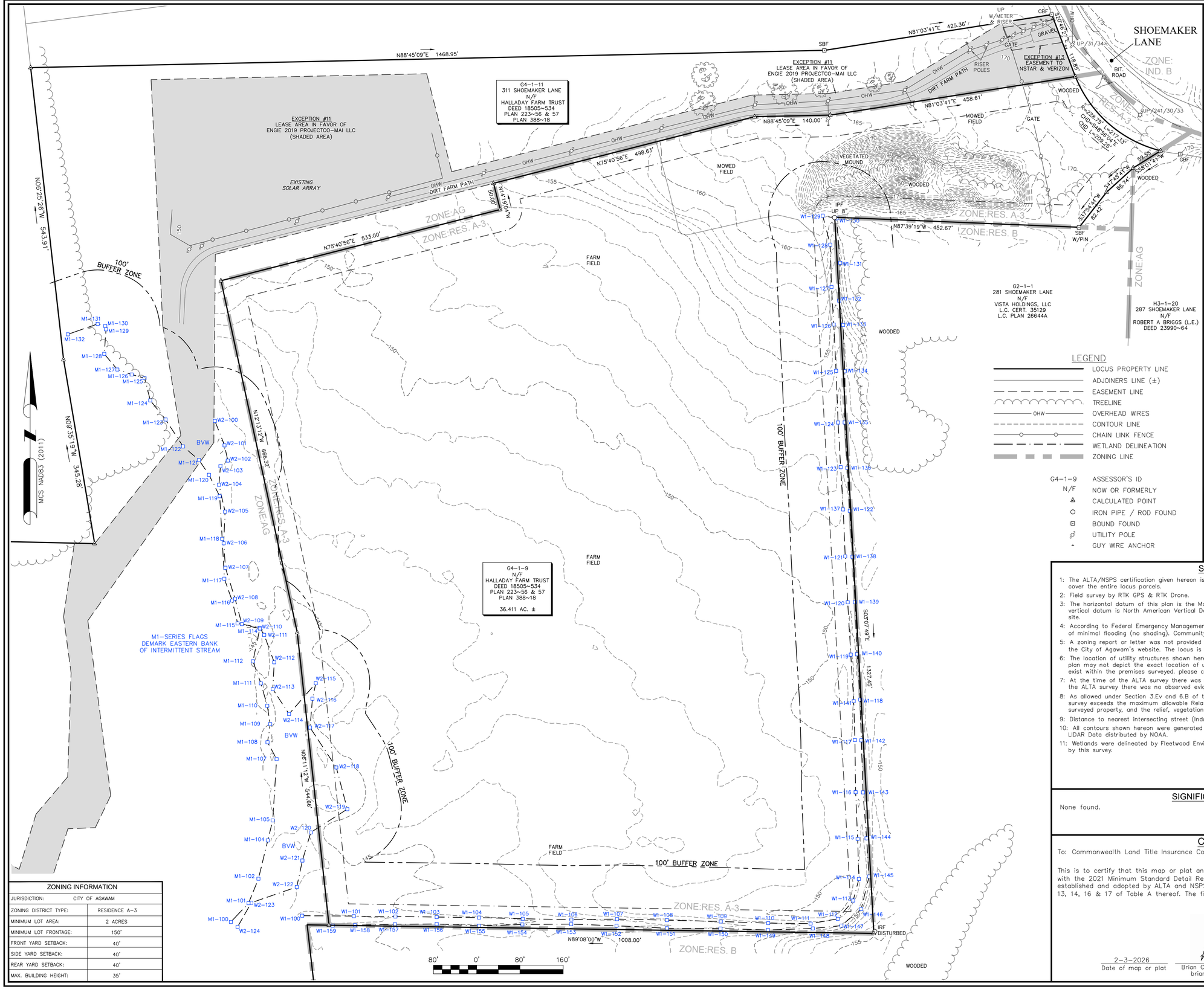
David Cameron, PWS, Principal
Fleetwood Environmental Solutions, LLC

Copy: Nikki Pollis, Ameresco, Inc.
MassDEP, WERO

84 Russell Street
Hadley, MA 01035
413.325.7372

APPENDIX B

Site Plan



LEGEND

- LOCUS PROPERTY LINE
- ADJOINERS LINE (±)
- EASEMENT LINE
- TREELINE
- OHW — OVERHEAD WIRES
- CONTOUR LINE
- CHAIN LINK FENCE
- WETLAND DELINEATION
- ZONING LINE

- G4-1-9 — ASSESSOR'S ID
- N/F — NOW OR FORMERLY
- CALCULATED POINT
- IRON PIPE / ROD FOUND
- BOUND FOUND
- UTILITY POLE
- GUY WIRE ANCHOR

ZONING INFORMATION

JURISDICTION:	CITY OF AGAWAM
ZONING DISTRICT TYPE:	RESIDENCE A-3
MINIMUM LOT AREA:	2 ACRES
MINIMUM LOT FRONTAGE:	150'
FRONT YARD SETBACK:	40'
SIDE YARD SETBACK:	40'
REAR YARD SETBACK:	40'
MAX. BUILDING HEIGHT:	35'

TITLE EXCEPTIONS:

The following exceptions were taken from a title commitment prepared by Commonwealth Land Title Insurance Company, file #BOS-250073-MS, commitment date 2/20/2025.

1. Rights or claims of persons in possession. **(not a survey matter)**
2. Easements or claims of easements not shown by the public records, boundary-line disputes, overlaps, encroachments, title to filled lands (if any) and any matters not of record which would be disclosed by an accurate survey and inspection of the premises. **(see Significant Observations for any such matters disclosed by this survey)**
3. Any lien, or right to a lien, for services, labor or material, heretofore or hereafter furnished, imposed by law and not shown by the public records. **(not a survey matter)**
4. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I-Requirements are met. **(not a survey matter)**
5. Liens for taxes and municipal charges which become due and payable subsequent to the date of said policy. **(not a survey matter)**
6. Order of Conditions by the Agawam Conservation Commission, recorded in Book 7605, Page 74; as affected by a Certificate of Compliance, recorded in Book 7863, Page 324. **(not a survey matter; pertains to locus)**
7. Order of Conditions by the Agawam Conservation Commission, recorded in Book 4850, Page 241; as affected by a Certificate of Compliance, recorded in Book 9155, Page 489. **(not a survey matter; non-locus)**
8. Consent Agreement by and between Zielinski Brothers II and Tennessee Gas Pipeline Company, dated December 23, 1997, recorded in Book 10563, Page 447. **(non-locus; not plotted)**
9. Order of Conditions by the Agawam Conservation Commission, recorded in Book 22315, Page 489; as affected by a Certificate of Compliance, recorded in Book 24050, Page 101. **(not a survey matter; pertains to locus)**
10. Solar Real Estate Lease Option Agreement, dated June 19, 2017, recorded in Book 22570, Page 231; as affected by Landowner Estoppel Certificate, dated December 18, 2018, recorded in Book 22570, Page 260; as further affected by Assignment and Assumption of Option to Lease, dated March 7, 2019, recorded in Book 22579, Page 157; as further affected by Assignment and Assumption of Option to Lease, dated June 3, 2019, recorded in Book 22713, Page 253. **(said option was exercised in #11 below)**
11. Notice of Lease by and between Timothy Zielinski, as Trustee of the Halladay Farm Trust, and ENGIE 2019 ProjectCo.-MA1 LLC, a Delaware limited liability company, dated November 12, 2019, recorded in Book 22981, Page 275; as affected by Amended and Restated Notice of Lease, dated February 21, 2020, recorded in Book 23129, Page 281. **(plotted)**
12. Temporary Construction Staging Easement Agreement, dated November 26, 2019, recorded in Book 23030, Page 228; as affected by First Amendment to Temporary Construction Staging Easement, dated January 23, 2020, recorded in Book 23080, Page 199. **(said easement once impacted the locus parcel, but is not plotted because it has expired)**
13. Easement to NStar Electric Company d/b/a Eversource Energy and Verizon New England, Inc., dated February 27, 2020, recorded in Book 23140, Page 193. **(plotted)**

SURVEY NOTES:

1: The ALTA/NSPS certification given hereon is for the proposed solar facility and access only and does not cover the entire locus parcels.
2: Field survey by RTK GPS & RTK Drone.
3: The horizontal datum of this plan is the Massachusetts Coordinate System North American Datum 1983, the vertical datum is North American Vertical Datum 1988, both are based on RTK GPS observations taken on site.
4: According to Federal Emergency Management Agency maps, the majority of the property is in Zone X, areas of minimal flooding (no shading). Community-panel number 25013C 0392 E, effective date 7/16/2013.
5: A zoning report or letter was not provided to the surveyor. All zoning information given hereon is taken from the City of Agawam's website. The locus is located in the "Residence A-3" zoning district.
6: The location of utility structures shown hereon are from observed field evidence & record plans only, this plan may not depict the exact location of underground utilities & does not show all of the utilities which exist within the premises surveyed. please contact dig-safe at 1-888-344-7233 before excavation.
7: At the time of the ALTA survey there was no observed evidence of active earth moving work. At the time of the ALTA survey there was no observed evidence of building construction or building additions.
8: As allowed under Section 3.Ev and 6.B of the 2021 ALTA/NSPS Minimum Standard Detail Requirements, this survey exceeds the maximum allowable Relative Positional Precision due to the size and configuration of the surveyed property, and the relief, vegetation and improvements on the surveyed property.
9: Distance to nearest intersecting street (Industrial Lane) is 1,450'±.
10: All contours shown hereon were generated in ArcMap from digital elevation models of the 2015 QL1 & QL2 LiDAR Data distributed by NOAA.
11: Wetlands were delineated by Fleetwood Environmental Solutions, LLC in September 2025. Flags were located by this survey.

SIGNIFICANT OBSERVATIONS:

None found.

CERTIFICATION:

To: Commonwealth Land Title Insurance Company

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2021 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 2, 3, 4, 5, 6a, 6b, 7a, 7b1, 8, 11a, 13, 14, 16 & 17 of Table A thereof. The fieldwork was completed on 10/14/2025.

2-3-2026
Date of map or plat

Brian C. Franetovich PLS #54258
brian@northeastsurvey.com

COMMONWEALTH OF MASSACHUSETTS
BRIAN C. FRANETOVICH NO. 54258
REGISTERED PROFESSIONAL LAND SURVEYOR

NORTHEAST SURVEY CONSULTANTS
3 FERRY STREET
STUDIO 1 EAST
EASTHAMPTON, MA 01027
(413) 203-5144

EXISTING CONDITIONS

SURVEYOR:	BCF	ENGINEER:	-
DRAFTING:	BCF	DESIGN:	-
FIELD WORK:	NAE	HORZ. SCALE:	1" = 80'
PROJECT NUMBER:	25-161	VERT. SCALE:	-
DRAWING NAME:	25-161 ALTA.DWG	DATE:	2-3-2026

ALTA/NSPS LAND TITLE SURVEY
OF LAND IN AGAWAM, MA
SHOEMAKER LANE
PREPARED FOR
WESTON & SAMPSON ENGINEERS, INC.

SHEET NO. 1 OF 1

APPENDIX C

Wetland Delineation Report

Natural Resources Evaluation and Wetland Determination Report

for

311 Shoemaker Lane
Agawam, Massachusetts

October 25, 2025

Prepared for:

Ameresco
20 Winthrop Square
Boston, MA 02110

Prepared by:

fleetwood
ENVIRONMENTAL SOLUTIONS
84 Russell Street
Hadley, MA 01035
413.325.7372
www.fleetwoodenv.com

1.0 INTRODUCTION AND BACKGROUND

Per Ameresco's request, Fleetwood Environmental Solutions, LLC ("Fleetwood") conducted a natural resources-based evaluation for a parcel of land at 311 Shoemaker Lane in Agawam, Massachusetts, identified by MassMapper as property G4_1_9 per MassMapper (screenshot below, with parcel centered):



This property (the "Site", "parcel" or "property") is 36.4 acres in size. Ameresco is assessing the feasibility of a developing commercial solar array project at the Site, which is currently in agricultural use. The assessment was intended to provide detail regarding jurisdictional wetland determinations conducted by Fleetwood and the wetlands permitting implications for development at the Site.

2.0 REVIEW METHODS

2.1 *Desktop Analysis*

Fleetwood initially conducted a desktop investigation for the Site. The following project file was provided by Ameresco for Fleetwood's use:

- Conceptual design plan (Sheet E-100), prepared by Ameresco and dated May 9, 2024 (Appendix A).

Fleetwood additionally consulted historic and contemporary aerial imagery and resource maps depicting topography, elevation, land use, wetlands, floodplains, hydrologic connections, linear [hydrographic] features soils, Estimated Habitats of Rare Wildlife ("EH"), Priority Habitats of Rare Species ("PH"), Certified Vernal Pools ("CVPs"), Potential Vernal Pools ("PVP"), Areas of Critical Environmental Concern ("ACECs"), Outstanding Resource Waters ("ORWs"), Coldwater Fisheries Resources ("CFRs"), and the U.S. Geological Survey's ("USGS") StreamStats Program, as part of the desktop exercise.

2.2 Field-Based Analysis

Field evaluations were conducted by Fleetwood on September 12, 2025; September 26, 2025; and October 21, 2025. These evaluations initially entailed a meander survey to search for Resource Areas regulated under the Massachusetts Wetlands Protection Act ("WPA") and its implementing regulations (310 CMR 10.00), followed by the placement of survey flags along jurisdictional wetland features discovered on and immediately adjacent to the parcel. The requisite state and federal criteria were followed in order to delineate jurisdictional features, including plant communities, soils, and indicators of hydrology. Approximately 45 acres ("Study Area") were visually inspected during the field survey.

3.0 FINDINGS

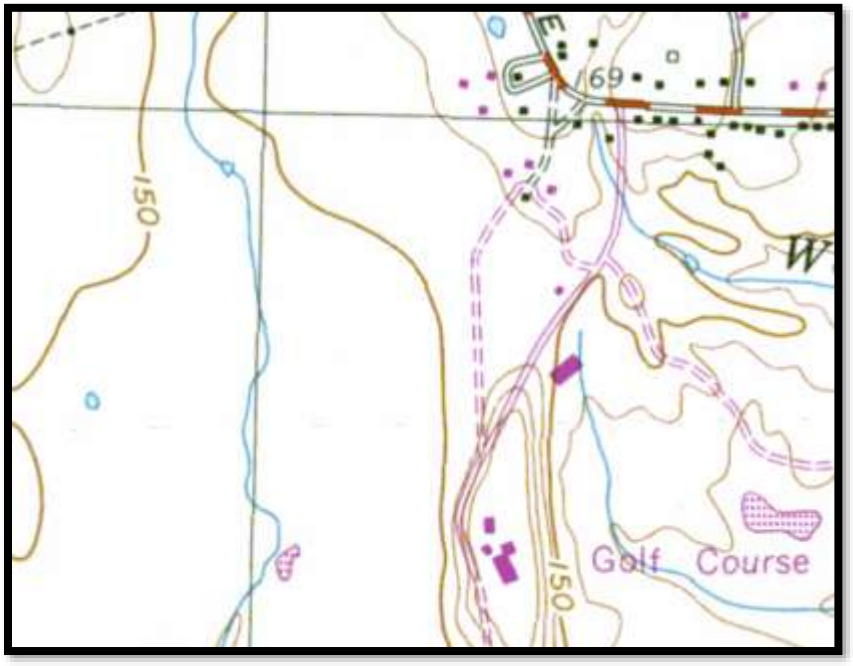
3.1 *General*

According to MassMapper data the Site is comprised of one parcel totaling 36.4 acres and is owned by Timothy Zielinski. Mr. Zielinski also owns the parcel to the immediate west. The Site consists of a large agricultural field, which was serving as an active corn crop during the time of the field evaluation.

3.2 *Historic and Contemporary Aerial Imagery, Topography, Elevation, and Land Use*

Elevation at this property is relatively homogenous, and ranges from 44-46 meters (~144-151) feet, with elevation gains occurring mainly from southwest to northeast. Based upon review of historic aerial images and maps, as well as anecdotal information provided by the property owner, the Site has been in substantially the same state (i.e., agricultural land) for at least several decades.

Current USGS topographic maps depict one stream very close to the western boundary of the Site, originating from the northwest and flowing off-site toward the south, ultimately discharging to Philo Brook. An image is provided below depicting an asterisk near the center of the subject parcel.

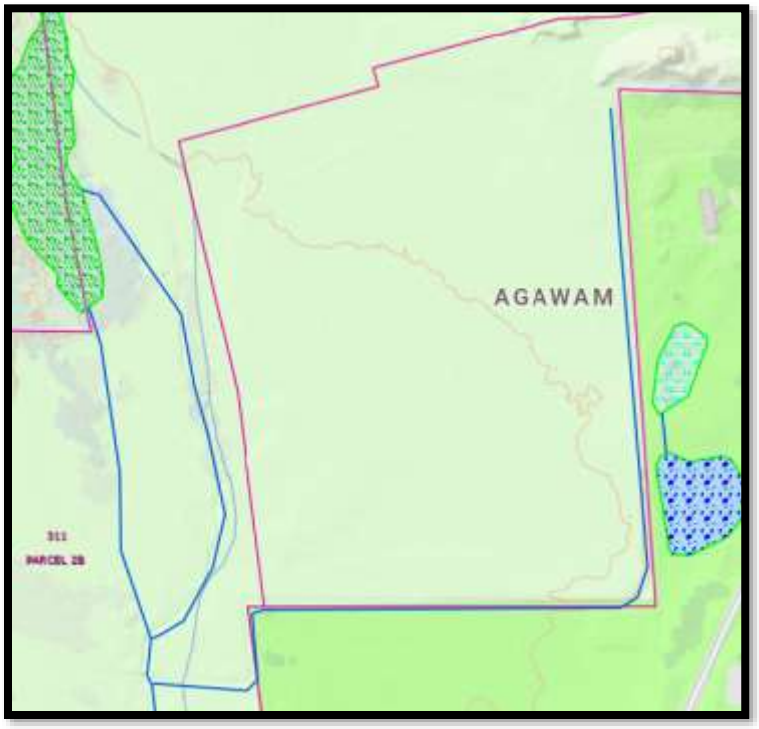


3.3 *Wetlands and Hydrologic Connections*

According to MassMapper's "DEP Wetlands" data layer the Study Area contains two wetland features:

- A hydrologic connection [stream] that wraps the property's eastern and southern boundaries; and
- Another stream along the property's western boundary

These features are depicted in the image below:



MassMapper does not indicate any polygons of "Wetlands Change" or "2005 Human Altered Areas" that have been detected on the Site, meaning no illicit alterations of wetlands have been detected by state regulatory agencies via remote sensing.

Based on Fleetwood's on-site investigations, the following additional information was obtained:

- The wetland features identified by USGS mapping and MassMapper exist and are located generally consistent with said mapping;
- The stream depicted by MassMapper along the eastern and southern property boundaries is a made-made drainage swale that is maintained as mowed herbaceous plants along its channel bottom and embankments. Given it is primarily a long, linear vegetated feature with no scoured channel bottom, it would be best characterized as a linear Bordering Vegetated Wetland ("BVW"), given it discharges to the aforementioned stream near the property's southwestern corner. This feature has an associated 100-foot Buffer Zone;
- An additional wetland along the western edge of the property was discovered, and is composed exclusively of herbaceous plant species, since it is within an active pasture. This wetland is hydrologically connected to the stream to the immediate west, and thus qualifies as a BVW, with an associated 100-foot Buffer Zone; and
- An isolated wetland near the northwestern corner of the parcel that was not flagged by Fleetwood.

The field-located and verified wetlands and streams were flagged accordingly:

- **Wetland 1**: BVW which is the grassy swale along the eastern and southern property boundaries (pink wire pin flags labeled W1-100 through W1-160);

- **Wetland 2**: BVW between the corn field and stream along the property's western boundary (pink tape flags affixed to fiberglass rods labeled W2-100 through W2-124); and
- **Stream**: the apparent Bank/mean annual high-water line ("MAHWL") along the eastern side of the stream was flagged with blue tape and blue wire pin flags labeled M1-100 through M1-132.

3.4 *Floodplain*

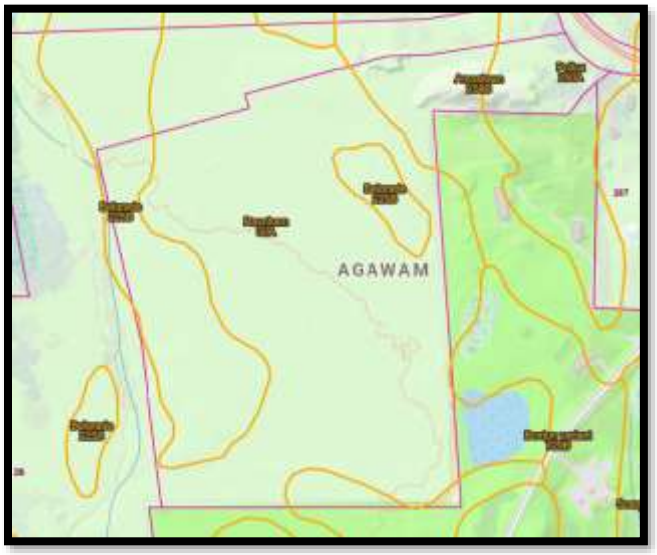
MassGIS does not depict any portion of the project footprint as encompassed by a 100-year [i.e., "Zone A"] floodplain. Neither does the corresponding Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), Panel (Appendix C). This means that none of the conceptual solar array would fall within Bordering Land Subject to Flooding ("BLSF")---a Resource Area regulated under the WPA, short of credible documentation being provided by the Agawam Conservation Commission ("Commission") or a third party.

3.5 *Soils*

Four distinct soil types are mapped on the portion of the Site which encompasses the anticipated solar array footprint, per the Natural Resources Conservation Service's Hampden County Soil Survey (Central Part) and MassMapper, as summarized in Table 3-1, and depicted in the image, below.

Table 3-1. Soil Types Mapped within the Vicinity of the Anticipated Proposed Solar Project Footprint

Map Symbol and Unit Name	Portion of Site	Slopes	Hydric?	Prime or Statewide Important Farmland?	Drainage Class
250A Pollux fine sandy loam	northeastern	0-3%	No	Yes	Well drained
258B Amostown fine sandy loam	northeastern	0-6%	No	Yes	Moderately well drained
225B Belgrade silt loam	western	0-8%	No	Yes	Moderately well drained
30A Raynham silt loam	majority of project site	0-3%	Yes	No	poorly drained



Fleetwood's opinion is that the soil survey mapping appears to match the conditions observed in the field, but for the fact that the Raynham soil unit did not display contemporary hydrology (surface water nor groundwater), and was comprised primarily of a healthy corn crop---an agricultural commodity that is generally stunted when growing in wetlands at the margins of corn fields. This may be the result of the significant drainage that has occurred at the property due to the grassy swale.

3.6 *Estimated Habitats of Rare Wildlife*

According to MassGIS there is no EH on the Site.

3.7 *Priority Habitats of Rare Species*

According to MassGIS there is no PH on the Site.

3.8 *Certified Vernal Pools*

According to MassGIS there are no CVPs on the Site.

3.9 *Potential Vernal Pools*

According to MassGIS there are no PVPs on the Site.

3.10 *Areas of Critical Environmental Concern*

According to MassGIS the Site is not within or encompassed by any ACECs.

3.11 *Outstanding Resource Waters*

According to MassGIS there are no ORWs on the Site.

3.12 *Coldwater Fisheries Resources*

According to MassGIS there are no CFRs on the Site.

3.13 *U.S. Geological Survey's StreamStats Program*

StreamStats was consulted to assess the contributing drainage area and percentage of underlying stratified drift soils associated with the stream along the property's western boundary. The StreamStats report for this watercourse is provided at Appendix D, and these data indicate the contributing watershed to the stream is 0.60 square mile with 55% underlying stratified drift. While there is a presumptive perennial status for this stream, a previous streamflow monitoring evaluation by others (GZA) documented at least four days within a consecutive, non-drought period whereupon the stream exhibited no flow. Thus, it does not have an associated 200-Foot Riverfront Area.

Representative Site photographs are provided at Appendix E.

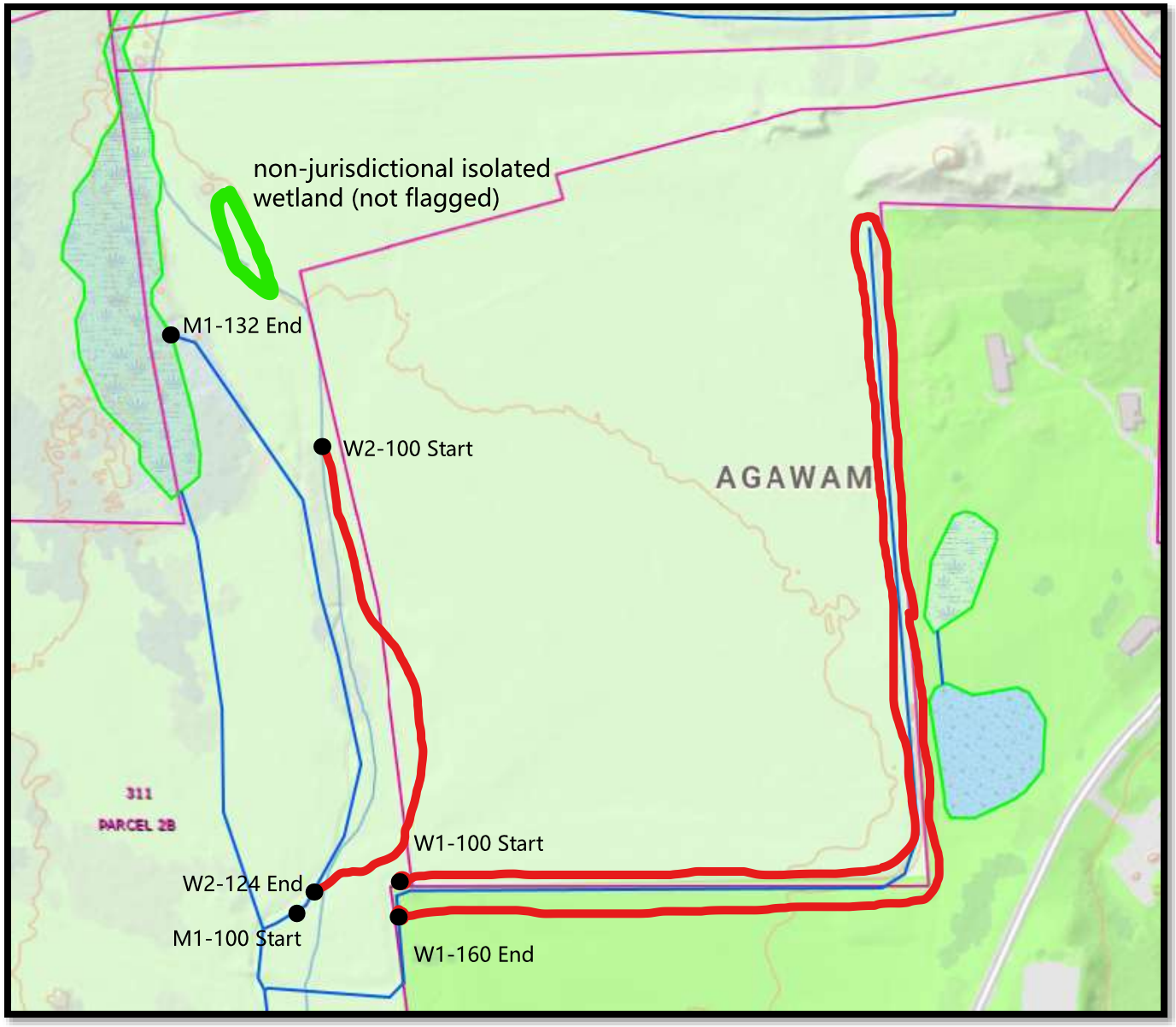
4.0 DISCUSSION AND RECOMMENDATIONS

It is important to note the hydric soil characterization over much of the site, despite it being able to sustain a robust corn crop. As previously discussed, Fleetwood did not flag the majority of this site as a wetland, given: 1) the lack of such a characterization on MassMapper by DEP; 2) the grass swale (Wetland 1) that was constructed to provide significant drainage of the farm field; and 3) anecdotal information from the property owner indicating a significant soils and hydrology investigation was conducted by the Agawam Conservation Commission in the past ruling out the field is a wetland.

APPENDIX B

Wetland Delineation Sketch

Approximate location of wetland flags placed at 311 Shoemaker Lane by Fleetwood Environmental Solutions, LLC - September 2025



W1 Flags = pink wire pin flags on either side of grassy swale [BVW] that are labeled "WETLAND DELINEATION"

W2 Flags = pink tape flags affixed to fiberglass driveway edge stakes that are labeled "WETLAND BOUNDARY" that demarcate the eastern edge of a Bordering Vegetated Wetland ("BVW")

M1 flags = blue wire pin and tape flags that demarcate the eastern mean annual high-water line of an unnamed tributary to Philo Brook

APPENDIX C

Flood Insurance Rate Map

National Flood Hazard Layer FIRMette

FEMA

72°39'28"W 42°2'52"N



72°38'51"W 42°2'25"N

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

1:6,000

Basemap Imagery Source: USGS National Map 2023

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 10/24/2025 at 8:34 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.

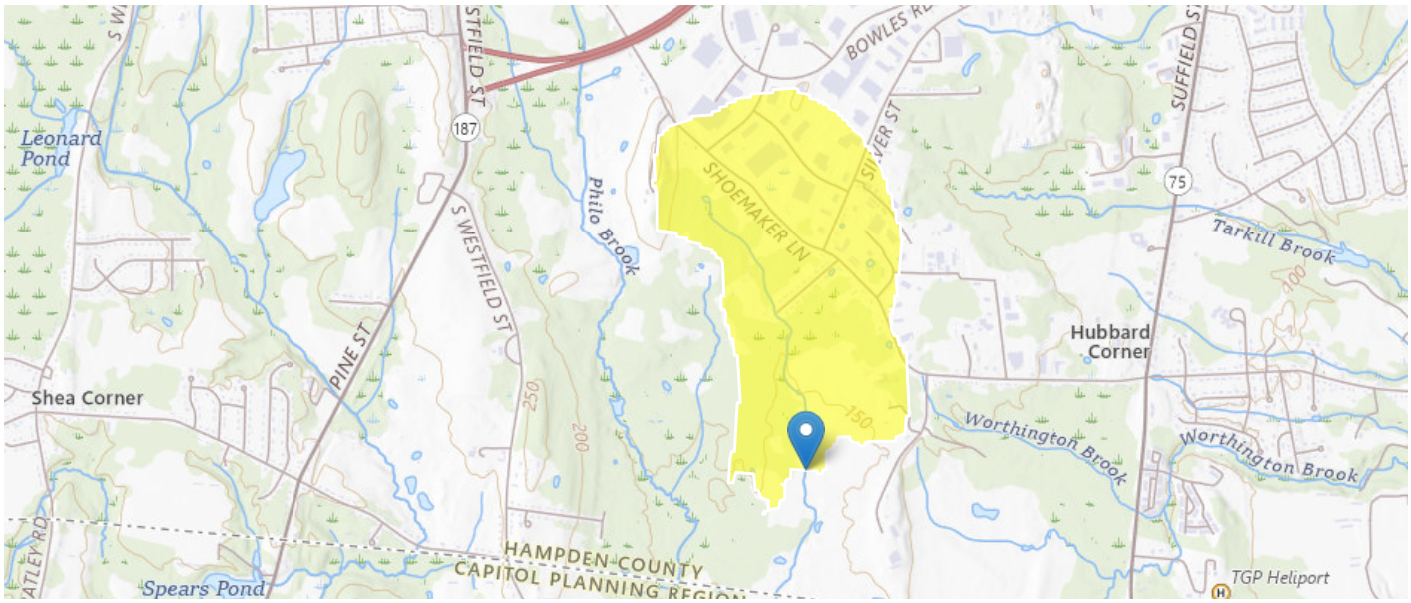
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory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

APPENDIX D

USGS StreamStats Report

StreamStats Report

Region ID: MA
Workspace ID: MA20250929141929673000
Clicked Point (Latitude, Longitude): 42.03902, -72.65579
Time: 2025-09-29 10:19:51 -0400



Collapse All

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.6	square miles
PCTSNDGRV	Percentage of land surface underlain by sand and gravel deposits	54.65	percent

USGS Data Disclaimer: Unless otherwise stated, all data, metadata and related materials are considered to satisfy the quality standards relative to the purpose for which the data were collected. Although these data and associated metadata have been reviewed for accuracy and completeness and approved for release by the U.S. Geological Survey (USGS), no warranty expressed or implied is made regarding the display or utility of the data for other purposes, nor on all computer systems, nor shall the act of distribution constitute any such warranty.

USGS Software Disclaimer: This software has been approved for release by the U.S. Geological Survey (USGS). Although the software has been subjected to rigorous review, the USGS reserves the right to update the software as needed pursuant to further analysis and review. No warranty, expressed or implied, is made by the USGS or the U.S. Government as to the functionality of the software and related material nor shall the fact of release constitute any such warranty. Furthermore, the software is released on condition that neither the USGS nor the U.S. Government shall be held liable for any damages resulting from its authorized or unauthorized use.

USGS Product Names Disclaimer: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Application Version: 4.29.3
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

APPENDIX E

Site Photographs from September 26, 2025



Representtaive view of property---view southeast



Wetland 1 (farm ditch) at eastern edge of Site---view south



Wetland 1 (farm ditch) at southern edge of Site---view west



Stream near where it enters the property toward northwestern corner of Site---view west



Isolated wetland (not flagged) toward northwestern corner of Site---view north



Stream along the parcel's western property boundary---view downstream/southwest



Wetland 2 along the edge of cornfield near Site's western property boundary---view north



Wetland 2 near southwestern corner of property---view north

APPENDIX D

GZA Streamflow Monitoring Report



Proactive by Design

GEOTECHNICAL
ENVIRONMENTAL
ECOLOGICAL
WATER
CONSTRUCTION MANAGEMENT

1350 Main Street
Suite 1400
Springfield, MA 01103
413.726.2100
www.gza.com

5/31/2017

GZA File No.: 15.0166503.00

Note: annotations in red were made by Fleetwood Environmental Solutions, LLC upon confirmation of typos/errors in the original report upon discussion with the field scientist (Steven Riberdy) that conducted the evaluation.

Tim Zielinski
218 Shoemaker Lane
Agawam, MA 01001

Re: Shoemaker Lane-Intermittent Stream Monitoring 2014-2016

Dear Tim:

This letter report documents our on-site observations of the stream on your Shoemaker Lane property (see Figure 1) in order to document no-flow conditions in support of overturning the DEP map-based presumption of perennial status. The site was visited 5 occasions between August 2014 and July 2016 (8/15/14, 9/8/15, 9/9/15, 9/10/15, and 7/7/16). Figure 1 also depicts the location of stream monitoring stations that were visited during this timeframe. Photos of each station by date are included in this report.

(This was intended to say "within a consecutive 12-month period" vs. "calendar year.")

In summation, during the course of our site survey the stream was observed completely dry on three consecutive days between 9/8/15 and 9/~~10~~10/15 as well as a fourth date within the same calendar year on 7/7/16. Low flow was observed on our first observation in August 2014. The site was also visited on other occasions between 8/2014 and 7/2016 when some steam flow was observed. In general the upper potions of the stream (up-gradient of Station 6) were observed dry on other dates however the lower sections were observed wet and flowing, albeit in diminished capacity. There is a change in soil type between stations 5 and 7 where sandy soils of the upper stream reach transitions to glacio-lacustrine soils and hold water longer and contribute base-flow for longer in the year.

If you have any questions or concerns, please contact our office at your convenience.

Very truly yours,

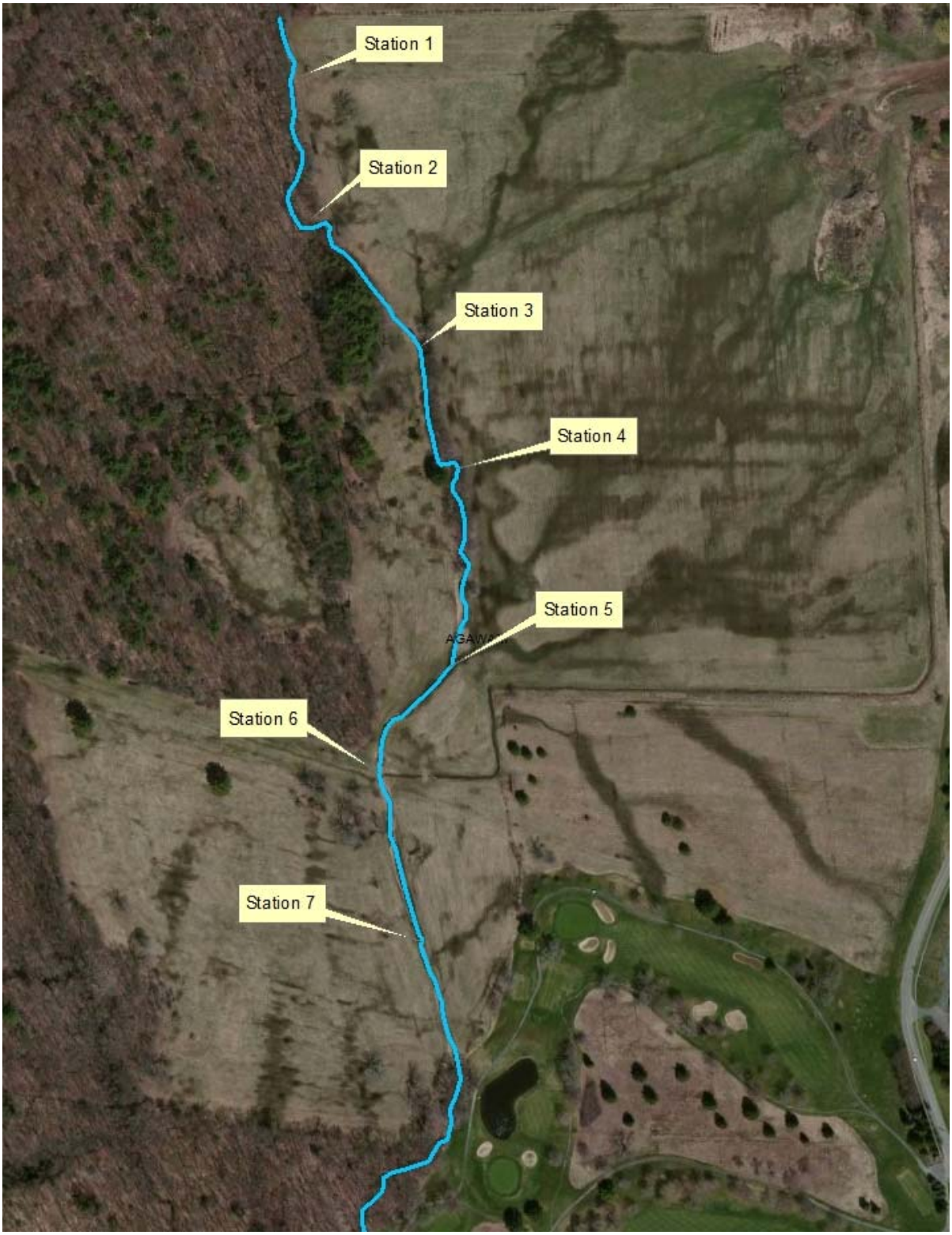
GZA, Inc.

Steven D. Riberdy, MS, PWS, CWB, CE
Senior Ecologist

Attached: Figure 1: Stream Monitoring Stations

Site Photos

Proactive by Design



SITE PHOTOS



8/15/14 Station 1: Wet



8/15/14 Station 2: Wet

SITE PHOTOS



8/15/14 Station 3: Wet



8/15/14 Station 4: Wet

SITE PHOTOS



8/15/14 Station 6: Wet



8/15/14 Station 7 downstream: wet

SITE PHOTOS



8/15/14 Station 7 Upstream: Wet



9/8/15 Station 1: Dry

SITE PHOTOS



9/8/15 Station 2: Dry



9/8/15 Station 2: Dry

SITE PHOTOS



9/8/15 Station 3 Upstream: Dry



9/8/15 Station 3 Downstream: Dry

SITE PHOTOS



9/8/15 Station 4: Dry



9/8/15 Station 4: Dry

SITE PHOTOS



9/8/15 Station 5: Dry



9/8/15 Station 5: Dry

SITE PHOTOS



9/8/15 Station 6: Dry



9/8/15 Station 7: Dry

SITE PHOTOS



9/9/17 Station 1: Dry (caption should be 9/9/15)



9/9/17 Station 2: Dry (caption should be 9/10/15)

SITE PHOTOS



9/9/17 Station 3: Dry (caption should be 9/9/15)



9/9/17 Station 3: Dry (caption should be 9/9/15)

SITE PHOTOS



9/9/17 Station 4: Dry (caption should be 9/9/15)



9/9/17 Station 4: Dry (caption should be 9/9/15)

SITE PHOTOS



9/9/17 Station 5: Dry (caption should be 9/9/15)



9/9/17 Station 6: Dry (caption should be 9/9/15)

SITE PHOTOS



9/10/16 Station 1: Dry (caption should be 9/10/15)



9/10/16 Station 2: Dry (caption should be 9/10/15)

SITE PHOTOS



9/10/16 Station 2: Dry (caption should be 9/10/15)



9/10/16 Station 2: Dry (caption should be 9/10/15)

SITE PHOTOS



9/10/16 Station 3: Dry (caption should be 9/10/15)



9/10/16 Station 3: Dry (caption should be 9/10/15)

SITE PHOTOS



9/10/16 Station 4: Dry (caption should be 9/10/15)



9/10/16 Station 4: Dry (caption should be 9/10/15)

SITE PHOTOS



9/10/16 Station 5: Dry (caption should be 9/10/15)



9/10/16 Station 5: Dry (caption should be 9/10/15)

SITE PHOTOS



9/10/16 Station 6: Dry (caption should be 9/10/15)



9/10/16 Station 7: Dry (caption should be 9/10/15)

SITE PHOTOS



9/10/16 Station 7: Dry



7/7/16 Station 1: Dry

SITE PHOTOS



7/7/16 Station 2: Dry



7/7/16 Station 2: Dry

SITE PHOTOS



7/7/16 Station 3: Dry



7/7/16 Station 4: Dry

SITE PHOTOS



7/7/16 Station 5: Dry



7/7/16 Station 5: Dry

SITE PHOTOS



7/7/16 Station 6: Dry



7/7/16 Station 7: Dry

APPENDIX E

Certified Abutters List and Abutter Notification

Town of Agawam

Assessor's Office

36 Main St, Agawam, MA 01001-1837
Tel: 413-786-0400 x 8701 Fax: 413-726-2828
Email: assessor@agawam.ma.us

CERTIFIED LIST OF ABUTTERS

SUBJECT PROPERTY MAP, BLOCK + LOT	LOCATION OF SUBJECT PROPERTY	OWNERS AND MAILING ADDRESS
G4-01-0009	311 Shoemaker Ln.	Timothy Zielenski Tr Halladay Farm Trust 85026 Barsonage Ct. Fernandina Beach, FL 32034

PLEASE SEE ATTACHED LIST OF ABUTTERS

Per the Assessors records I certify that the attached lists of persons are the abutters of record for the subject properties within 100 feet of the outer perimeter.

To the best of our knowledge, this list represents the most current owners of the properties. The accuracy of this listing is based solely on the information currently available in our database.

**Please note that this parcel borders another community. Some of the abutters are not located in Agawam, and are not listed in the enclosed report. You will need to contact the bordering community for any additional abutter information required.*

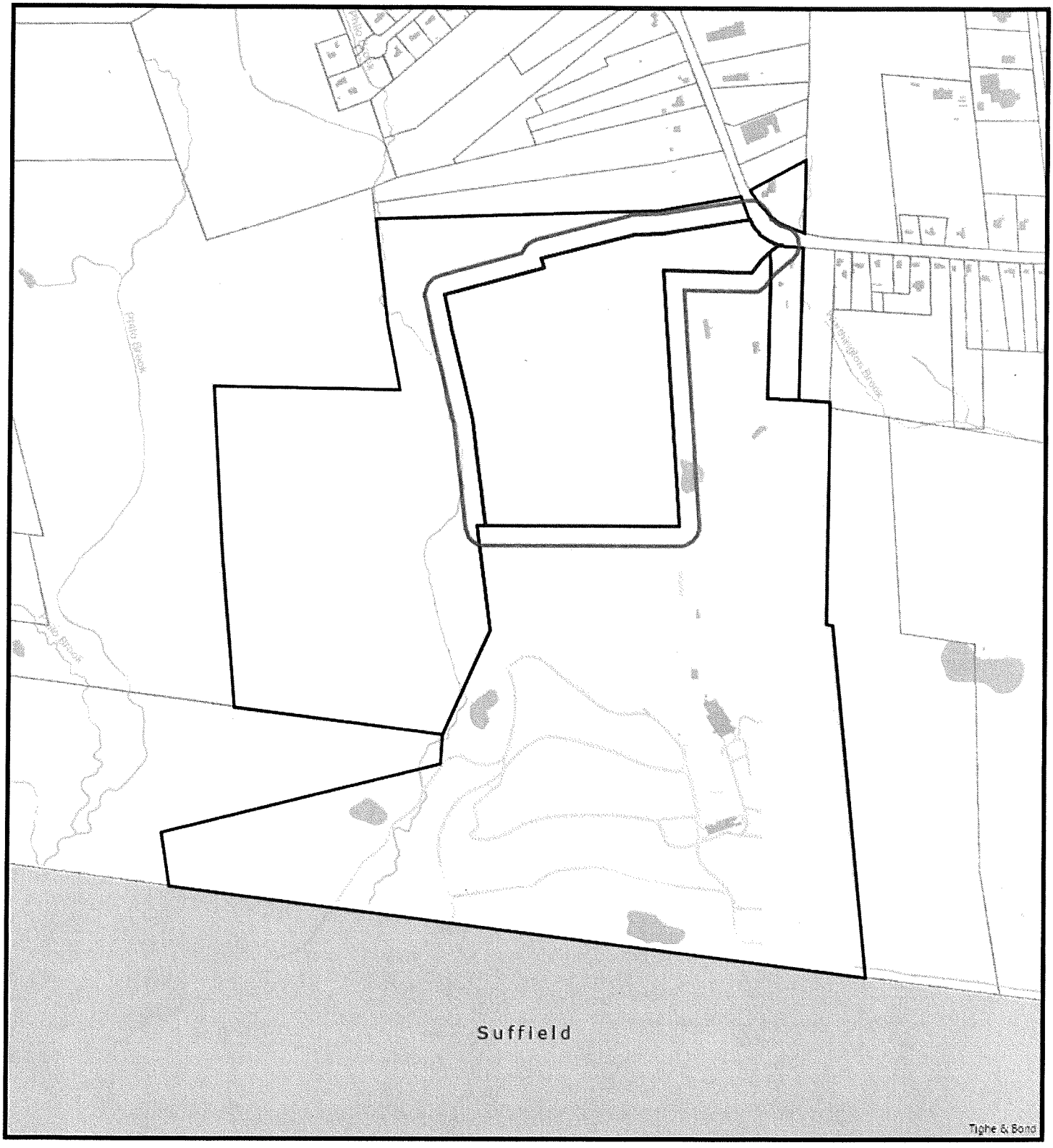
Kelly McCormick
Kelly McCormick, MAA
Agawam Assessor

2/9/24
Date

311 SHOEMAKER LN

100'

Parcel ID	Address	Owner	Owner 2	Owner Address	City	State	Zip
H3 1 20	287 SHOEMAKER LN	BRIGGS ROBERT A L/E		287 SHOEMAKER LN	AGAWAM	MA	01001
H4 2 15	318 SHOEMAKER LN	SMUS PETER J		318 SHOEMAKER LN	AGAWAM	MA	01001
G2 1 1	281 SHOEMAKER LN	VISTA HOLDINGS LLC		281 SHOEMAKER LN	AGAWAM	MA	01001
G4 1 11	PARCEL 2B SHOEMAKER LN	ZIELINSKI TIMOTHY TR	HALLADAY FARM TRUS	85026 BARSONAGE CT	FERNANDINA BEACH	FL	32034



311 SHOEMAKER LN 100'

2/3/2026 10:15:47 AM

Scale: 1"=700'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.

Notification to Abutters
Under the Massachusetts Wetlands Protection Act

This is a notification required by law. You are receiving this notification because you have been identified as the owner of land abutting another parcel of land for which certain activities are proposed. Those activities require a permit under the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40).

In accordance with the second paragraph of the Massachusetts Wetlands Protection Act, and 310 CMR 10.05(4)(a) of the Wetlands Regulations, you are hereby notified that:

A. An Abbreviated Notice of Resource Area Delineation ("ANRAD") was filed with the Agawam Conservation Commission on February 24, 2026 seeking confirmation of the boundaries of areas subject to protection under M.G.L. c. 131 §40.). The work proposed is:

No work proposed at this time.

B. The name of the applicant is: Ameresco, Inc.

C. The address of the land where the activity is proposed is: 311 Shoemaker Lane.

D. Copies of the ANRAD may be examined at the Public Works Municipal Annex, 1000 Suffield Street, between the hours of 9:00 a.m. and 3:00 p.m., Monday – Friday, and online at: www.agawam.ma.us/169/Conservation-Commission (see "Pending Applications").

E. Copies of the ANRAD may be obtained from the applicant's representative (Fleetwood Environmental Solutions, LLC) by calling 413.325.7372. An administrative fee may be applied for providing copies of the ANRAD and plans.

F. Information regarding the date, time, and place of the public hearing may be obtained by calling the Conservation Officer at 413.786.0400 x. 8245. Conservation Commission agendas are also posted at: www.agawam.ma.us/169/Conservation-Commission

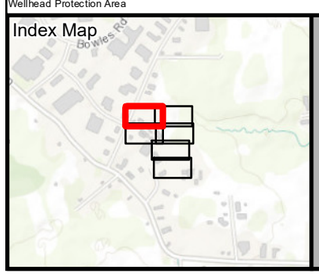
Notification provided pursuant to the above requirement does not automatically confer standing to the recipient to request Departmental Action for the underlying matter. See 310 CMR 10.05(7)(a)4.

DRAFT



Resource Areas Reviewed:
Areas of Critical Environmental Concern; Census 2000 Streams; Ch. 91 Tidelands Jurisdiction; Environment Justice Populations & Language Overlay; FEMA 100yr Floodplain; Hiking Trails; Interim Wellhead Protection Area; Landfills ([Not]Capped, [Un]Lined, [In]Active, Closed); MADEP Hydrologic Connections; MADEP Oil and/or Hazardous Material Sites with Activity and Use Limitations; MADEP Tier Classified Oil and/or Hazardous Material Sites (21E); MADEP Wetlands; MADFW Coldwater Fisheries Resources; MHC Inventory; NHD Hydrography; NHESP Certified & Potential Vernal Pools; NHESP Priority & Estimated Habitats; NRCS Hydric Soils; Open Space Article 97 Land; Outstanding Resource Water; Public Water Supply; Surface Water Protection Zone; USGS Wild & Scenic Rivers; Watershed Protection Act Zones; WsPA Affected Parcels; Zone II Wellhead Protection Area

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N

1 inch = 50 feet
0 25 50
Feet

*Indicates Layers Set to Transparency

AGAWAM ENERGY CENTER

Environmental Resources Map

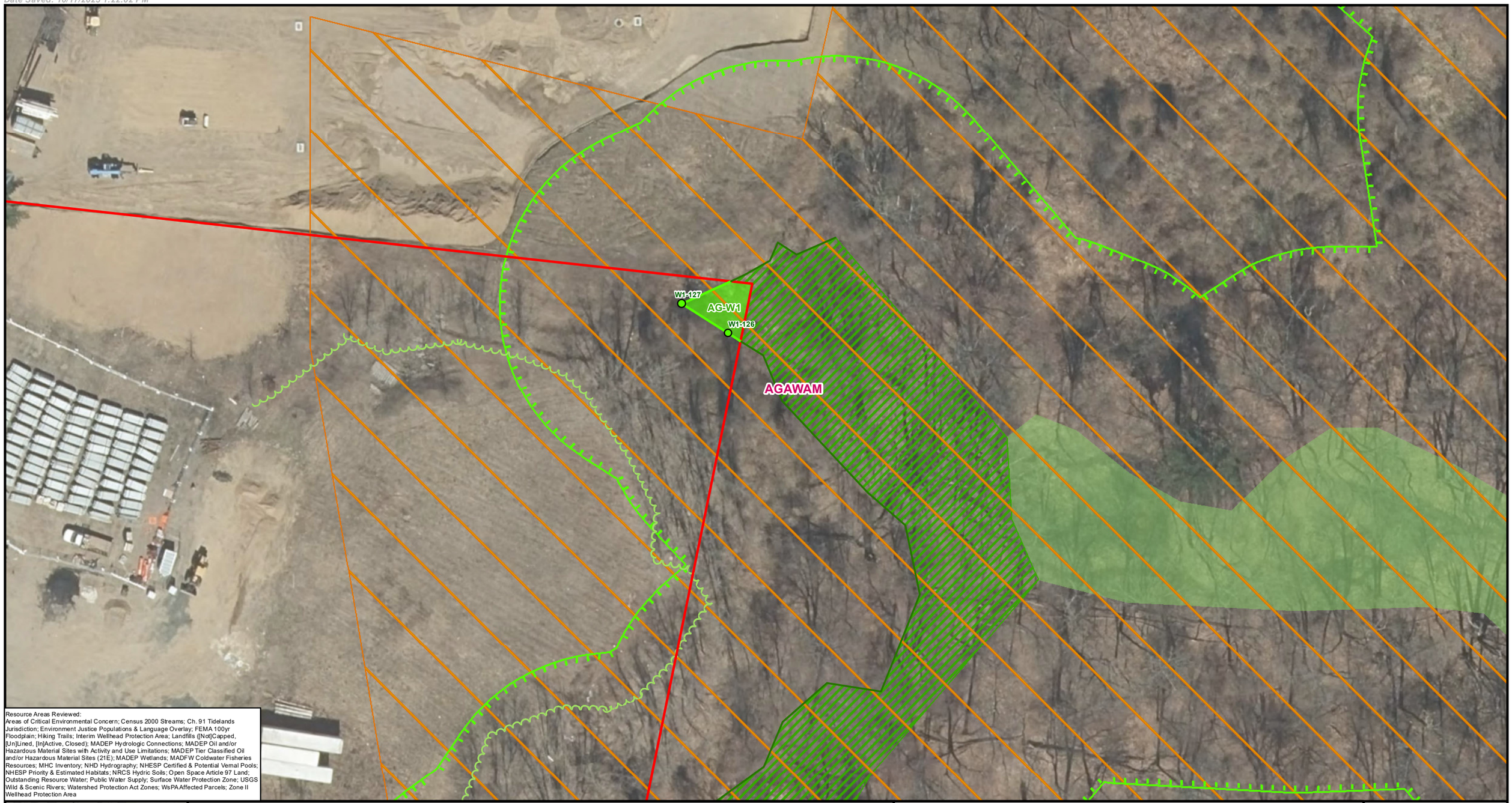
Agawam, MA
Page 1 of 6

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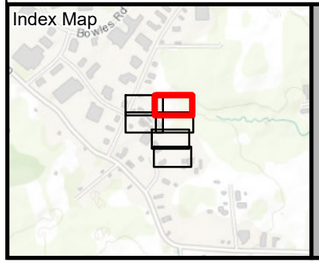
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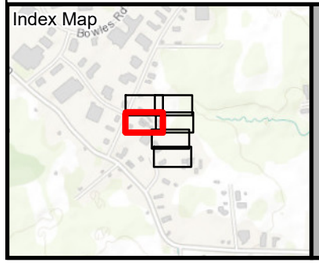
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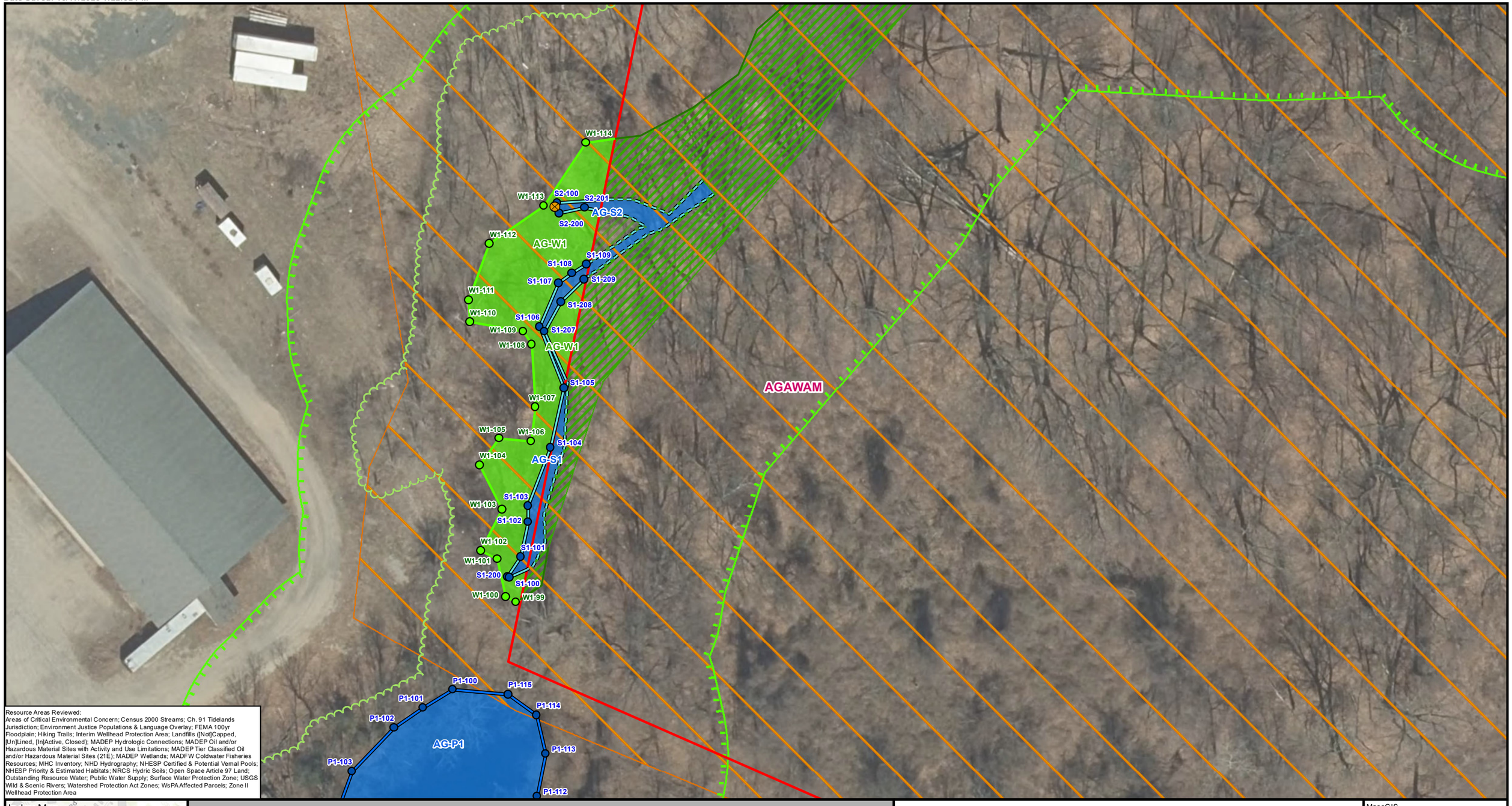
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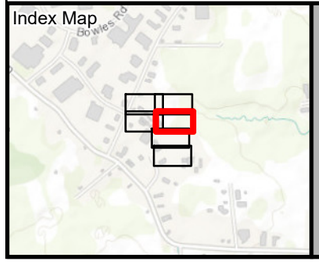
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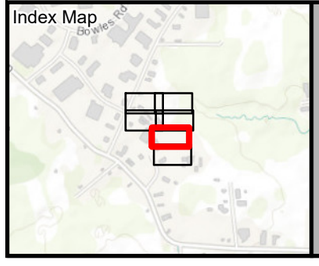
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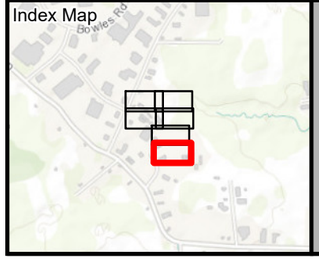
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Agawam, MA
Page 6 of 6

MassGIS
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

longroad ENERGY
BSC GROUP

THIS DOCUMENT IS INTENDED FOR GENERAL PLANNING & INFORMATION PURPOSES ONLY. ALL MEASUREMENTS & LOCATIONS ARE APPROXIMATE.

AUTHORIZATION TO PROCEED

Agawam Conservation Commission

Request for Determination of Applicability (RDA)
Agawam Energy Center Project
769 Silver Street
(Parcel ID: G6-2-6 3965)
Peer Review Proposal

I hereby authorize Stockman Associates LLC to proceed with the above-referenced project in accordance with the Scope of Services described herein.

Agawam Conservation Commission

Printed Name: Henry Kozloski	Date: 1/13/26
Signature: [signature]	Title: Chair

Town of Agawam
Conservation Commission

Conservation Commission
1000 Suffield Street
Agawam, MA 01001
Ph: 413-786-0400 ext. 8737
Fax: 413-786-9927

January 9, 2026

Agawam Energy Center LLC
c/o Michael Alvarez
125 High Street, Suite 1705
Boston, Ma 02110

Dear Mr. Alvarez:

At its duly called meeting held on January 8, 2026, the Agawam Conservation Commission voted to accept the Peer Review proposal submitted by Stockman Associates for the amount of $2,860.00 for a Request for Determination on property at 769 Silver Street. Review by Stockman Associates will not commence until this Peer Review fee is submitted to the Conservation Commission in its entirety. The Commission shall be responsible for expenditures.

Sincerely,

Henry A. Kozloski, Chairman
Agawam Conservation Commission

Cc: Melissa Kaplan – BSC Group
Town Clerk
File

Stockman Associates LLC

January 5, 2026

Mr. Henry Kozloski, Chair
Town of Agawam Conservation Commission
1000 Suffield Street
Agawam, MA 01001

Re: Request for Determination of Applicability (RDA)
Agawam Energy Center Project
769 Silver Street
(Parcel ID: G6-2-6 3965)
Peer Review Proposal

Dear Mr. Kozloski and Commissioners:

Foremost, thank you for considering Stockman Associates LLC. It is our understanding that the Agawam Conservation Commission is seeking an estimate for a wetland consultant peer review of the Request for Determination of Applicability (RDA) submitted by BSC Group, Inc. on behalf of their client, Agawam Energy Center, LLC, for the development of an approximately 250 megawatt (MW), 1,000 megawatt hour (MWh) battery energy storage system (BESS). Based on the WPA Form 1, the project will consist of battery containers, transformers, inverters, equipment pads, a substation, and associated infrastructure. The proposed BESS site will be accessed from Silver Street. The battery containers will be surrounded by a perimeter fence that will act as a physical, visual, and sound barrier. The subject property is approximately 17.2-acres.

It is our understanding that the Commission is requesting a field review in the spring of 2026 to confirm that the work will be conducted completely outside of all Areas Subject to Protection under M.G.L. c. 131, Section 40 listed in 310 CMR 10.02(1), as well as all buffer zones associated with Areas Subject to Protection. Please note that we are currently outside of the growing season. The field review depends on weather and site conditions that are suitable for data collection and delineation, as per state methodologies and the Town of Agawam Winter Conditions Wetland Delineation & Certificate of Compliance Policy. Field review during the winter months may be considered depending on future improvements to field conditions and agreement between the applicant and Conservation Commission.

Scope of Work

Field Work

Site Visit: to review the project site and confirm whether the boundaries of resource area(s) depicted on submitted RDA site plans are accurately delineated. Review of field work performed by BSC Group, Inc. and submitted under the November 25, 2025 RDA, including the review of the Bordering Vegetated Wetlands (BVW) and Inland Bank boundaries and data plots. It is anticipated that boundary delineation flagging will be clearly visible and labeled in the field. Any observation plots utilized by BSC Group, Inc. to evaluate soils, vegetation, and hydrology should also be clearly marked on a site plan and in the field for review.

Please note that the site plans submitted with the November 25, 2025 RDA lack the location and labels of individual delineation flags. To facilitate review, receipt of an updated site plan depicting individual delineation flags is requested prior to the site visit.

Furthermore, it is anticipated that a representative from BSC Group, Inc. as well as members of the Agawam Conservation Commission may be present during the site visit.

Estimated 1 Field Days

Materials Review

Request for Determination of Application (RDA) Review: including the review of the RDA WPA Form 1, accompanying narrative, the RDA site plans "*Longroad Energy Agawam Energy Center Agawam, MA*" (11 Sheets) prepared by BSC Group, Inc. and other supporting documents within the November 25, 2025 RDA submittal.

The review will be performed under the Massachusetts Wetlands Protect Act (MA WPA) regulations (310 CMR 10.00). It is our understanding that the Town of Agawam does not have a local wetland protection bylaw.

Reporting

Review Findings: including a findings report and recommendations based on the materials review and the site visit. The report will specifically address concurrence and non-concurrence with resource area boundaries as presented in the RDA prepared by BSC Group, Inc., and evaluate whether the proposed work is subject to the MA Wetlands Protection Act.

Meetings

Attendance: This scope includes attendance at one (1) Agawam public meeting.

Total Cost Estimate

Estimated Hours (including travel) 26 hours
$2,860

Please note that the above cost estimate has been provided based on the RDA submittal dated November 25, 2025. Any additional submittals, additional site visits, and/or public meetings would be considered extra work beyond the proposed scope. If additional review is required during the process, Stockman Associates LLC will provide a scope of work cost estimate for these services.

Hourly Rates (including travel):	Wetland Scientist $110/hour Field Technician $65/hour

This proposal is valid for 30 days. Our receipt of a signed copy of this proposal will serve to authorize Stockman Associates LLC to proceed with the work outlined above in our Scope of Services and on the attached General Contract Conditions.

Work will commence after receipt of a signed authorization to proceed and confirmation of funding. It is anticipated that work will begin with a materials review. Please note that given the current time of year and site conditions, the field review will be scheduled for spring 2026. The fieldwork will be scheduled upon coordination with the applicant and/or the applicant's

representative and the Conservation Commission. Field review during the winter months may be considered based on future improvements to field conditions and agreement between the applicant and Conservation Commission. Please note that aspects of the proposed timeline are subject to the scheduling and availability of others as well as site conditions and, therefore, may be subject to change.

I look forward to working with you on this project. Thank you for considering Stockman Associates LLC.

If you have any questions regarding the above estimate, please do not hesitate to contact me at emily@stockmanassociates.com or at 413-743-1372.

Sincerely,



Emily Stockman, M.S., P.W.S.
Senior Scientist/Principal
Stockman Associates LLC

AUTHORIZATION TO PROCEED

Agawam Conservation Commission

Request for Determination of Applicability (RDA)
Agawam Energy Center Project
769 Silver Street
(Parcel ID: G6-2-6 3965)
Peer Review Proposal

I hereby authorize Stockman Associates LLC to proceed with the above-referenced project in accordance with the Scope of Services described herein.

Agawam Conservation Commission

Printed Name	Date
Signature	Title

BSC GROUP
BUILD | SUPPORT | CONNECT

Engineers
Environmental Scientists
Software Developers
Landscape Architects
Planners
Surveyors

November 25, 2025

Town of Agawam
36 Main Street
Agawam, MA 01001
United States

RE: Request for Determination of Applicability, Agawam Energy Center
769 Silver Street, Agawam, MA

Dear Members of the Agawam Conservation Commission:

BSC Group, Inc. (BSC) is submitting this Request for Determination of Applicability (RDA) Application on behalf of the Agawam Energy Center, LLC (the Applicant) for the property located at 769 Silver Street (G6_2_6) and adjacent parcels (the Site).

Enclosed please find the complete RDA application and accompanying materials. If you have any questions or require additional information, please contact Melissa Kaplan at MKaplan@BSCGroup.com or Don Wardwell of Longroad Energy at donald.wardwell@longroadenergy.com.

Truly yours,
BSC GROUP, INC.

Melissa Kaplan, PWS
Licensing and Permitting Team Lead

cc: Don Wardwell, Longroad Energy

Enclosure

Request for Determination of Applicability
Agawam Energy Center Project

Town of Agawam
Conservation Commission
November 2025

Prepared for:
Longroad Energy
125 High Street
Boston, MA 02210

BSC Job #0101939.00

Prepared by:

BSC GROUP
BUILD | SUPPORT | CONNECT

180 Glastonbury Boulevard, Suite 305
Glastonbury, CT 06033

Table of Contents

Request for Determination of Applicability
Agawam Energy Center Project
November 2025

WPA Form 1

Attachment A	Figures
Attachment B	Narrative
Attachment C	MassDEP Data Forms and Site Photographs

BSC GROUP
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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Agawam
City/Town

WPA Form 1- Request for Determination of Applicability

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

A. General Information

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





1. Applicant:

Agawam Energy Center, LLC
Name

Michael.Alvarez@longroadenergy.com

125 High Street, Suite 1705
Mailing Address

Boston
City/Town

MA
State

02110
Zip Code

415.792.6071
Phone Number

Fax Number (if applicable)

2. Representative (if any):

BSC Group, Inc.
Firm

Melissa Kaplan
Contact Name

mkaplan@bscgroup.com
E-Mail Address

180 Glastonbury Boulevard, Suite 305
Mailing Address

Glastonbury
City/Town

CT
State

06033
Zip Code

617-896-4517
Phone Number

Fax Number (if applicable)

B. Determinations

1. I request the Agawam Conservation Commission make the following determination(s). Check any that apply:

☒ a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.

☒ b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.

☒ c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.

☐ d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Name of Municipality

☐ e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).

C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

769 Silver Street	Agawam
Street Address	City/Town
G6-2-6	3965
Assessors Map/Plat Number	Parcel/Lot Number

b. Area Description (use additional paper, if necessary):

The Site is approximately 17.2 acres in size and includes existing buildings and storage structures, gravel and paved yard areas, a pond (previously designated by NHESP as a Potential Vernal Pool), a maintained grassy field within the northeastern portion of the Site, and woodlands along the eastern boundary. See the Narrative in Attachment B for more details

c. Plan and/or Map Reference(s):

Agawam Energy Center USGS Site Location Map	8/28/2025
Title	Date
Agawam Energy Center Environmental Resources Map	11/24/2025
Title	Date
Title	Date

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

The Applicant proposes to develop an approximately 250 megawatt (MW), 1,000 megawatt hour (MWh) battery energy storage system (BESS) on the 17.2 acre site located at 769 Silver Street (Map G6, Block 2, Lot 6). The project will consist of battery containers, transformers, inverters, equipment pads, a substation and associated infrastructure. The proposed BESS site will be accessed from Silver Street. The battery containers will be surrounded by a perimeter fence that will act as a physical, visual, and sound barrier.

C. Project Description (cont.)

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

The work will be conducted completely outside of all Areas Subject to Protection under M.G.L. c. 131, Section 40 listed in 310 CMR 10.02(1), as well as all buffer zones associated with Areas Subject to Protection.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- ☐ Single family house on a lot recorded on or before 8/1/96
- ☐ Single family house on a lot recorded after 8/1/96
- ☐ Expansion of an existing structure on a lot recorded after 8/1/96
- ☐ Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- ☐ New agriculture or aquaculture project
- ☐ Public project where funds were appropriated prior to 8/7/96
- ☐ Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- ☐ Residential subdivision; institutional, industrial, or commercial project
- ☐ Municipal project
- ☐ District, county, state, or federal government project
- ☐ Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)

D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

Lucia Family Realty, LLC
Name

PO Box 777
Mailing Address

Agawam, MA
City/Town

MA
State

01001
Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Michael U. Alvarez

chael U. Alvarez, COO

11/24/2025
Date

Melissa Kaplan

Signature of Representative (if any)

11/24/2025
Date

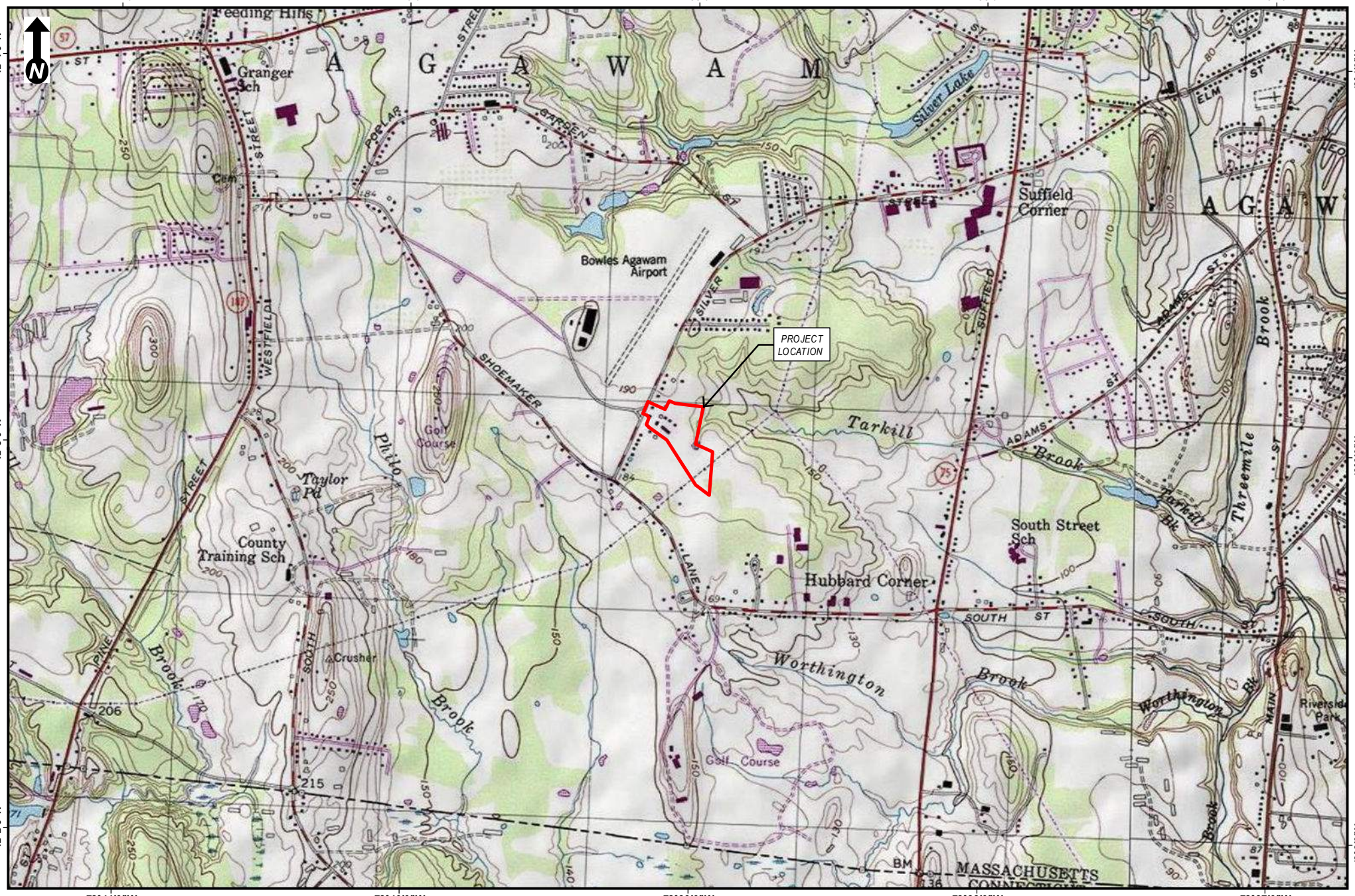
Attachment A

Request for Determination of Applicability
Agawam Energy Center Project

Figures

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Date Saved: 8/28/2025 12:03:49 PM



Scale: 1:24,000
1 inch = 2,000 feet
0 1,000 2,000
Feet
(Page Size 8.5 x 11)

AGAWAM ENERGY CENTER
USGS Site Location Map
Agawam, MA

Source: Copyright:© 2013 National Geographic Society, i-cubed

longroad energy
BSC GROUP

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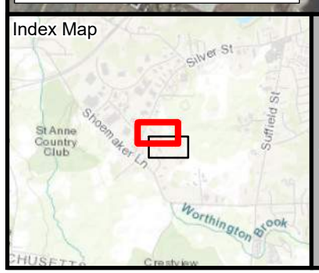
DRAFT

ALMGREN DR

SILVER ST

TOTAL ACREAGE OF THE ENERGY STORAGE SYSTEM: ~8 ACRES

Index Map



Legend

- BESS Equipment
- Transformer
- Proposed Substation Perimeter
- Proposed Substation Infrastructure
- 115KV Generator Tie Line
- Stormwater Management Area
- Proposed Pavement
- Proposed Grading
- Underground Collection Trench
- Limit of Work
- Proposed Chain Link Fence
- Proposed Wood Privacy Fence
- Proposed Soundwall
- 100ft Setback
- Existing Easement
- Existing Overhead Line
- Existing Fence
- Existing Concrete
- Parcel Boundary
- Field Delineated Stream Bank
- Field Delineated Pond Bank
- Field Delineated Open Water*
- Field Delineated Wetland Boundary
- Field Delineated Wetland*
- 100ft Buffer to Wetlands & Streams
- Perennial Stream
- NHESP Priority & Estimated Habitats
- Potential Vernal Pools
- Culvert
- Gate

N

1 inch = 100 feet
0 50 100
Feet

Indicates Layers Set to Transparency

AGAWAM ENERGY CENTER

Site Plan

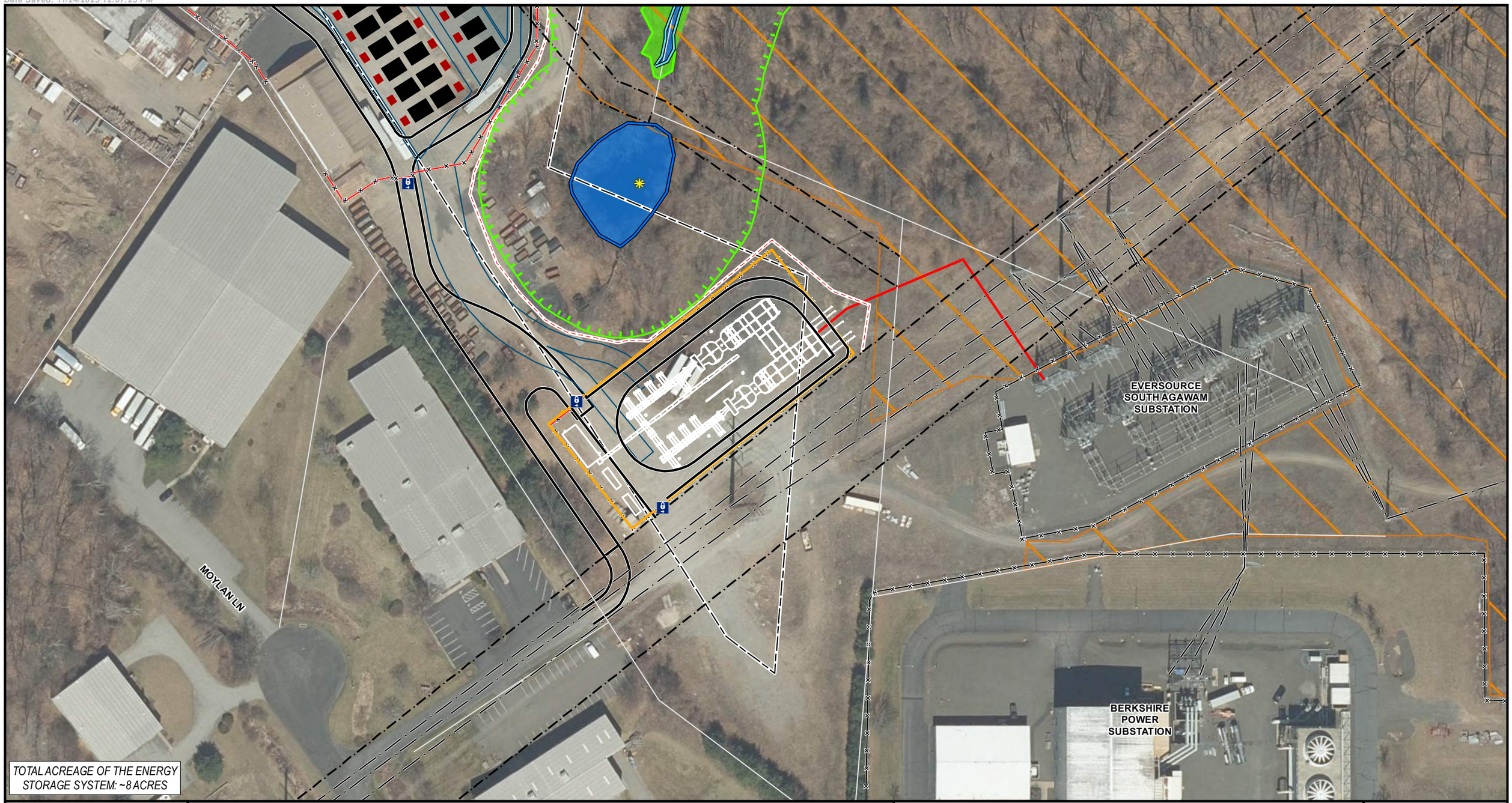
Agawam, MA
Page 1 of 2

MassGIS
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

longroad ENERGY
BSC GROUP

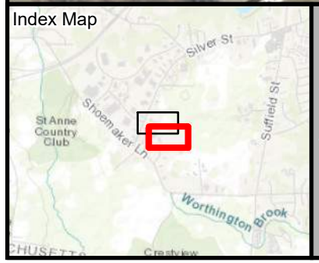
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DRAFT



TOTAL ACREAGE OF THE ENERGY STORAGE SYSTEM: ~8 ACRES

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0 50 100
Feet

*Indicates Layers Set to Transparency

AGAWAM ENERGY CENTER

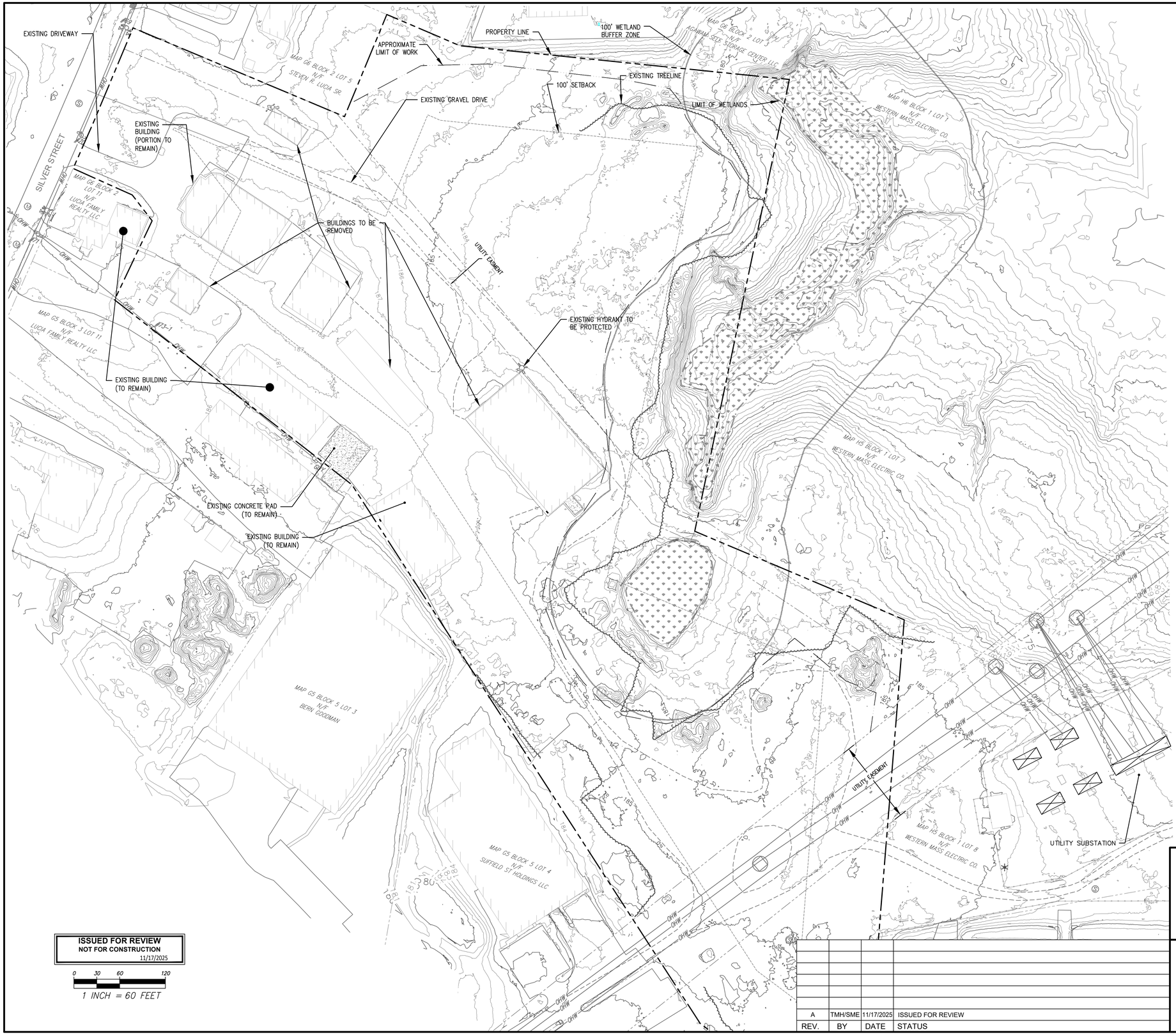
Site Plan

Agawam, MA
Page 2 of 2

MassGIS
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longroad ENERGY
BSC GROUP

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LEGEND

- PROPERTY LINE
- 100' PROPERTY SETBACK
- LIMIT OF WETLANDS
- 100' WETLAND BUFFER
- UTILITY EASEMENT
- EXISTING 1-FOOT CONTOUR (181)
- EXISTING 5-FT CONTOUR (180)
- EXISTING TREE LINE
- LIMIT OF WORK

NOTES

1. EXISTING CONDITIONS SURVEY CONDUCTED BY MILLSTONE LLC.

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

0 30 60 120
1 INCH = 60 FEET

REV.	BY	DATE	STATUS
A	TMH/SME	11/17/2025	ISSUED FOR REVIEW

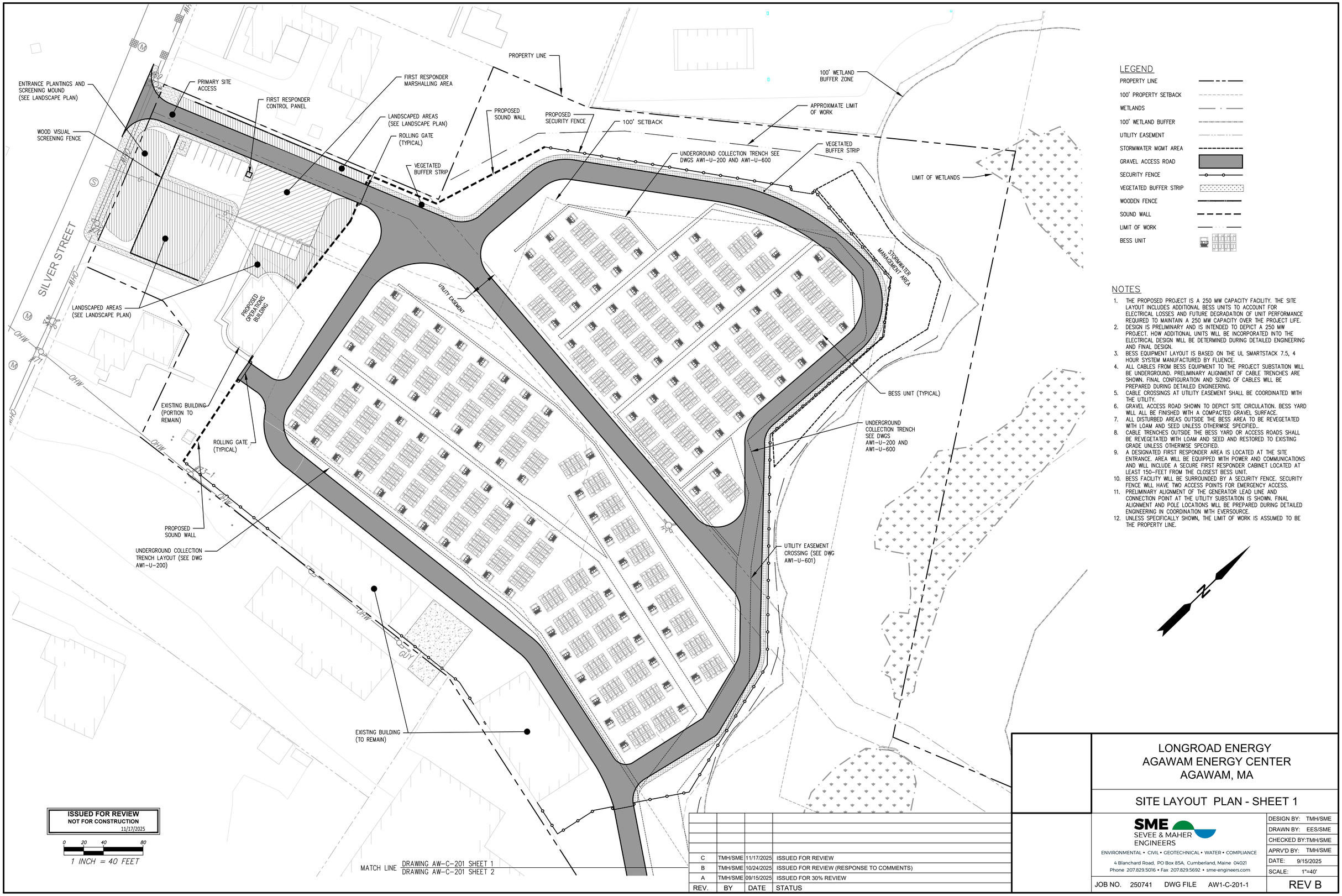
LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

EXISTING CONDITIONS AND DEMO PLAN

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • sme-engineers.com

DESIGN BY:	TMH/SME
DRAWN BY:	EES/SME
CHECKED BY:	TMH/SME
APRV'D BY:	TMH/SME
DATE:	11/14/2025
SCALE:	1"=60'

JOB NO. 250741 DWG FILE AW1-C-200 REV A



NOTES

1. THE PROPOSED PROJECT IS A 250 MW CAPACITY FACILITY. THE SITE LAYOUT INCLUDES ADDITIONAL BESS UNITS TO ACCOUNT FOR ELECTRICAL LOSSES AND FUTURE DEGRADATION OF UNIT PERFORMANCE REQUIRED TO MAINTAIN A 250 MW CAPACITY OVER THE PROJECT LIFE.
2. DESIGN IS PRELIMINARY AND IS INTENDED TO DEPICT A 250 MW PROJECT. HOW ADDITIONAL UNITS WILL BE INCORPORATED INTO THE ELECTRICAL DESIGN WILL BE DETERMINED DURING DETAILED ENGINEERING AND FINAL DESIGN.
3. BESS EQUIPMENT LAYOUT IS BASED ON THE UL SMARTSTACK 7.5, 4 HOUR SYSTEM MANUFACTURED BY FLUENCE.
4. ALL CABLES FROM BESS EQUIPMENT TO THE PROJECT SUBSTATION WILL BE UNDERGROUND. PRELIMINARY ALIGNMENT OF CABLE TRENCHES ARE SHOWN. FINAL CONFIGURATION AND SIZING OF CABLES WILL BE PREPARED DURING DETAILED ENGINEERING.
5. CABLE CROSSINGS AT UTILITY EASEMENT SHALL BE COORDINATED WITH THE UTILITY.
6. GRAVEL ACCESS ROAD SHOWN TO DEPICT SITE CIRCULATION. BESS YARD WILL ALL BE FINISHED WITH A COMPACTED GRAVEL SURFACE.
7. ALL DISTURBED AREAS OUTSIDE THE BESS AREA TO BE REVEGETATED WITH LOAM AND SEED UNLESS OTHERWISE SPECIFIED..
8. CABLE TRENCHES OUTSIDE THE BESS YARD OR ACCESS ROADS SHALL BE REVEGETATED WITH LOAM AND SEED AND RESTORED TO EXISTING GRADE UNLESS OTHERWISE SPECIFIED.
9. A DESIGNATED FIRST RESPONDER AREA IS LOCATED AT THE SITE ENTRANCE. AREA WILL BE EQUIPPED WITH POWER AND COMMUNICATIONS AND WILL INCLUDE A SECURE FIRST RESPONDER CABINET LOCATED AT LEAST 150-FEET FROM THE CLOSEST BESS UNIT.
10. BESS FACILITY WILL BE SURROUNDED BY A SECURITY FENCE. SECURITY FENCE WILL HAVE TWO ACCESS POINTS FOR EMERGENCY ACCESS.
11. PRELIMINARY ALIGNMENT OF THE GENERATOR LEAD LINE AND CONNECTION POINT AT THE UTILITY SUBSTATION IS SHOWN. FINAL ALIGNMENT AND POLE LOCATIONS WILL BE PREPARED DURING DETAILED ENGINEERING IN COORDINATION WITH EVERSOURCE.
12. UNLESS SPECIFICALLY SHOWN, THE LIMIT OF WORK IS ASSUMED TO BE THE PROPERTY LINE.

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

REV.	BY	DATE	STATUS
C	TMH/SME	11/17/2025	ISSUED FOR REVIEW
B	TMH/SME	10/24/2025	ISSUED FOR REVIEW (RESPONSE TO COMMENTS)
A	TMH/SME	09/15/2025	ISSUED FOR 30% REVIEW

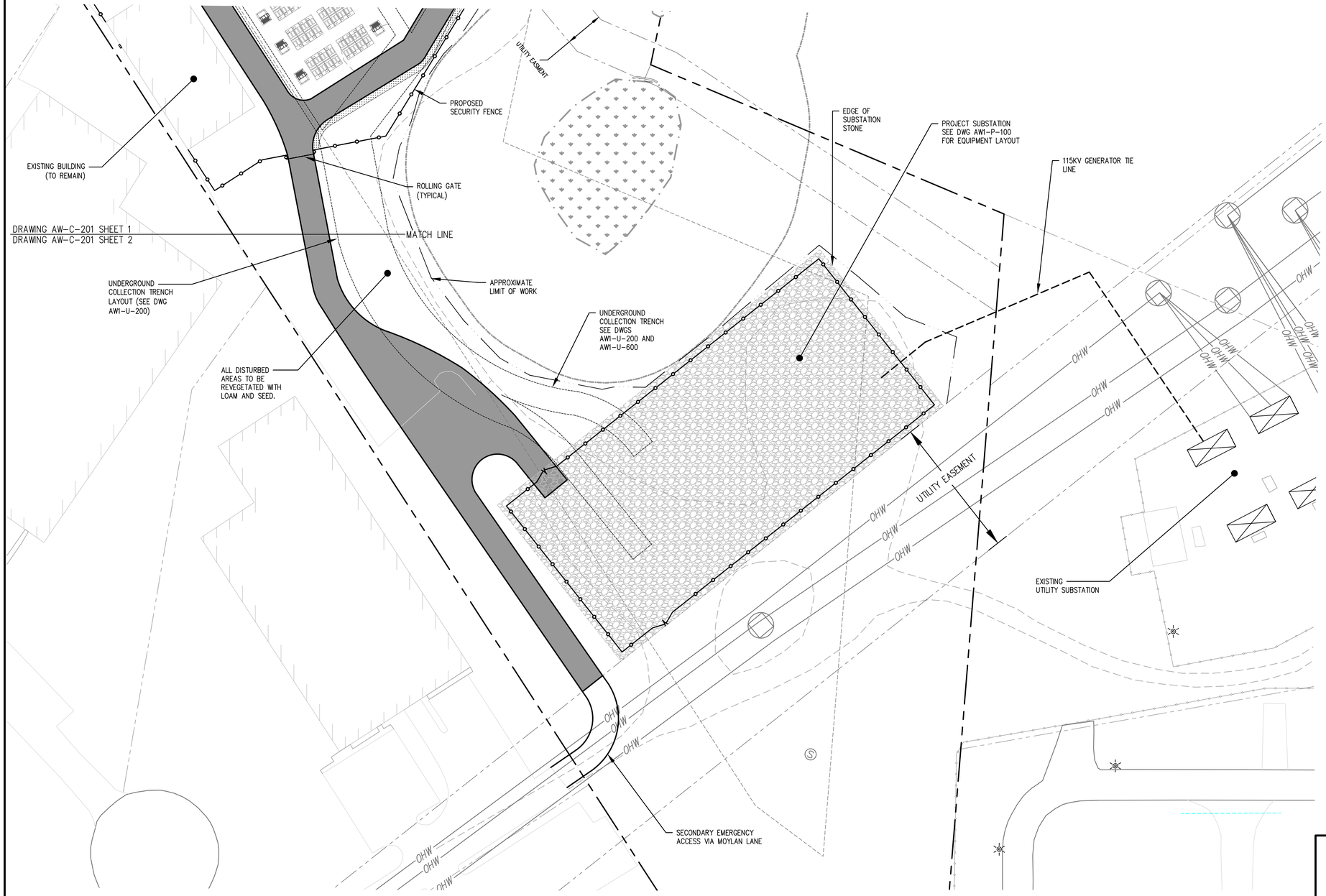
LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

SITE LAYOUT PLAN - SHEET 1

SME
SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
Phone 207.829.5016 • Fax 207.829.5692 • sme-engineers.com

DESIGN BY:	TMH/SME
DRAWN BY:	EES/SME
CHECKED BY:	TMH/SME
APRV'D BY:	TMH/SME
DATE:	9/15/2025
SCALE:	1"=40'

JOB NO. 250741 DWG FILE AW1-C-201-1 REV B



LEGEND

- PROPERTY LINE
- 100' PROPERTY SETBACK
- WETLANDS
- 100' WETLAND BUFFER
- UTILITY EASEMENT
- GRAVEL ACCESS ROAD
- VEGETATED BUFFER STRIP
- SECURITY FENCE
- SOUND WALL
- LIMIT OF WORK
- BESS UNIT

NOTES

1. THE PROPOSED PROJECT IS A 250 MW CAPACITY FACILITY. THE SITE LAYOUT INCLUDES ADDITIONAL BESS UNITS TO ACCOUNT FOR ELECTRICAL LOSSES AND FUTURE DEGRADATION OF UNIT PERFORMANCE REQUIRED TO MAINTAIN A 250 MW CAPACITY OVER THE PROJECT LIFE.
2. DESIGN IS PRELIMINARY AND IS INTENDED TO DEPICT A 250 MW PROJECT. HOW ADDITIONAL UNITS WILL BE INCORPORATED INTO THE ELECTRICAL DESIGN WILL BE DETERMINED DURING DETAILED ENGINEERING AND FINAL DESIGN.
3. BESS EQUIPMENT LAYOUT IS BASED ON THE UL SMARTSTACK 7.5, 4 HOUR SYSTEM MANUFACTURED BY FLUENCE.
4. ALL CABLES FROM BESS EQUIPMENT TO THE PROJECT SUBSTATION WILL BE UNDERGROUND. PRELIMINARY ALIGNMENT OF CABLE TRENCHES ARE SHOWN. FINAL CONFIGURATION AND SIZING OF CABLES WILL BE PREPARED DURING DETAILED ENGINEERING.
5. CABLE CROSSINGS AT UTILITY EASEMENT SHALL BE COORDINATED WITH THE UTILITY.
6. GRAVEL ACCESS ROAD SHOWN TO DEPICT SITE CIRCULATION. BESS YARD WILL ALL BE FINISHED WITH A COMPACTED GRAVEL SURFACE.
7. ALL DISTURBED AREAS OUTSIDE THE BESS AREA TO BE REVEGETATED WITH LOAM AND SEED UNLESS OTHERWISE SPECIFIED.
8. CABLE TRENCHES OUTSIDE THE BESS YARD OR ACCESS ROADS SHALL BE REVEGETATED WITH LOAM AND SEED AND RESTORED TO EXISTING GRADE UNLESS OTHERWISE SPECIFIED.
9. CABLE TRENCHES OUTSIDE THE BESS YARD OR ACCESS ROADS SHALL BE REVEGETATED WITH LOAM AND SEED AND RESTORED TO EXISTING GRADE.
10. A DESIGNATED FIRST RESPONDER AREA IS LOCATED AT THE SITE ENTRANCE. AREA WILL BE EQUIPPED WITH POWER AND COMMUNICATIONS AND WILL INCLUDE A SECURE FIRST RESPONDER CABINET LOCATED AT LEAST 150-FEET FROM THE CLOSEST BESS UNIT.
11. BESS FACILITY WILL BE SURROUNDED BY A SECURITY FENCE. SECURITY FENCE WILL HAVE TWO ACCESS POINTS FOR EMERGENCY ACCESS.
12. PRELIMINARY ALIGNMENT OF THE GENERATOR LEAD LINE AND CONNECTION POINT AT THE UTILITY SUBSTATION IS SHOWN. FINAL ALIGNMENT AND POLE LOCATIONS WILL BE PREPARED DURING DETAILED ENGINEERING IN COORDINATION WITH EVERSOURCE.
13. THE LIMIT OF WORK IS ASSUMED TO BE THE PROPERTY LINE, UNLESS SPECIFICALLY SHOWN

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

0 20 40 80
1 INCH = 40 FEET

REV.	BY	DATE	STATUS
C	TMH/SME	11/17/2025	ISSUED FOR REVIEW
B	TMH/SME	10/24/2025	ISSUED FOR REVIEW (RESPONSE TO COMMENTS)
A	TMH/SME	09/15/2025	ISSUED FOR 30% REVIEW

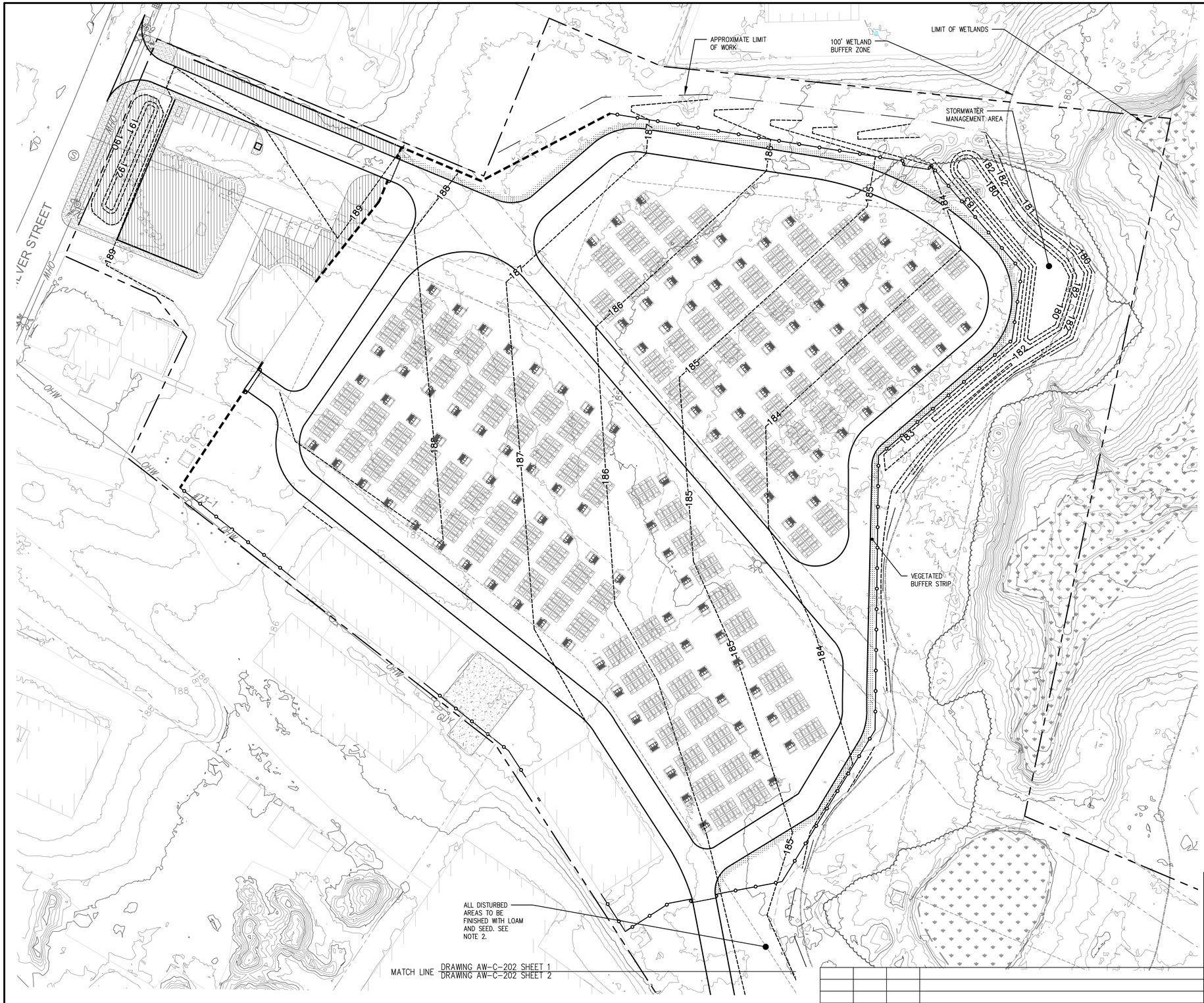
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AGAWAM, MA

SITE LAYOUT PLAN - SHEET 2

SME SEVEE & MAHER ENGINEERS
ENVIRONMENTAL • CIVIL • GEOTECHNICAL • WATER • COMPLIANCE
4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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DESIGN BY:	TMH/SME
DRAWN BY:	EES/SME
CHECKED BY:	TMH/SME
APRV'D BY:	TMH/SME
DATE:	9/15/2025
SCALE:	1"=40'

JOB NO. 250741 DWG FILE AW1-C-201-2 REV B



LEGEND

- PROPERTY LINE
- 100' PROPERTY SETBACK
- WETLANDS
- 100' WETLAND BUFFER
- UTILITY EASEMENT
- EXISTING 1-FT CONTOUR — 181
- EXISTING 5-FT CONTOUR — 180
- PROPOSED CONTOURS — 185
- PROPOSED SPOT ELEV. x 186.5
- BESS UNIT
- GRAVEL ACCESS ROAD
- VEGETATED BUFFER STRIP
- SECURITY FENCE
- SOUND WALL
- LIMIT OF WORK

NOTES:

1. ALL DISTURBED AREAS TO BE RESTORED AND REVEGETATED WITH LOAM AND SEED UNLESS SPECIFIED OTHERWISE.
2. ANY CABLE TRENCHES OUTSIDE OF BESS YARD AND ACCESS ROAD SHALL BE REVEGETATED WITH LOAM AND SEED AND RESTORED TO EXISTING GRADE.
3. EROSION CONTROLS SHALL BE INSTALLED AND MAINTAINED ALONG THE PERIMETER OF THE WORK AREA IN ACCORDANCE WITH THE EROSION CONTROL NOTES AND DETAILS.

N

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11/17/2025

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1 INCH = 40 FEET

REV.	BY	DATE	STATUS
B	TMH/SME	11/17/2025	ISSUED FOR REVIEW
A	TMH/SME	09/24/2025	ISSUED FOR REVIEW (RESPONSE TO COMMENTS)

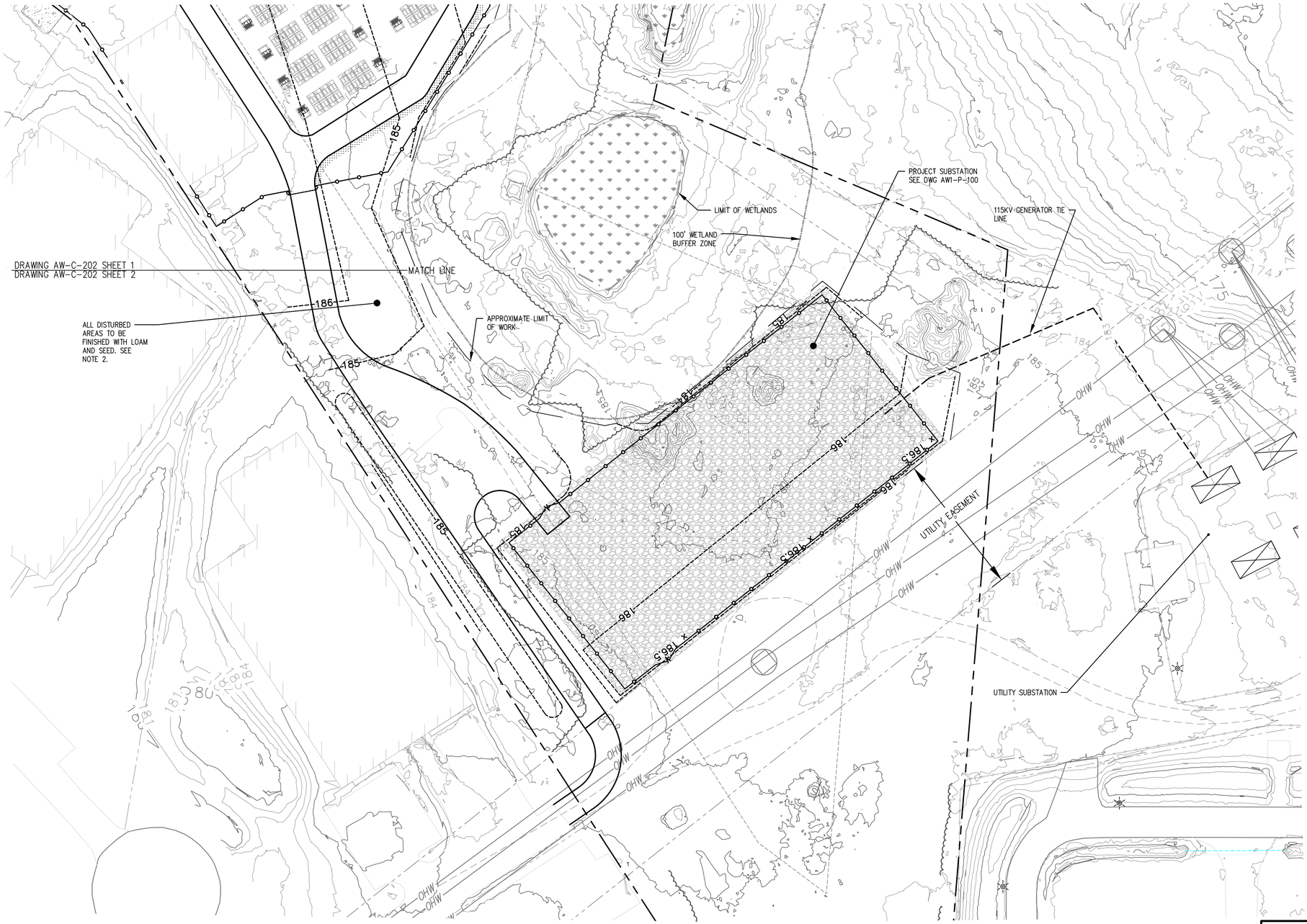
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GRADING PLAN - SHEET 1

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CHECKED BY:	TMH/SME
APRV'D BY:	TMH/SME
DATE:	9/15/2025
SCALE:	1"=40'

JOB NO. 250741 DWG FILE AW1-C-202-1 REV B



NOTES:

1. ALL DISTURBED AREAS TO BE RESTORED AND REVEGETATED WITH LOAM AND SEED UNLESS SPECIFIED OTHERWISE.
2. ANY CABLE TRENCHES OUTSIDE OF BESS YARD AND ACCESS ROAD SHALL BE REVEGETATED WITH LOAM AND SEED AND RESTORED TO EXISTING GRADE.
3. EROSION CONTROLS SHALL BE INSTALLED AND MAINTAINED ALONG THE PERIMETER OF THE WORK AREA IN ACCORDANCE WITH THE EROSION CONTROL NOTES AND DETAILS.

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

0 20 40 80
1 INCH = 40 FEET

REV.	BY	DATE	STATUS
B	TMH/SME	11/17/2025	ISSUED FOR REVIEW
A	TMH/SME	09/24/2025	ISSUED FOR REVIEW (RESPONSE TO COMMENTS)

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GRADING PLAN

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DATE:	9/15/2025
SCALE:	1"=40'

JOB NO. 250741 DWG FILE AW1-C-202-2 REV B

EROSION CONTROL NOTES:

A. GENERAL

1. All soil erosion and sediment control will be done in accordance with the Massachusetts Erosion and Sediment Control Guidelines for Urban Suburban Areas, latest edition.

2. The site Contractor (to be determined) will be responsible for the inspection and repair/replacement/maintenance of all erosion control measures, disturbed areas, material storage areas, and vehicle access points until all disturbed areas are stabilized.

3. Disturbed areas will be permanently stabilized within 7 days of final grading. Disturbed areas not to be worked upon within 14 days of disturbance will be temporarily stabilized within 7 days of the disturbance.

4. In all areas, removal of trees, bushes and other vegetation, as well as disturbance of topsoil will be kept to a minimum while allowing proper site operations.

5. Any suitable topsoil will be stripped and stockpiled for reuse as directed by the Owner. Topsoil will be stockpiled in a manner such that natural drainage is not obstructed and no off-site sediment damage will result. In any event, stockpiles will not be located within 100 feet of wetlands and will be at least 50 feet upgradient of the stockpile's perimeter silt fence. The sideslopes of the topsoil stockpile will not exceed 2:1. Silt fence will be installed around the perimeter of all topsoil stockpiles. Topsoil stockpiles will be surrounded with siltation fencing and will be temporarily seeded with Aroostook rye, annual or perennial ryegrass within 7 days of formation, or temporarily mulched.

6. Winter excavation and earthwork will be completed so as to minimize exposed areas while satisfactorily completing the project. Limit exposed areas to those areas in which work is to occur during the following 15 days and that can be mulched in one day. All areas will be considered denuded until the subbase gravel is installed in roadway areas or the areas of future loam and seed have been loamed, seeded, and mulched.

   Install any added measures necessary to control erosion/sedimentation. The particular measure used will be dependent upon site conditions, the size of the area to be protected, and weather conditions.

   To minimize areas without erosion control protection, continuation of earthwork operations on additional areas will not begin until the exposed soil surface on the area being worked has been stabilized.

B. TEMPORARY MEASURES

1. STABILIZED CONSTRUCTION ENTRANCE/EXIT

   A crushed stone stabilized construction entrance/exit will be placed at any point of vehicular access to the site, in accordance with the detail shown on this sheet.

2. SILT FENCE

   a. Silt fence will be installed prior to all construction activity, where soil disturbance may result in erosion. Silt fence will be erected at locations shown on the plans and/or downgradient of all construction activity.

   b. Silt fences will be removed when they have served their useful purpose, but not before the upgradient areas have been permanently stabilized.

   c. Silt fences will be inspected immediately after each rainfall and at least daily during prolonged rainfall. They will be inspected if there are any signs of erosion or sedimentation below them. Any required repairs will be made immediately. If there are signs of undercutting at the center or the edges, or impounding of large volumes of water behind them, they will be replaced with a temporary crushed stone check dam.

   d. Sediment deposits will be removed after each storm event if significant build-up has occurred or if deposits exceed half the height of the barrier.

3. STONE CHECK DAMS

   Stone check dams will be installed in grass-lined swales and ditches during construction. Remove stone check dams when they have served their useful purpose, but not before upgradient areas have been permanently stabilized.

4. EROSION CONTROL MIX SEDIMENT BARRIER

   a. Where approved, erosion control mix sediment barriers may be used as a substitute for silt fence. See the details in this drawing set for specifications.

   b. Rock Filter Berms: To provide more filtering capacity or to act as a velocity check dam, a berm's center can be composed of clean crushed rock ranging in size from the french drain stone to riprap.

5. TEMPORARY SEEDING

   Stabilize disturbed areas that will not be brought to final grade and reduce problems associated with mud and dust production from exposed soil surface during construction with temporary vegetation.

6. TEMPORARY MULCHING

   Use temporary mulch in the following locations and/or circumstances:

   - In sensitive areas (within 100 feet of streams, wetlands and in lake watersheds) temporary mulch will be applied within 7 days of exposing spill or prior to any storm event.
   - Apply temporary mulch within 14 days of disturbance or prior to any storm event in all other areas.
   - Areas which have been temporarily or permanently seeded will be mulched immediately following seeding.
   - Areas which cannot be seeded within the growing season will be mulched for over-winter protection and the area will be seeded at the beginning of the growing season.
   - Mulch can be used in conjunction with tree, shrub, vine, and ground cover plantings.
   - Mulch anchoring will be used on slopes greater than 5 percent in late fall (past October 15), and over-winter (October 15 - April 15).

   The following materials may be used for temporary mulch:

   a. Hay or Straw material shall be air-dried, free of seeds and coarse material. Apply 2 bales/1,000 sf or 1.5 to 2 tons/acre to cover 90% of ground surface.

   b. Erosion Control Mix: It can be used as a stand-alone reinforcement:
      - on slopes 2 horizontal to 1 vertical or less;
      - on frozen ground or forested areas; and
      - at the edge of gravel parking areas and areas under construction.

   c. Erosion control mix alone is not suitable:
      - on slopes with groundwater seepage;
      - at low points with concentrated flows and in gullies;
      - at the bottom of steep perimeter slopes exceeding 100 feet in length;
      - below culvert outlet aprons; and around catch basins and closed storm systems.

   d. Chemical Mulches and Soil Binders: Wide ranges of synthetic spray-on materials are marketed to protect the soil surface. These are emulsions that are mixed with water and applied to the soil. They may be used alone, but most often are used to hold wood fiber, hydro-mulches or straw to the soil surface.

   e. Erosion Control Blankets and Mats: Mats are manufactured combinations of mulch and netting designed to retain soil moisture and modify soil temperature. During the growing season (April 15 to October 15) use mats indicated on drawings or North American Green (NAG) S75 (or mulch and netting) on:
      - the base of grassed waterways;
      - steep slopes (15 percent or greater); and
      - any disturbed soil within 100 feet of lakes, streams, or wetlands.

   During the late fall and winter (October 15 to April 15) use heavy grade mats indicated on drawings for all areas.

C. TEMPORARY DUST CONTROL

To prevent the blowing and movement of dust from exposed soil surfaces, and reduce the presence of dust, use water or calcium chloride to control dusting by preserving the moisture level in the road surface materials.

D. CONSTRUCTION DE-WATERING

1. Water from construction de-watering operations shall be cleaned of sediment before reaching wetlands, water bodies, streams or site boundaries. Utilize temporary sediment basins, erosion control soil filter berms backed by staked hay bales, A Dirt Bag 55" sediment filter bag by ACF Environmental, or other approved Best Management Practices (BMP's).

2. In sensitive areas near streams or ponds, discharge the water from the de-watering operation into a temporary sediment basin created by a surrounding filter berm of uncompacted erosion control mix immediately backed by staked hay bales (see the site details). Locate the temporary sediment basin at lease 100 feet from the nearest water body, such that the filtered water will flow through undisturbed vegetated soil areas prior to reaching the water body or property line.

E. PERMANENT MEASURES

1. Riprapped Aprons: All storm drain pipe outlets and the inlet and outlet of culverts will have riprap aprons to protect against scour and deterioration.

2. Topsoil, Seed, and Mulch: All areas disturbed during construction, but not subject to other restoration (paving, riprap, etc.) will be loamed, limed, fertilized, seeded, and mulched.

   Seeded Preparation: Use stockpiled materials spread to the depths shown on the plans, if available. Approved topsoil substitutes may be used. Grade the site as needed.

   a. Seeding will be completed by August 15 of each year. Late season seeding may be done between August 15 and October 15. Areas not seeded or which do not obtain satisfactory growth by October 15, will be seeded with Aroostook Rye or mulched. After November 1, or the first killing frost, disturbed areas will be seeded at double the specified application rates, mulched, and anchored.

   PERMANENT SEEDING SPECIFICATIONS OUTSIDE OF BESS YARD FOOTPRINT

Mixture:	Roadside (lbs/acre)	Lawn (lbs/acre)
Kentucky Bluegrass	20	55
White Clover	5	0
Creeping Red Fescue	20	55
Perennial Ryegrass	5	15

   b. Mulch in accordance with specifications for temporary mulching.

   c. If permanent vegetated stabilization cannot be established due to the season of the year, all exposed and disturbed areas not to undergo further disturbance are to have dormant seeding applied and be temporarily mulched to protect the site.

   d. Any fertilizer used on the site to be free of phosphorous.

3. Ditches and Channels: All ditches on-site will be lined with North American Green S75 erosion control mesh (or an approved equal) upon installation of loam and seed.

F. WINTER CONSTRUCTION AND STABILIZATION

1. Natural Resource Protection: During winter construction, a double-row of sediment barriers (i.e., silt fence backed with hay bales or erosion control mix) will be placed between any natural resource and the disturbed area. Projects crossing the natural resource will be protected a minimum distance of 100 feet on either side from the resource.

2. Sediment Barriers: During frozen conditions, sediment barriers may consist of erosion control mix berms or any other recognized sediment barriers as frozen soil prevents the proper installation of hay bales or silt fences.

3. Mulching:

   - All areas will be considered to be denuded until seeded and mulched. Hay and straw mulch will be applied at a rate of twice the normal accepted rate.
   - Mulch will not be spread on top of snow.
   - After each day of final grading, the area will be properly stabilized with anchored hay or straw or erosion control matting.
   - Between the dates of November 1 and April 15, all mulch will be anchored by either mulch netting, emulsion chemical, tracking or wood cellulose fiber.

5. Soil Stockpiling: Stockpiles of soil or subsoil will be mulched for over-winter protection with hay or straw at twice the normal rate or with a 4-inch layer of erosion control mix. This will be done within 24 hours of stocking and re-established prior to any rainfall or snowfall. Any soil stockpiles shall not be placed (even covered with mulch) within 100 feet from any natural resources. Sediment barriers should be installed downgradient of stockpiles. Stormwater shall be directed away from stockpiles.

6. Seeding: Dormant seeding may be placed prior to the placement of mulch or erosion control blankets. If dormant seeding is used for the site, all disturbed areas will receive 4 inches of loam and seed at an application rate of three times the rate for permanent seeding. All areas seeded during the winter will be inspected in the spring for adequate catch. All areas insufficiently vegetated (less than 75 percent catch) will be revegetated by replacing loam, seed, and mulch.

   If dormant seeding is not used for the site, all disturbed areas will be revegetated in the spring.

7. Maintenance: Maintenance measures will be applied as needed during the entire construction season. After each rainfall, snow storm, or period of thawing and runoff, and at least once a week, the site Contractor will perform a visual inspection of all installed erosion control measures and perform repairs as needed to ensure their continuous function.

8. Identified repairs will be started no later than the end of the net work day and be completed within seven (7) calendar days.

   Following the temporary and/or final seeding and mulching, the Contractor will, in the spring, inspect and repair any damages and/or bare spots. An established vegetative cover means a minimum of 85 to 90 percent of areas vegetated with vigorous growth.

G. OVER-WINTER CONSTRUCTION EROSION CONTROL MEASURES

1. Stabilization of Disturbed Soil: By October 15, all disturbed soils on areas having a slope less than 15 percent will be seeded and mulched. If the Contractor fails to stabilize these soils by this date, then the Contractor shall stabilize the soil for late fall and winter, by using either temporary seeding or mulching.

2. Stabilization of Disturbed Slopes: All slopes to be vegetated will be completed by October 15. The Owner will consider any area having a grade greater than 15 percent (6.5H:1V) to be a slope. Slopes not vegetated by October 15 will receive one of the following actions to stabilize the slope for late fall and winter:

   a. Stabilize the soil with temporary vegetation and erosion control mesh.
   b. Stabilize the slope with erosion control mix.
   c. Stabilize the slope with stone riprap.
   d. Slopes steeper than 1.5:1 are prohibited.

3. Stabilization of Ditches and Channels: All stone-lined ditches and channels to be used to convey runoff through the winter will be constructed and stabilized by November 15. Grass-lined ditches and channels will be complete by September 15. Grass-lined ditches not stabilized by September 15 shall be lined with either sod or riprap.

H. MAINTENANCE PLAN

1. Routine Maintenance: Inspection will be performed as outlined in the project's Erosion Control Plan. Inspection will be by a qualified person during wet weather to ensure that the facility performs as intended. Inspection priorities will include checking erosion controls for accumulation of sediments.

I. Housekeeping

1. Spill prevention. Controls must be used to prevent pollutants from being discharged from materials on site, including storage practices to minimize exposure of the materials to stormwater, and appropriate spill prevention, containment, and response planning and implementation.

2. Groundwater protection. During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials.

3. Fugitive sediment and dust. Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control. If off-site tracking occurs roadways should be swept immediately and no loss once a week and prior to significant storm events.

4. Debris and other materials. Litter, construction debris, and chemicals exposed to stormwater must be prevented from becoming a pollutant source.

5. Trench or foundation de-watering. Trench de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water must be removed from the ponded area, either through gravity or pumping, and must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the department.

6. Authorized Non-stormwater discharges. Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:

   (a) Discharges from firefighting activity;

   (b) Fire hydrant flushings;

   (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);

   (d) Dust control runoff in accordance with permit conditions and section I3;

   (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;

   (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;

   (g) Uncontaminated air conditioning or compressor condensate;

   (h) Uncontaminated groundwater or spring water;

   (i) Foundation or footer drain-water where flows are not contaminated;

   (j) Uncontaminated excavation dewatering (see requirements in section I5);

   (k) Potable water sources including waterline flushings; and

   (l) Landscape irrigation.

7. Unauthorized non-stormwater discharges. The Department's approval under this Chapter does not authorize a discharge that is mixed with a source of non stormwater, other than those discharges in compliance with section I6. Specifically, the Department's approval does not authorize discharges of the following:

   (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;

   (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;

   (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and

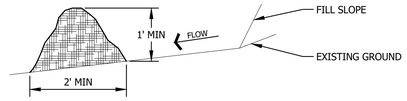
   (d) Toxic or hazardous substances from a spill or other release.

8. Additional requirements. Additional requirements may be applied on a site-specific basis.

J. CONSTRUCTION SEQUENCE

In general, the expected sequence of construction for each phase is provided below.

- Mobilization
- Install temporary erosion control measures
- Clearing and grubbing
- Site Grading
- Install gravel access road
- Install site utilities and BESS units
- Install fence
- Site stabilization, loam and seed, and landscaping
- Remove temporary erosion control measures



EROSION CONTROL MIX SEDIMENT BARRIER

NOTES:

1. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH.

   THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   A. ORGANIC MATERIAL: BETWEEN 20% - 100% (DRY WEIGHT BASIS)
   B. PARTICLE SIZE: BY WEIGHT, 100% PASSING 6" SCREEN, 70-85% PASSING 0.75" SCREEN
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   D. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   E. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 MMHOS/CM.
   F. PH: 5.0 - 8.0

2. ON SLOPES LESS THAN 5% OR AT THE BOTTOM OF SLOPES 2:1 OR LESS UP TO 20 FEET LONG, THE BARRIER MUST CONFORM TO THE ABOVE DIMENSIONS. ON THE LONGER OR STEEPER SLOPES, THE BARRIER SHOULD BE WIDER TO ACCOMMODATE THE ADDITIONAL FLOW.

3. THE BARRIER MUST BE PLACED ALONG A RELATIVELY LEVEL ELEVATION. IT MAY BE NECESSARY TO CUT TALL GRASSES OR WOODY VEGETATION TO AVOID CREATING VOIDS AND BRIDGES THAT WOULD ENABLE FINES TO WASH UNDER THE BARRIER THROUGH THE GRASS BLADES OR PLANT STEMS.

4. LOCATIONS WHERE OTHER BMP'S SHOULD BE USED:
   A. AT LOW POINTS OF CONCENTRATED FLOW
   B. BELOW CULVERT OUTLET APRONS
   C. WHERE A PREVIOUS STAND-ALONE EROSION CONTROL MIX APPLICATION HAS FAILED
   D. AT THE BOTTOM OF STEEP PERIMETER SLOPES THAT ARE MORE THAN 50 FEET FROM TOP TO BOTTOM (LARGE UPGRADIENT WATERSHED)
   E. AROUND CATCH BASINS AND CLOSED STORM DRAIN SYSTEMS

5. THE EROSION CONTROL MIX BARRIERS SHOULD BE INSPECTED REGULARLY AND AFTER EACH LARGE RAINFALL. REPAIR ALL DAMAGED SECTIONS OF BERM IMMEDIATELY BY REPLACING OR ADDING ADDITIONAL MATERIAL PLACED ON THE BERM TO THE DESIRED HEIGHT AND WIDTH.

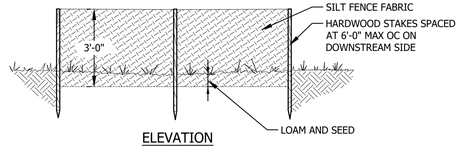
6. IT MAY BE NECESSARY TO REINFORCE THE BARRIER WITH SILT FENCE OR STONE CHECK DAMS IF THERE ARE SIGNS OF UNDERCUTTING OR THE IMPOUNDMENT OF LARGE VOLUMES OF WATER.

7. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.

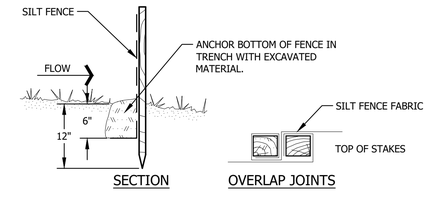
8. REPLACE SECTIONS OF BERM THAT DECOMPOSE, BECOME CLOGGED WITH SEDIMENT OR OTHERWISE BECOME INEFFECTIVE. THE BARRIER SHOULD BE RESHAPED AS NEEDED.

9. EROSION CONTROL MIX BARRIERS CAN BE LEFT IN PLACE AFTER CONSTRUCTION. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER BARRIER IS NO LONGER REQUIRED SHOULD BE SPREAD TO CONFORM TO THE EXISTING GRADE AND BE SEEDED AND MULCHED. WOODY VEGETATION CAN BE PLANTED INTO THE BARRIERS, OR THEY CAN BE OVER-SEEDED WITH LEGUMES. IF THE BARRIER NEEDS TO BE REMOVED, IT CAN BE SPREAD OUT INTO THE LANDSCAPE.

10. IF TEMPORARY BERMS ARE USED AS SILT BARRIERS, THEY ARE PROHIBITED AT THE BASE OF SLOPES STEEPER THAN 8% OR WHERE THERE IS FLOWING WATER WITHOUT THE SUPPORT OF ADDITIONAL MEASURES SUCH AS SILT FENCE.



ELEVATION



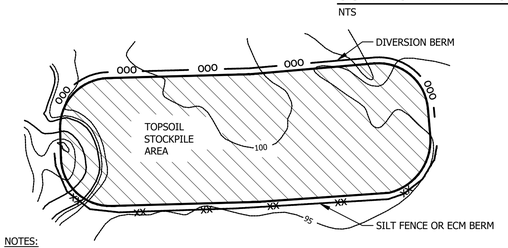
SECTION OVERLAP JOINTS

SILT FENCE

NOTE:
CONTRACTORS OPTION TO USE SEDIMENT BARRIER OR SILT FENCE FOR SLOPE PROTECTION.

SURFACE DRAINAGE SEDIMENT CONTROL

NTS

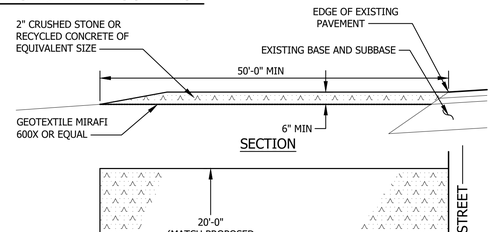


NOTES:

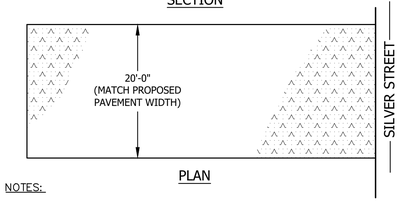
1. LOCATE SOIL STOCKPILES AS FAR FROM PROTECTED RESOURCES AS POSSIBLE (PONDS, RIVERS, STREAMS, BROOKS, & WETLANDS). LOCATE SOIL STOCKPILES AWAY FROM AREAS OF CONCENTRATED FLOW OR POTENTIAL FLOODING.
2. ERECT SEDIMENT BARRIER (SILT FENCE OR ECM BERM) DOWN SLOPE OF STOCKPILES.
3. STABILIZE STOCKPILES THAT WILL NOT BE WORKED FOR 14 OR MORE DAYS IN THE GROWING SEASON OR WILL REMAIN UNWORKED OR PARTIALLY UNWORKED OVER THE WINTER (NOVEMBER 1 TO APRIL 15) WITH TEMPORARY SEED, MULCH AND MULCH ANCHORING OR EROSION CONTROL BLANKET OR MESH AS SPECIFIED IN THE EROSION CONTROL PLAN. IN WINTER APPLY HAY MULCH AT THE RATE OF AT LEAST 150 LBS/1000 SF AND THICK ENOUGH THAT THE GROUND SURFACE IS NOT VISIBLE AND ANCHOR IF STOCKPILE HAS NOT BEEN PERMANENTLY STABILIZED USING ANOTHER METHOD (TARPS, PERMANENT SEED (< 90% VEGETATED), EROSION CONTROL BLANKET OR EROSION CONTROL MIX. EROSION CONTROL MIX CAN BE MANUFACTURED ON OR OFF THE SITE. IT MUST CONSIST PRIMARILY OF ORGANIC MATERIAL SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, COMPOSTED BARK, OR FLUME GRIT AND FRAGMENTED WOOD GENERATED FROM WATER-FLUME LOG HANDLING SYSTEMS. WOOD CHIPS, GROUND CONSTRUCTION DEBRIS, REPROCESSED WOOD PRODUCTS OR BARK CHIPS WILL NOT BE ACCEPTABLE AS THE ORGANIC COMPONENT OF THE MIX. EROSION CONTROL MIX SHALL CONTAIN A WELL-GRADED MIXTURE OF PARTICLE SIZES AND MAY CONTAIN ROCKS LESS THAN 4" IN DIAMETER. EROSION CONTROL MIX MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH. THE MIX COMPOSITION SHALL MEET THE FOLLOWING STANDARDS:
   A. ORGANIC MATERIAL: BETWEEN 20% - 100% (DRY WEIGHT BASIS)
   B. PARTICLE SIZE: BY WEIGHT, 100% PASSING 6" SCREEN, 70-85% PASSING 0.75" SCREEN.
   C. THE ORGANIC PORTION NEEDS TO BE FIBROUS AND ELONGATED.
   D. LARGE PORTIONS OF SILTS, CLAYS OR FINE SANDS ARE NOT ACCEPTABLE IN THE MIX.
   E. SOLUBLE SALTS CONTENT SHALL BE LESS THAN 4.0 MMHOS/CM.
   F. PH: 5.0 - 8.0.
4. IF SLOPE OF LAND IS GREATER THAN 5%, CONSTRUCT A DIVERSION BERM UPHILL OF THE STOCKPILE TO DIVERT FLOW.

SOIL STOCKPILE

NTS



SECTION



PLAN

NOTES:

1. MAINTAIN ENTRANCE IN A CONDITION THAT WILL PREVENT TRACKING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. IF WASHING IS REQUIRED PREVENT SEDIMENT FROM ENTERING WATERWAYS, DITCHES OR STORM DRAINS.

2. REMOVE STABILIZED CONSTRUCTION ENTRANCE TO FINISH ROAD CONSTRUCTION AND PAVEMENT.

STABILIZED CONSTRUCTION ENTRANCE

NTS

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

REV.	BY	DATE	STATUS
B	TMH/SME	11/17/25	ISSUED FOR REVIEW
A	TMH/SME	10/24/25	ISSUED FOR REVIEW - INCORPORATING CLIENT COMMENTS (NOT FOR CONSTRUCTION)

LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

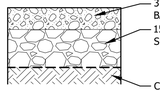
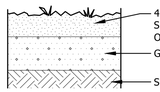
EROSION AND SEDIMENT CONTROL DETAILS

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DESIGN BY:	JJS/SME
DRAWN BY:	JJS/SME
DATE:	CLR/SME
CHECKED BY:	TMH/SME
LMN:	10/24/2025
CTB:	NONE

JOB NO. 250741.02 DWG FILE AW1-C-300

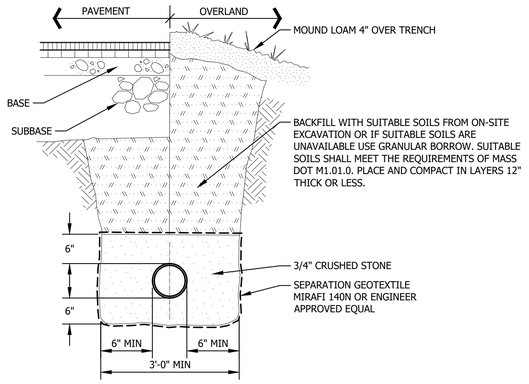
REV B

CONSTRUCTION	USE
	GRAVEL BESS YARD AND GRAVEL ACCESS ROAD
	GRASS ALL DISTURBED AREAS

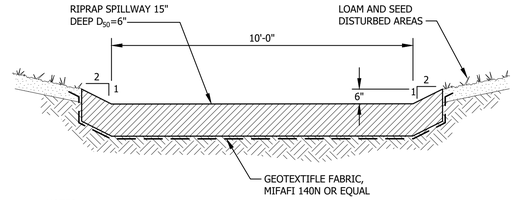
NOTES:

1. COMPACT SUBGRADE AND EACH LAYER OF BORROW , SUBBASE MATERIAL, AND BASE MATERIAL TO MINIMUM 95% OF MATERIAL MAXIMUM DRY DENSITY PER ASTM D1557.

SCHEDULE OF SURFACE FINISHES
NTS



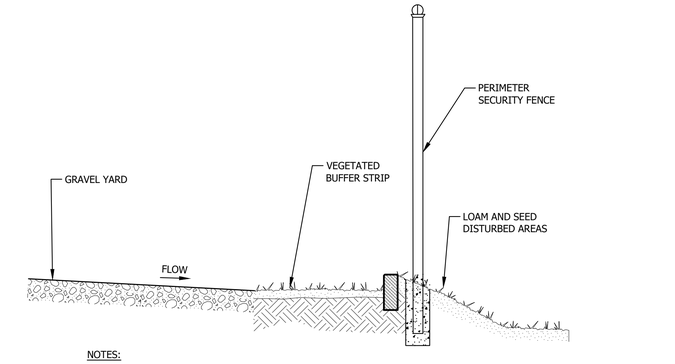
TYPICAL CULVERT TRENCH SECTION
NTS



NOTES:

1. SUBGRADE PREPARATION: SHAPE THE SUBGRADE TO THE LINES AND GRADES AS SHOWN ON THE DRAWINGS AND AS SHOWN ON THE DETAILS. REMOVE ALL ORGANIC MATTER, DEBRIS AND SOIL THAT IS TOO WET TO SUPPORT RIPRAP. IF FILL IS REQUIRED PROVIDE SUITABLE SOIL FROM ON SITE OR COMMON BORROW (MDOT 703.18) COMPACTED TO A DENSITY APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED SOIL BUT NOT LESS THAN 92% (ASTM D1557).
2. GEOTEXTILE FABRIC: PLACE AND ANCHOR GEOTEXTILE (FILTER FABRIC) IMMEDIATELY AFTER SUBGRADE PREPARATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. STONE PLACEMENT: PLACE RIPRAP IMMEDIATELY AFTER PLACING GEOTEXTILE FABRIC. PLACE RIPRAP SO THAT IT PRODUCES A DENSE, WELL-GRADED MASS OF STONE WITH A MINIMUM OF VOIDS
4. MAINTENANCE: INSPECT RIPRAP FOLLOWING SIGNIFICANT RAINFALL EVENTS (3 INCHES OR MORE IN 24 HOURS) AND AFTER THE SPRING THAW. REPAIR DAMAGED AREAS IMMEDIATELY.
5. RIPRAP: SOUND DURABLE ROCK WHICH WILL NOT DISINTEGRATE BY EXPOSURE TO WATER OR WEATHER. EITHER FIELD STONE OR ROUGH, UNEVEN QUARRY STONE MAY BE USED. STONES SHALL BE ANGULAR AND AS NEARLY RECTANGULAR IN CROSS-SECTION AS PRACTICABLE. DO NOT USE ROUNDED BOULDERS OR COBBLES. USE A WELL GRADED MIXTURE OF STONE SIZES WITH 50 PERCENT OF THE MIXTURE BY WEIGHT BEING LARGER THAN THE D SIZE SPECIFIED AND 50 PERCENT SMALLER.

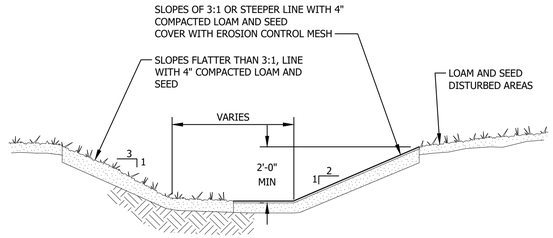
EMERGENCY OVERFLOW SECTION
NTS



NOTES:

1. DETAIL REPRESENTS A TYPICAL LAYOUT FOR THE VEGETATED BUFFER STRIP. tH ELOCATION OF THE FENCE WILL VARY. SEE LAYOUT PLAN. THE LOCATION OF DRAINAGE POINTS TO ALLOW STORMWATER TO FLOW ARE SHOWN ON THE GRADING PLAN.

VEGETATED BUFFER STRIP
NTS



GRASS DITCH SECTION
NTS

PRELIMINARY
NOT FOR CONSTRUCTION
11/17/2025

REV.	BY	DATE	STATUS
A	TMH/SME	11/17/25	ISSUED FOR REVIEW

LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

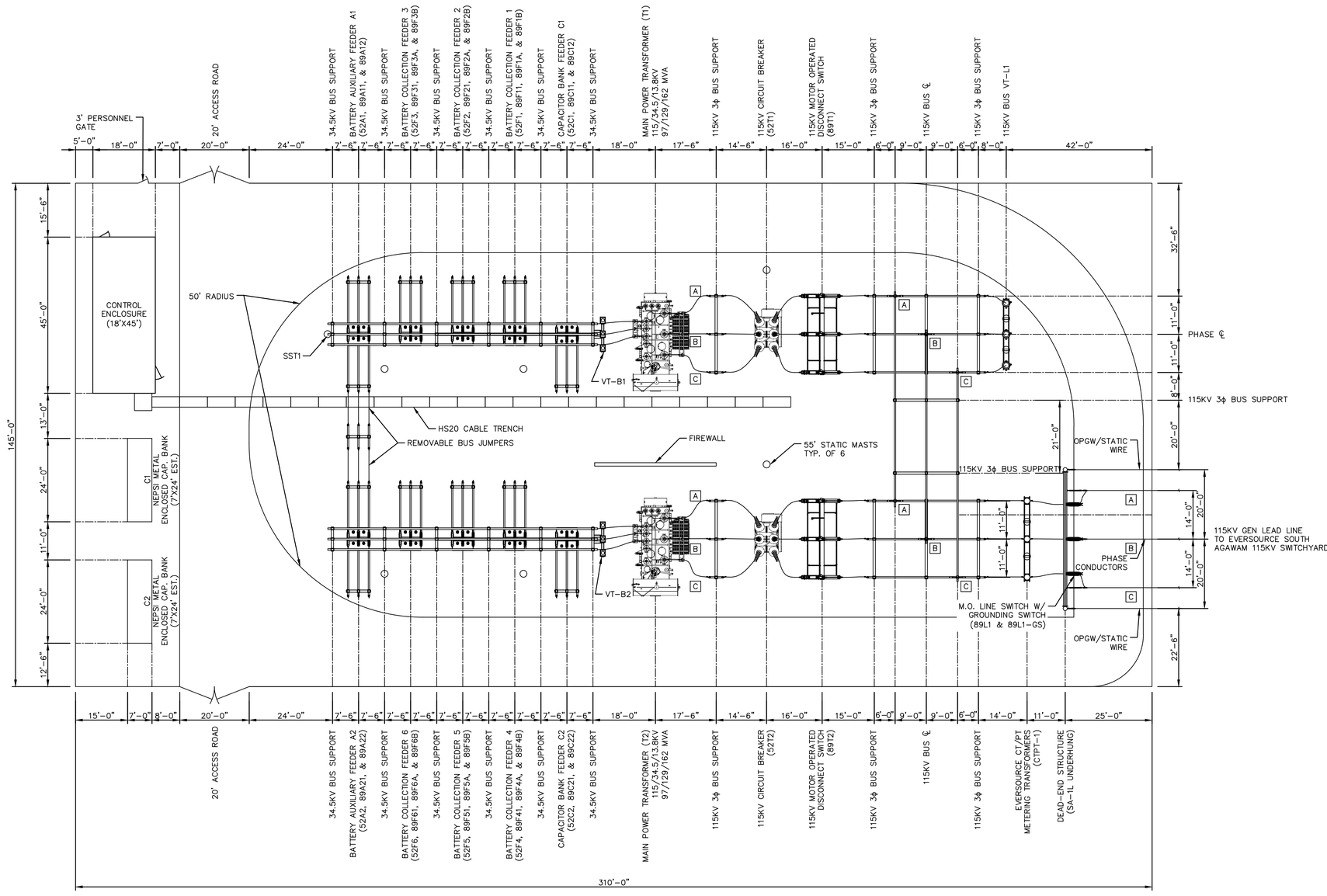
SITE DETAILS

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DESIGN BY:	JJS/SME
DRAWN BY:	JJS/SME
DATE:	CLR/SME
CHECKED BY:	TMH/SME
LMN:	09/15/2025
CTB:	NONE

JOB NO. 250741.02 DWG FILE AW1-C-301

REV A



NOTES:

1. 34.5KV ELECTRICAL BUS & CONDUCTOR CLEARANCES FOR THIS INSTALLATION SHALL NOT BE LESS THAN THE FOLLOWING VALUES PER ANSI C37.30.1 & 1427:
   - PHASE - PHASE (℄ TO ℄) = 36"
   - PHASE - PHASE (METAL TO METAL) = 18"
   - PHASE - GROUND = 15"
2. 115KV ELECTRICAL BUS & CONDUCTOR CLEARANCES FOR THIS INSTALLATION SHALL NOT BE LESS THAN THE FOLLOWING VALUES PER ANSI C37.30.1 & 1427:
   - PHASE - PHASE (℄ TO ℄) = 84"
   - PHASE - PHASE (METAL TO METAL) = 53"
   - PHASE - GROUND = 42"
3. AN ACCEPTABLE INSIDE DIAMETER BEND FOR WIRE IS 10 TO 15 TIMES THE DIAMETER OF THE CONDUCTOR AND 5 TO 7 TIMES THE OUTSIDE DIAMETER OF THE TUBULAR BUS.
4. INSTALL DAMPING CONDUCTOR, 1272 AAC "NARCISSUS", IN ALL BUS SECTIONS OVER 20' AND TACK WELD TO THE BOTTOM OF THE BUS.
5. THE MINIMUM CLEARANCE ABOVE ANY PERMANENT SUPPORTING SURFACE FOR PERSONNEL TO THE LOWEST UNGROUNDED PART OF A HIGH VOLTAGE APPARATUS SHALL BE 8'-6" PER NESC RULE 124.
6. PER NESC TABLE 124-1, THE MINIMUM VERTICAL CLEARANCE TO LIVE PARTS IS AS FOLLOWS:
   - 115 KV = 11'-7"
   - 34.5 KV = 9'-6"
7. LIGHTNING MAST PLACEMENT, HEIGHT, AND QUANTITY IS PRELIMINARY. DETAILED DESIGN WILL DETERMINE FINAL MAST LOCATIONS TO PROVIDE COMPLETE COVERAGE. LIGHTING SHALL BE INSTALLED ON LIGHTNING MASTS TO PROVIDE ADEQUATE SUBSTATION ILLUMINATION PER APPLICABLE CODES.
8. ALL EQUIPMENT SHOWN IS PRELIMINARY AND FOR REPRESENTATION ONLY. DESIGN IS SUBJECT TO CHANGE AS VENDOR DRAWINGS ARE RECEIVED.
9. DESIGN IS CONCEPTUAL IN NATURE AND IS NOT INTENDED TO REPRESENT THE RESULTS OF DETAILED ENGINEERING DESIGN OR STUDIES. DESIGN IS TYPICAL BASED ON INDUSTRY STANDARDS AND BEST PRACTICES. MODIFICATIONS WILL LIKELY BE REQUIRED DURING DETAILED ENGINEERING.

PRELIMINARY
NOT FOR CONSTRUCTION
CONCEPTUAL 11/17/2025

SCALE: 1/16" = 1'-0"

REV.	BY	DATE	STATUS
C	TMH/SME	11/17/25	ISSUED FOR REVIEW (NOT FOR CONSTRUCTION)
B	TMH/SME	10/24/25	ISSUED FOR REVIEW - INCORPORATING CLIENT COMMENTS (NOT FOR CONSTRUCTION)
A	TMH/SME	09/15/25	ISSUED FOR 30% REVIEW (NOT FOR CONSTRUCTION)

LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

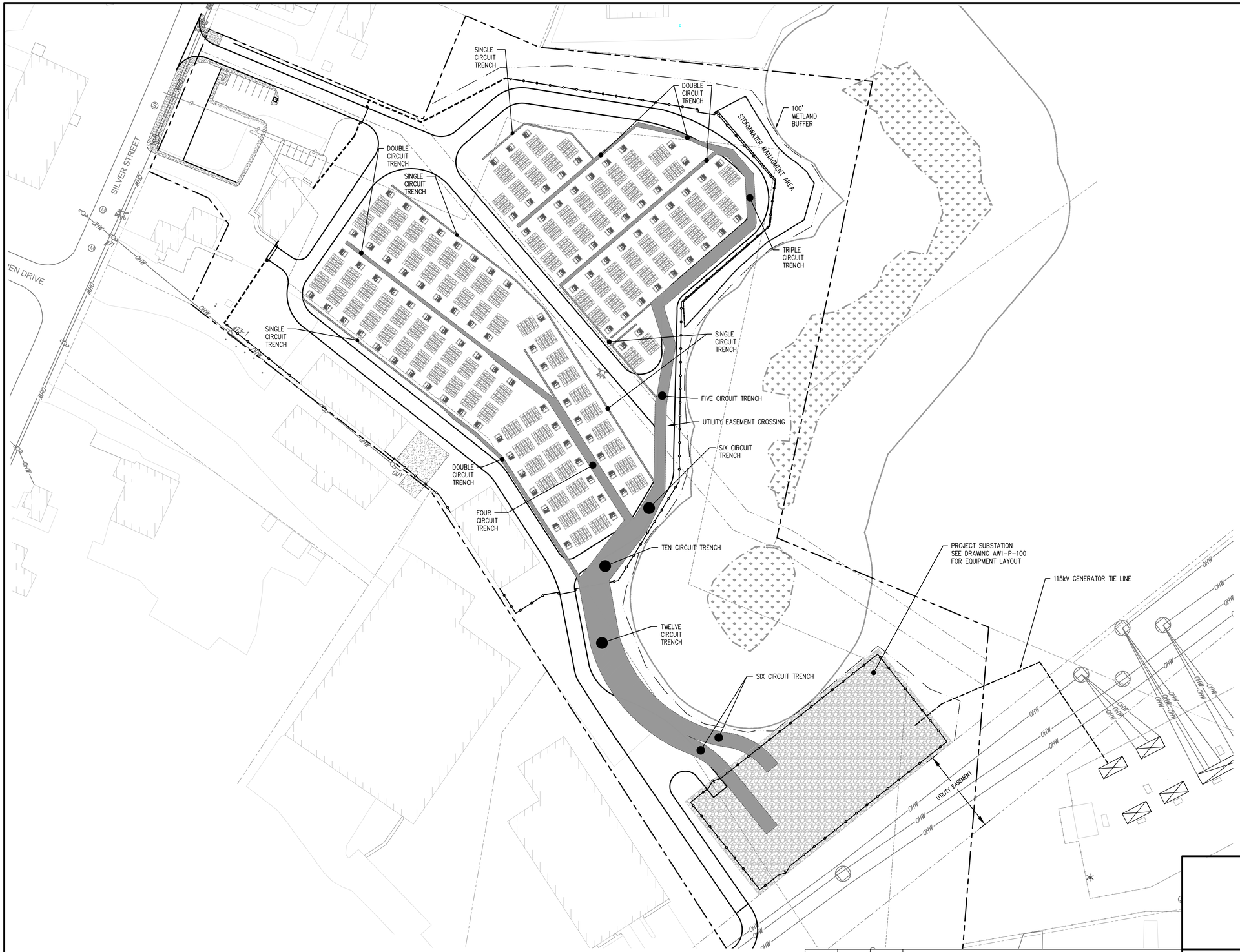
SUBSTATION GENERAL ARRANGEMENT

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DESIGN BY:	CLR/SME
DRAWN BY:	CLR/SME
CHECKED BY:	WDG/SME
APRV'D BY:	TMH/SME
DATE:	09/15/2025
SCALE:	1/16" = 1'-0"

JOB NO. 250741.02 DWG FILE AW1-P-100

REV C



LEGEND

COLLECTION TRENCH LAYOUT

BESS UNIT

NOTES

1. THE PROPOSED PROJECT IS A 250 MW CAPACITY FACILITY. THE SITE LAYOUT INCLUDES ADDITIONAL BESS UNITS TO ACCOUNT FOR ELECTRICAL LOSSES AND FUTURE DEGRADATION OF UNIT PERFORMANCE REQUIRED TO MAINTAIN A 250 MW CAPACITY OVER THE PROJECT LIFE.
2. THE CURRENT COLLECTION INCLUDES 9 BESS UNITS PER CIRCUIT. THIS REPRESENTS 3 ADDITIONAL BESS UNITS (SEE NOTE 1) PER CIRCUIT.
3. TRENCH WIDTHS ARE BASED ON THE ASSUMPTION THAT THE MAXIMUM POWER CAPACITY IS LIMITED TO 25.2 MW PER FEEDER DUE TO THERMAL AND AMPACITY CONSIDERATIONS.
4. BESS EQUIPMENT LAYOUT IS BASED ON THE UL SMARTSTACK 7.5, 4 HOUR SYSTEM MANUFACTURED BY FLUENCE.
5. ALL CABLES FROM BESS EQUIPMENT TO THE PROJECT SUBSTATION WILL BE UNDERGROUND. PRELIMINARY ALIGNMENT OF CABLE TRENCHES ARE SHOWN. FINAL CONFIGURATION AND SIZING OF CABLES WILL BE PREPARED DURING DETAILED ENGINEERING. SEE ADDITIONAL INFORMATION ON DRAWING AW1-U-600.
6. CABLE CROSSING DETAILS AT UTILITY EASEMENT SHALL BE COORDINATED WITH THE UTILITY.

ISSUED FOR REVIEW
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11/17/2025

0 30 60 120
1 INCH = 60 FEET

REV.	BY	DATE	STATUS
B	TMH/SME	11/17/25	ISSUED FOR REVIEW
A	TMH/SME	10/24/25	ISSUED FOR REVIEW

LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

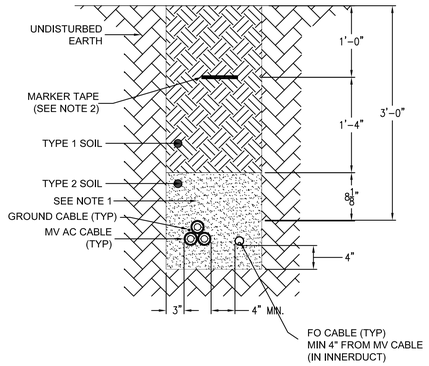
COLLECTION GENERAL ARRANGMENT

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DESIGN BY:	CRR/SME
DRAWN BY:	EES/SME
CHECKED BY:	TMH/SME
APRV'D BY:	TMH/SME
DATE:	10/24/2025
SCALE:	1"=60'

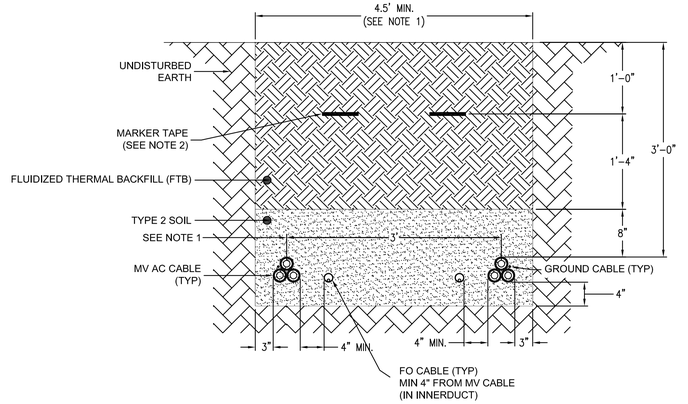
JOB NO. 250741 DWG FILE AW1-U-200

REV B



SINGLE CIRCUIT POWER CABLE TRENCH

SCALE: NTS
MVAC (3-1/C TRIPLEX)



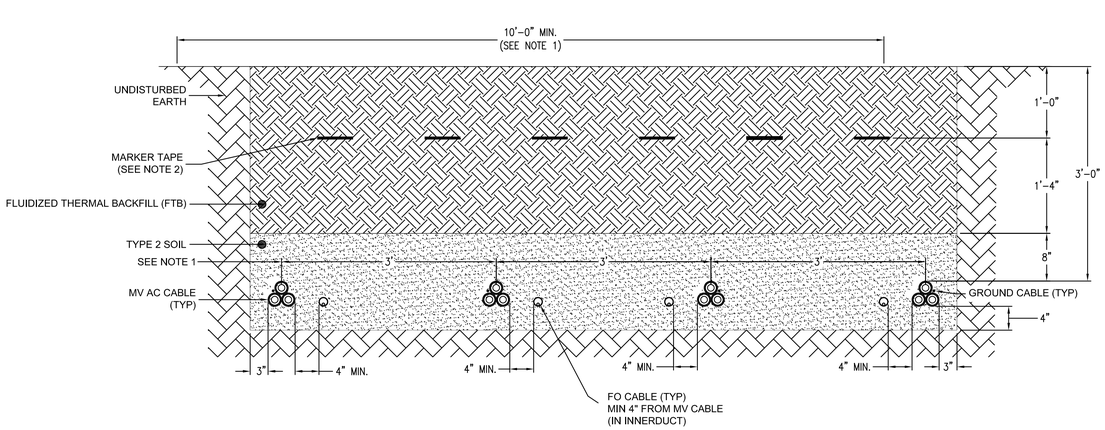
TWO CIRCUIT POWER CABLE TRENCH SPACING

SCALE: NTS
MVAC (3-1/C TRIPLEX)

NOTES:

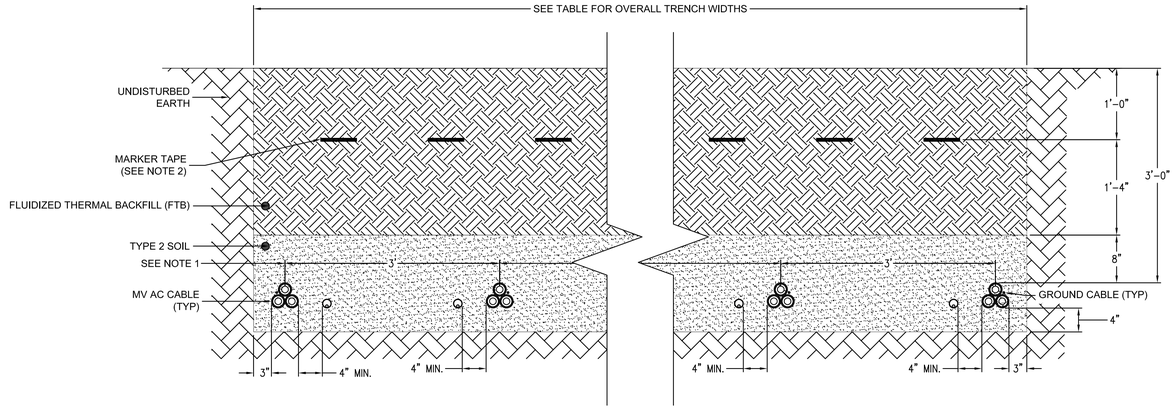
1. THIS DRAWING IS DIAGRAMMATIC AND INTENDED TO SHOW THE TYPICAL LEVELS AND MINIMUM SPACING BETWEEN CABLES WITHIN THE TRENCH. THE EXACT TYPE OR NUMBER OF CABLES MAY VARY FROM WHAT IS SHOWN. NARROW OR WIDEN TRENCH AS NEEDED. TO DETERMINE WHERE CABLES ARE APPLICABLE ON THE SITE, REFERENCE ALL AC, GROUNDING, FIBER OPTIC AND ALL OTHER CABLING PLANS.
2. INSTALL 6" WIDE RED DETECTABLE MARKER TAPE IN ALL TRENCHES EVERY 18" ACROSS EXCAVATED AREA.
3. DIMENSIONS TO CABLE LAYERS ARE FROM FINISHED GRADE TO THE EDGE OF CABLES, EXCEPT WHERE NOTED.
4. BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 85% OF THE MAXIMUM DRY DENSITY. AT ROAD CROSSINGS, BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95%. FILL LIFT SHALL NOT EXCEED 9". SEE PROJECT GEOTECHNICAL REPORT FOR SITE SPECIFIC REQUIREMENTS.
5. CLEAN FILL REQUIREMENTS:
   - 8A. TYPE 1: NATIVE SOIL, SHALL BE USED FOR BACKFILL AS SHOWN IN SECTIONS CONTAINING PARTICLES NO LARGER THAN 3" IN DIAMETER.
   - 8B. TYPE 2: FILL SHALL BE CLEAN MATERIAL CONTAINING PARTICLES NO LARGER THAN 3/8" IN DIAMETER IN THE AREA 8" ABOVE AND 4" BELOW.
6. TREFOIL CABLE SHALL BE SECURED AT INTERVALS NOT EXCEEDING 3'.

TRENCH WIDTH TABLE					
NUMBER OF CIRCUITS	5	6	7	10	12
TRENCH WIDTHS (FT)	15	18.5	22	32.5	39.5



FOUR CIRCUIT POWER CABLE TRENCH SPACING

SCALE: NTS
MVAC (3-1/C TRIPLEX)



MULTIPLE POWER CABLE TRENCH SPACING

SCALE: NTS
MVAC (3-1/C TRIPLEX)

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

REV.	BY	DATE	STATUS
C	TMH/SME	11/17/2025	ISSUED FOR REVIEW
B	TMH/SME	10/24/25	ISSUED FOR REVIEW - INCORPORATING CLIENT COMMENTS (NOT FOR CONSTRUCTION)
A	TMH/SME	09/15/25	ISSUED FOR REVIEW (NOT FOR CONSTRUCTION)

LONGROAD ENERGY
AGAWAM ENERGY SUBSTATION
AGAWAM, MA

TRENCH DETAILS

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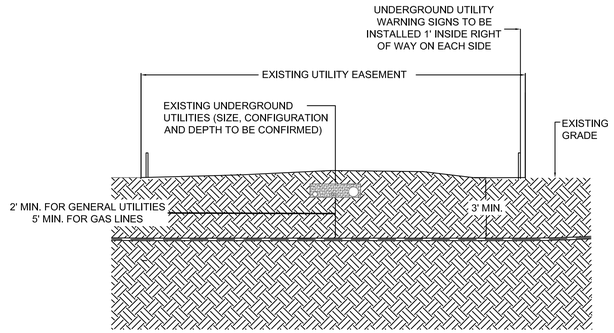
DESIGN BY:	JJS/SME
DRAWN BY:	JJS/SME
CHECKED BY:	CLR/SME
APRV'D BY:	TMH/SME
DATE:	09/15/2025
SCALE:	NONE

JOB NO. 250741.02 DWG FILE AW1-U-600

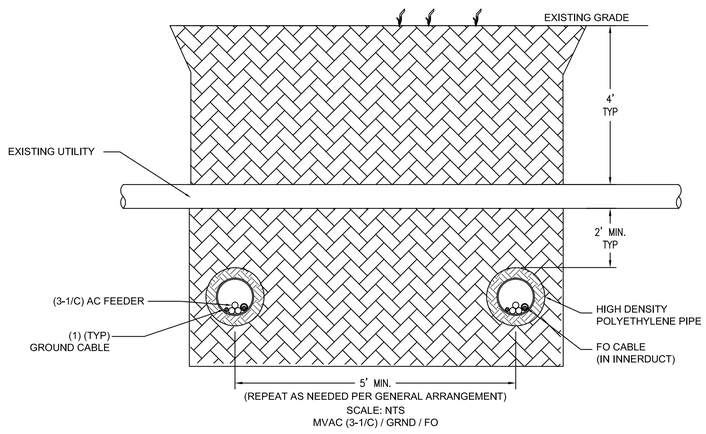
REV C

NOTES:

1. THIS DRAWING IS DIAGRAMMATIC AND INTENDED TO SHOW THE TYPICAL LEVELS AND MINIMUM SPACING BETWEEN CONDUITS AND EXISTING UTILITIES WITHIN THE EASEMENT. THE EXACT TYPE OR NUMBER OF CABLES MAY VARY FROM WHAT IS SHOWN.
2. FOR UTILITY CROSSING LOCATIONS SEE DRAWING AW1-U-200.
3. BORE DEPTH TO BE MINIMUM AS SHOWN OR PURSUANT TO CROSSING AGREEMENTS.
4. CONSTRUCTION MEANS AND METHODS FOR UTILITY CROSSING TO BE DETERMINED DURING DETAILED DESIGN.



THE MINIMUM VERTICAL CLEARANCE SHALL ACCOUNT FOR EXISTING FEATURES SUCH AS DITCHES, UNDERGROUND UTILITIES AND OTHER OBSTRUCTIONS, AND SHALL MEET ALL CLEARANCE REQUIREMENTS SET FORTH BY THE GOVERNING JURISDICTION. THE FULL CLEARANCE DEPTH MUST BE MAINTAINED THROUGHOUT THE ENTIRETY OF THE RIGHT OF WAY. THE LOCATION AND DEPTH OF EXISTING UTILITIES MUST BE DETERMINED PRIOR TO DRILLING.



TRENCHLESS SECTION - UTILITIES

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION
11/17/2025

REV.	BY	DATE	STATUS
C	TMH/SME	11/17/2025	ISSUED FOR REVIEW
B	TMH/SME	10/24/25	ISSUED FOR REVIEW - INCORPORATING CLIENT COMMENTS (NOT FOR CONSTRUCTION)
A	TMH/SME	09/15/25	ISSUED FOR REVIEW (NOT FOR CONSTRUCTION)

LONGROAD ENERGY
AGAWAM ENERGY CENTER
AGAWAM, MA

BORING DETAILS

SME
SEVEE & MAHER ENGINEERS
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4 Blanchard Road, PO Box 85A, Cumberland, Maine 04021
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DESIGN BY:	JJS/SME
DRAWN BY:	JJS/SME
CHECKED BY:	CLR/SME
APRV'D BY:	TMH/SME
DATE:	09/15/2025
SCALE:	NONE

JOB NO. 250741.02 DWG FILE AW1-U-601

REV C



Map Scale: 1:2,620 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 35 70 140 210

Feet
0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N 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 1:15,800.

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: Hampden County, Massachusetts, Central Part
Survey Area Data: Version 19, Sep 5, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 15, 2020—Oct 31, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

Attachment B

Request for Determination of Applicability
Agawam Energy Center Project

Narrative

BSC GROUP
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1.0 Introduction

On behalf of the applicant, Agawam Energy Center, LLC, BSC Group, Inc. (BSC) is submitting a Request for Determination of Applicability (RDA) to confirm the boundaries of wetland resource areas that have been identified at the property located at 769 Silver Street in Agawam, MA (the Site; G6_2_6) and to determine whether the Agawam Energy Center Project (the Project) is subject to jurisdiction under the Massachusetts Wetlands Protection Act (WPA). The enclosed Site plan (Attachment A) depicts boundaries of proposed Project activities relative to delineated wetland resource areas as defined by the Massachusetts Wetlands Protection Act (M.G.L. Ch. 131, Sec. 40) and implementing regulations at 310 CMR 10.00. Please also refer to Attachment A for the Site Locus map.

2.0 Project Description

Agawam Energy Center, LLC (Applicant) proposes to develop an approximately 250 megawatt (MW), 1,000 megawatt hour (MWh), battery energy storage system (BESS) on the 17.2 acre Site located at 769 Silver Street (Map G6, Block 2, Lot 6) in Agawam, Massachusetts (the Project). The Project will utilize lithium-ion (Li-ion) chemistry and will interconnect at Eversource's South Agawam 115 kV switchyard located to the southeast, approximately 600 feet from the Project.

The BESS Project is intended to charge during hours where electricity demand is low, such as in the middle of the night, and discharge energy to the electrical grid during seasonal peak periods and monthly peak hours. By strategically charging and discharging, the Project will serve to displace fossil fuel generation in the Northeast and reduce carbon intensity of generation in Massachusetts.

The proposed technology is Fluence's Smartstack, or equivalent Li-ion battery provider or technology, an air conditioning-integrated solution using Li-ion batteries and will include safety features such as sensors, alarms, a deflagration system, and a venting system. Regular maintenance will be conducted to ensure the safe operation of the BESS. The associated battery containers, transformers, and inverters will sit on concrete pads that will be enclosed by a fence that will act as a physical, visual, and sound barrier as detailed in the attached plans.

The work will be conducted completely outside of all Areas Subject to Protection under M.G.L. c. 131, Section 40 listed in 310 CMR 10.02(1), as well as all buffer zones associated with Areas Subject to Protection. During construction, various Best Management Practices (BMPs) including erosion controls will be utilized to prevent impacts to adjacent resource areas and buffer zones. Therefore, the Applicant is seeking a Negative Determination of Applicability for the Project.

4.0 Existing Site Conditions

The Site encompasses approximately 17.2 acres and contains a mix of existing buildings and storage structures, gravel and paved yard areas, a pond previously identified by NHESP as a Potential Vernal Pool, and a maintained field dominated by common mugwort (*Artemisia vulgaris)* in the northeastern portion of the property. Topography across most of the Site is relatively flat. However, the eastern edge slopes sharply into a steep ravine that supports a wetland and intermittent stream system within woodlands that extend along the eastern boundary. The majority of the wetland system is located off-site further to the east.

The property is located in an industrial area and is a former lumber yard with eight (8) existing buildings and a roadway network that were associated with the business. Of the eight (8) existing buildings on the Site, the two (2) along the southwest property line will be fully retained and a third, the one closest to Silver Street, will have its rear section demolished while the front portion will be retained for office and administrative uses. All areas within the Project Site have been previously developed and disturbed.

The US Natural Resources Conservation Service (NRCS) Web Soil Survey indicates Merrimac fine sandy loam, 0 to 3 percent slopes (254A) as occurring in the majority of the Site. The delineated BVW is mapped as Merrimac fine sandy loam, 8 to 15 percent slopes (254C). Inland bank associated with the delineated pond is mapped as Merrimac fine sandy loam, 3 to 8 percent slopes (254B). Other soils within the Project Site include 258B, Amostown fine sandy loam, 0 to 3 percent slopes, and 254B, Merrimac fine sandy loam, 3 to 8 percent slopes. The full NRCS soil map is contained in Attachment A.

5.0 State Jurisdictional Wetland Resource Areas

On April 17th, 2025, wetland scientists Rachel Towes and Jonathan Monderer of BSC Group, Inc. completed wetland delineations at 769 Silver Street to document all resource areas present on the Site. This delineation was conducted in accordance with Massachusetts Department of Environmental Protection (MassDEP) methodologies and the US Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (2012). Wetlands and other resource areas located outside of the property at 769 Silver Street were estimated.

BSC placed sequentially numbered flagging tape for Bordering Vegetated Wetlands (BVW) and Inland Bank for all observable resources on the Site. After resources were flagged and delineated, the boundary and flag locations were recorded with a survey grade GPS. Locations of the delineated wetland resource areas are indicated on the project Site Plan provided in Attachment A (titled "Agawam Energy Center Environmental Resources Map" produced by BSC 11/24/2025).

Data were collected using the plot methodology established by the MassDEP handbook for "Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act" and the USACE regional supplement. The data were then used to complete a USACE wetland determination data form for both a wetland and upland plot.

The following wetland resource areas and jurisdictional areas were identified and established on the Site:

- Bordering Vegetated Wetlands (BVW)
- Inland Bank
- Land Under Water Bodies and Waterways (LUW)
- 100-foot Buffer Zone

The delineation flag numbering system shown on the Site plan represents the first two letters of town name, the resource type abbreviation, and the numbered series.

For example:
AG-W1-100 stands for Agawam – Wetland 1 – Flag 100 (used for BVW)

The delineated resource areas and the associated length of each boundary are estimated in the following table while the paragraphs provide a detailed overview of each area. Attachment C contains the USACE wetland determination forms and photographs representative of each wetland.

In total, one (1) BVW, one (1) pond, and two (2) interconnecting intermittent stream channels were delineated on-site.

Bordering Vegetated Wetlands

Wetland AG-W1

This BVW can be classified as a forested wetland and runs along the eastern side of the parcel. Two intermittent stream channels, AG-SB1 and AG-SB2, run through the BVW. Vegetative communities within the wooded area consist primarily of Eastern cottonwood (*Populus deltoides*), red maple (*Acer rubrum*), yellow birch (*Betula alleghaniensis*), American beech (*Fagus grandifolia*), quaking aspen (*Populus tremuloides*), northern red oak (*Quercus rubra*), highbush blueberry (*Vaccinium corymbosum*), arrowwood viburnum (*Viburnum dentatum*), and skunk cabbage (*Symplocarpus foetidus*). Soils in the wetland generally consist of a 12-inch layer of sandy loam with hue, value, and chroma of 10YR 2/1, followed by 6+ inches of 10YR 2/1 (sandy loam) with 20% redox concentrations of 7.5YR 4/4 hue, value, and chroma. Soils generally are saturated at 0 inches, surface water is present at a depth of 1 inch, and the water table is at 6 inches.

Waterbodies and Waterways

Intermittent Streams AG-SB1 and AG-SB2

Intermittent stream AG-SB1 flows out of an impounded pond via a culvert. This stream flows within wetland AG-W1 and generally flows north. It is approximately 4-10 feet wide and contained 1-3 inches of water during the Site visit.

Intermittent stream AG-SB2 flows out from a culvert (which likely originates off-site) and connects with stream AG-SB1. AG-SB2 flows north/northeast.

Within both streams, vegetation was dominated by skunk cabbage. Other vegetation present along the banks of both streams were yellow birch, red maple, silver maple (*Acer saccharinum*), as well as Asiatic bittersweet (*Celastrus orbiculatus*), multiflora rose (*Rosa multiflora*), and poison ivy (*Toxicondendron radicans*). These streams flow east off-site and are likely hydrologically connected to Tarkill Brook.

Waterbody AG-P1

Waterbody AG-P1 is located in the southeastern portion of the parcel and is mapped by the Natural Heritage and Endangered Species Program (NHESP) as Potential Vernal Pool (PVP) 287. AG-P1 was verified during the Site investigations to be a pond that was created as a water source for livestock and is most likely hydrologically connected with field-delineated wetland AG-W1 and intermittent stream AG-SB1 (no actual connection was observed in the field). AG-P1 is located within upland woods and is a deep, concave pond that was found to hold over 3 feet (approximately) of standing water on the date of the Site visit. The pond is approximately 100 feet in length and 50

feet wide. It appears that the pond may hold water year-round. The field evaluation concluded that AG-P1 is not likely a vernal pool, as shown in Table 1 below.

Duckweed (*Lemna sp.*) was observed along the southern and eastern edges of the pond. The substrate consisted of muck and leaf litter. Some dumping (tires and a plastic bucket) was observed within the pond along the southern edge. The water was clear and tannic, most likely due to the decaying leaf litter within the pond. Various aquatic insects were observed, suggesting healthy water quality conditions. Mayfly (Order *Ephemeroptera*) and damselfly (Suborder *Zygoptera*) nymphs and caddisfly (Order *Trichoptera*) larvae were among the aquatic insects observed while sampling. The pond is most likely hydrologically connected with field-delineated wetland AG-W1 and intermittent stream AG-SB1. There may be an outlet within the gaps in stone masonry located on the northeastern edge of the pond. No vegetation was observed growing within the pond, but surveyors noted woody debris, including branches suitable for salamanders to attach egg masses to within the pond. Tree canopy cover was approximately 25-30%. Dominant tree species surrounding the pond (and wetland AG-W1) include red maple, Northern red oak, American beech, quaking aspen, Eastern white pine (*Pinus strobus*), pin oak (*Quercus palustris*), black cherry (*Prunus serotina*), Eastern cottonwood, and yellow birch. Non-native species were observed throughout the Site, including common mugwort, black locust (*Robina pseudoacacia*), Autumn olive (*Elaeagnus umbellata*), multiflora rose, honeysuckle species (*Lonicera sp.*), purple loosestrife (*Lythrum salicaria*), and Asiatic bittersweet. No obligate indicator species or facultative species were observed during the survey within the pond. Two mallards (*Anas platyrhynchos*) and one snapping turtle (*Chelydra serpentina*) were observed within the pond and one Eastern garter snake (*Thamnophis sirtalis*) was observed along the southern bank.

Table 1. Summary of the Vernal Pool Survey Results

CVP or PVP #	Associated Wetland ID	Priority Habitat	VP Type	Description	Indicator Species
PVP 287	AG-P1 AG-W1	N/A	N/A	Likely not a vernal pool. No obligate indicator species observed. No facultative species observed. The pond appears to be present year-round. Presence of duckweed along the edges of the pond.	N/A

As a result of the vernal pool survey, field investigations determined that PVP 287 is not a Vernal Pool and exhibits more characteristics of a pond.

6.0 Other Environmental Resources

BSC reviewed applicable, publicly available MassGIS data-layers to determine the presence of other environmental resources. The Site contains an area mapped by NHESP as Priority and Estimated Habitat for state-listed species along the northeast/east border of the Site. The Site does not contain any NHESP-mapped Certified Vernal Pools and is not located in a watershed for Outstanding Resource Waters, an Area of Critical Environmental Concern, Wellheads, or any FEMA flood zones.

7.0 Proposed Impacts

The proposed Project has been designed to avoid impacts to the adjacent wetland resource areas. All components of the Project, including the BESS components, substation, electrical interconnections, above- and below-ground utilities, access roads, and proposed stormwater management features are located entirely outside the delineated resource areas and the 100-foot Buffer Zone. A stormwater management plan, as well as operational and emergency response plans for the BESS, are being developed to ensure activities during construction and operation will not adversely affect nearby resource areas. Based on this design, the Project is not expected to result in any impacts to areas subject to protection under the Massachusetts Wetlands Protection Act.

8.0 Proposed Avoidance and Minimization Measures

Construction Sequencing and Limits of Work

Prior to any ground disturbance occurring on-site, the limits of work will be marked with stakes or construction fencing, and erosion and sediment controls will be installed around the perimeter of the Project area. These perimeter controls will ensure that no earth disturbance occurs outside of the planned Project area and that no sedimentation enters jurisdictional areas. During construction, soil stockpiling and equipment staging will be avoided near resource areas to prevent any pollutant or sediment discharges into jurisdictional areas. Erosion and sediment controls around the perimeter of the work area will remain in place until work is complete and all disturbed areas have been stabilized by vegetation or other means.

Stormwater Management

A Stormwater Management Plan has been developed for the Project in accordance with the Massachusetts Stormwater Handbook and accompanying Checklist. The proposed system has been designed to ensure that construction and long-term Project operations do not increase stormwater runoff or introduce pollutants to nearby resource areas.

Stormwater generated on-site will be managed through a combination of infiltration and detention practices. A stormwater detention basin will be constructed to capture, detain, and treat runoff in compliance with the Stormwater Standards. Where feasible, stormwater will infiltrate on-site; any remaining runoff will be conveyed to the detention basin through properly stabilized drainage features. The basin has been sized to attenuate peak flows and provide water-quality treatment prior to discharge.

These stormwater controls will minimize potential erosion, reduce downstream flow impacts, and ensure that stormwater is managed entirely outside jurisdictional wetland resource areas. The design will be implemented and maintained in accordance with the approved plans, providing long-term protection to adjacent resource areas and compliance with the Wetlands Protection Act.

Erosion and Sediment Controls

Prior to the start of any construction activities, appropriate erosion and sedimentation control (ESC) measures will be installed to prevent the transport of sediment toward adjacent resource areas or catch basins. These controls may include, but are not limited to, silt fencing, straw bales, fiber rolls, and/or straw wattles, depending on Site conditions and final construction sequencing. All ESCs will be installed in accordance with the Massachusetts Erosion and Sediment Control Guidelines and manufacturer specifications.

ESCs will be maintained throughout the duration of construction and inspected regularly, particularly after significant precipitation events. Any damaged or compromised controls will be repaired or replaced immediately to ensure continued effectiveness. Disturbed areas will be stabilized as soon as practicable. Upon completion of construction and stabilization of exposed soils, all temporary ESCs will be removed, and any accumulated sediment will be properly disposed of.

Vehicle Refueling and Maintenance

All vehicle refueling, lubrication, and routine maintenance activities will occur only in designated areas located on stable, impervious surfaces and situated well away from all environmentally sensitive resource areas, including wetlands, storm drain inlets, culverts, and wells. These designated areas will be selected to ensure that any accidental drips, spills, or equipment leaks are contained and do not migrate toward adjacent jurisdictional areas.

During refueling operations, contractors will employ appropriate spill-prevention practices, including the placement of absorbent pads, drip pans, or secondary containment devices beneath fuel tanks and hoses as needed. Spill kits will be maintained on-site and immediately accessible. Any spills will be cleaned up promptly and contaminated materials disposed of in accordance with applicable regulations.

Contractors will inspect refueling and maintenance areas regularly to ensure equipment is functioning properly and that no leaks are present. Should a vehicle exhibit persistent fluid leaks, it will be removed from service until repaired. These measures will minimize the risk of pollutant discharge and ensure protection of nearby wetland resource areas throughout the construction period.

Restoration

The Project has been designed to ensure that all temporarily disturbed areas will be restored and stabilized upon completion of construction activities. Any areas disturbed during clearing, grading, or equipment staging that are not required for permanent facilities will be loamed, seeded with an appropriate erosion-control or native seed mix, and stabilized to prevent erosion and sedimentation. All construction debris, excess materials, and temporary erosion and sediment controls will be removed from the Site once disturbed soils have been adequately stabilized. The Contractor will ensure the Site is cleaned of all waste and regraded as necessary to achieve positive drainage and stable ground conditions. Permanent stormwater management features will be installed and maintained in accordance with the approved stormwater design to ensure long-term protection of adjacent resource areas.

9.0 Conclusion

Based on the information provided in this Request for Determination of Applicability, Agawam Energy Center, LLC respectfully requests that the Agawam Conservation Commission issue a **Negative Determination of Applicability – Type 1**, indicating that *"the work described in the Request is not within an area subject to jurisdiction under the Wetlands Protection Act, including the Buffer Zone."* As all proposed work is located outside the limits of jurisdictional wetland

resource areas and the 100-foot Buffer Zone, it is the Applicant's understanding that the Project does not require the filing of a Notice of Intent.

The Applicant further requests that the Commission affirm the delineated resource area boundaries as shown on the accompanying Site Plan. Approval of these boundaries and the proposed Project will allow the Applicant to proceed with construction in compliance with the Massachusetts Wetlands Protection Act.

Attachment C

Request for Determination of Applicability
Agawam Energy Center Project

MassDEP Data Forms
Site Photographs

BSC GROUP
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WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 769 Silver St City/County: Agawam Sampling Date: April 17, 2025

Applicant/Owner: Agawam Energy Center, LLC Investigator(s): Jonathan Monderer, Rachel Toews State: MA Sampling Point: AG-W1 wet

Landform (hillslope, terrace, etc.): Toe Slope Local relief (concave, convex, none): Concave Slope(%): 1-2%

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.0519 Long: -72.6495 Datum: WGS 84 Soil Map Unit Name: Merrimac fine sandy loam, 8 to 15 percent slopes NWI classification: PFO-1E

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation Present?	Yes X No ___	**Is the Sampled Area within a Wetland?** **Yes X No ___**
Hydric Soil Present?	Yes X No ___	If yes, optional Wetland Site ID: AG-W1
Wetland Hydrology Present?	Yes X No ___	

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☑ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ Microtopographic Relief (D4)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1
Water Table Present?	Yes X	No ___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: AG-W1

Tree Stratum (Plot size: 30)	Absolute Cover %	Dominant Species?	Indicator Status
1. Acer rubrum (Red Maple)	20.5		FAC
2.			
3.			
4.			
5.			
6.			
7.			
	20.5 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. Sambucus nigra (Black Elder)	20.5		FACW
2. Lindera benzoin (Northern Spicebush)	20.5		FACW
3.			
4.			
5.			
6.			
7.			
	41 = Total Cover		
Herb Stratum (Plot size: 5)			
1. Symplocarpus foetidus (Skunk Cabbage)	63		OBL
2. Impatiens capensis (Jewelweed)	10.5		FACW
3.			
4.			
5.			
6.			
7.			
	73.5 = Total Cover		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by
OBL species 63	X 1 = 63
FACW species 51.5	X 2 = 103
FAC species 20.5	X 3 = 61.5
FACU species	X 4 =
UPL species	X 5 =
Column Totals: 135 (A)	227.5 (B)

Prevalence Index = B/A = 1.69

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☒ 2 - Dominance Test is >50%

☒ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks)

☐ 5 - Problematic Hydrophytic Vegetation[1]

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? ☑ Yes ☐ No

Remarks: (Include photo numbers here or on separate sheet.)

SOIL

Sampling Point: AG-W1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12"	10YR 2/1	100		100			Sandy Loam	Saturated
12-18"+	10YR 2/1	80	7.5YR 4/4	20	Concentration (C)	Pore Lining	Sandy Loam	Coarse sandy loam
	/							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Surface Water (A5)
- ☑ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain below)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches) : _____

Hydric Soil Present? Yes X **No** ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: 769 Silver St Agawam City/County: Agawam Sampling Date: April 17, 2025

Applicant/Owner: Agawam Energy Center, LLC Investigator(s): Jonathan Monderer, Rachel Toews State: MA Sampling Point: AG-W1 upl

Landform (hillslope, terrace, etc.): Back Slope Local relief (concave, convex, none): None Slope(%): 20

Subregion (LRR or MLRA): LRR R, MLRA 145 Lat: 42.0519 Long: -72.6496 Datum: WGS 84 Soil Map Unit Name: Merrimac fine sandy loam, 8 to 15 percent slopes NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation __, Soil __, or Hydrology __ significantly disturbed? Are "Normal Circumstances" present? Yes X No X

Are Vegetation __, Soil __, or Hydrology __ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** _____
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): _____
Water Table Present?	Yes _____	No X	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): _____

Wetland Hydrology Present? Yes __ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: AG-W1 upl

Tree Stratum (Plot size: 30)	Absolute Cover %	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 = Total Cover		

Herb Stratum (Plot size: 5)			
1. Artemisia vulgaris (Mugwort)	85.5		UPL
2. Alliaria petiolata (Garlic Mustard)	20.5		FACU
3. Impatiens capensis (Jewelweed)	10.5		FACW
4.			
5.			
6.			
7.			
	116.5 = Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by
OBL species	X 1 = 0
FACW species 10.5	X 2 = 21
FAC species	X 3 =
FACU species 20.5	X 4 = 82
UPL species 85.5	X 5 = 427.5
Column Totals: 116.5 (A)	530.5 (B)

Prevalence Index = B/A = 4.55

Hydrophytic Vegetation Indicators:

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0[1]

☐ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks)

☐ 5 - Problematic Hydrophytic Vegetation[1]

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? ☐ Yes ☑ No

Remarks: (Include photo numbers here or on separate sheet.)

SOIL Sampling Point: AG-W1 upl

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6"	10YR 3/3	100					Sandy Loam	
6-12"+	10YR 4/4	100					Sandy Loam	
	/							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Surface Water (A5)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ☐ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ☐ Dark Surface (S7) (**LRR K, L**)
- ☐ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ☐ Thin Dark Surface (S9) (**LRR K, L**)
- ☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ☐ Red Parent Material (F21)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain below)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches) : _____

Hydric Soil Present? Yes __ No __X__

Remarks:

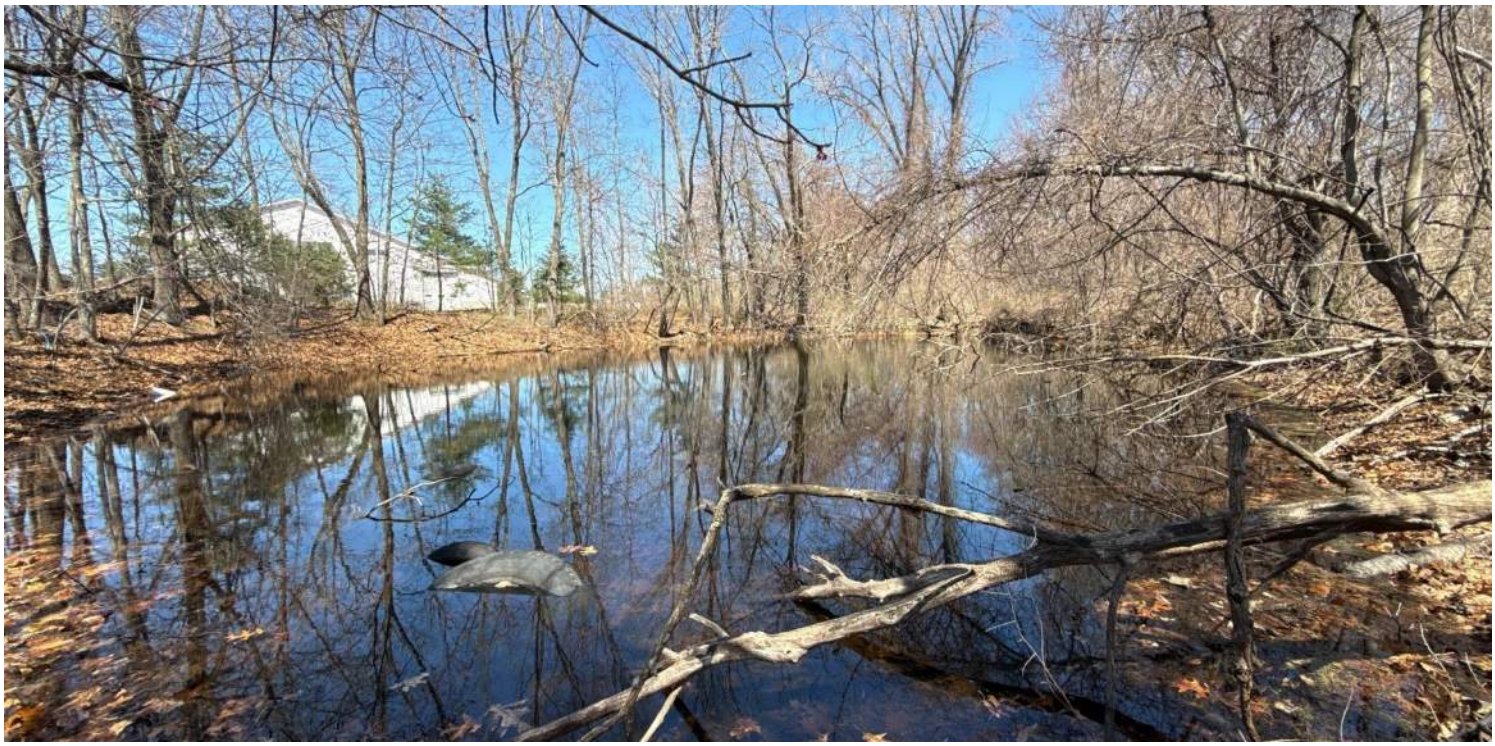


Photo 1: Overview of Potential Vernal Pool (PVP) 287, which was determined during field investigations not to meet the criteria to be considered a Vernal Pool. This pond is located on the southeast/eastern edge of the parcel within an upland wooded area. It is a large, deep, concave pond that was found to hold over 3 feet (approximately) of standing water on the date of the site visit. The pool is approximately 100 ft in length and 50 ft wide. No obligate indicator species or facultative species were observed. *Facing north. Surveyed 4/17/2025.*



Photo 2: View of stone masonry along the northeastern edge of the pond. There may be an outlet within the gaps in stone masonry likely hydrologically connecting the pond with field-delineated wetland AG-W1 and intermittent stream AG-SB1. No field indicators were present of an actual connection. *Facing northeast. Surveyed 4/17/2025.*



Photo 3: View of wetland AG-W1 and intermittent stream AG-SB1, near the pond. *Facing southwest. Surveyed 4/17/2025.*



Photo 4: View of wetland AG-W1 and intermittent stream AG-SB1, near the pond. *Facing north. Surveyed 4/17/2025.*



Photo 5: View of the back of the site, photo taken from the middle of the site. *Facing east. Surveyed 10/17/2025.*



Photo 6: View of proposed substation area in the southeast corner of the site. *Facing southeast. Surveyed 11/19/2025.*

AGAWAM CONSERVATION COMMISSION
March 12, 2026

MEMBERS PRESENT:
Henry Kozloski, Chair
Sheryl Becker
Jill Ward
Frank Meagher
Magda Galiatsos

MEMBERS ABSENT:
Keven Brown

ALSO PRESENT:
Stefanie Kesecker

Mr. Kozloski called the meeting to order at 6:00pm.

1. 6:00PM PUBLIC HEARING-Abbreviated Notice of Resource Area Delineation-311 Shoemaker Lane-Ameresco, Inc

David Cameron, Fleetwood Environmental Solutions, LLC was present for this agenda item. He stated the subject parcel was exclusively a corn field that predated the Wetlands Protection Act and has been an agricultural field for many decades. He stated that in September and October of 2025 Fleetwood conducted a visual inspection of the site and this included a meandered survey throughout the parcel. They also conducted desktop evaluations of maps and historical aerial images and related resources. He stated prior to this in 2015and 2016 the owner retained GZA to conduct natural resource evaluations, including a stream flow assessment for a small stream west of the parcel. He went on to say there is a man-made ditch along the eastern and southern portions of the parcel which delineated a Bordering Vegetated Wetland (BVW), and another BVW was located on the western portion, where there is also a bank and an intermittent stream, which indicates a 100ft. buffer zone. During the period of evaluation it was determined there was no flow to the stream.
Mr. Kozloski stated the DEP has recommended a peer review and that an ANRAD was submitted for this property in 2021 and a peer review was conducted at that time, and the application was withdrawn. The Commission discussed having a peer review done.

Motion was made by Mr. Meagher and seconded by Ms. Becker to require a peer review to delineate the wetland, for 311 Shoemaker Lane.

VOTE 5-0-0

Motion was made by Ms. Ward and seconded by Mr. Meagher to continue the PUBLIC HEARING-Abbreviated Notice of Resource Area Delineation-311 Shoemaker Lane-Ameresco, Inc to the March 26, 2026 meeting.

VOTE 5-0-0

2. REQUEST FOR DETERMINATION CONT-769 Silver Street-Agawam Energy Center, LLC

The Conservation Commission received a request to continue this agenda item to the March 26, 2026 meeting.

Motion was made by Ms. Ward and seconded by Ms. Galiatsos to continue the REQUEST FOR DETERMINATION CONT-769 Silver Street-Agawam Energy Center, LLC to the March 26, 2026 meeting as requested.

VOTE 5-0-0

3. APPROVAL OF MINUTES-February 26, 2026

Motion was made by Ms. Becker and seconded by Ms. Galiatsos to approve the February 26, 2026 minutes as written.

VOTE 4-0-1(Meagher)

4. Correspondence and Complaints

Mr. Kozloski stated there is a report of erosion between 64 and 56 Thalia Drive and an onsite would be scheduled.

Motion was made by Ms. Ward and seconded by Mr. Meagher to adjourn the meeting.

VOTE 5-0-0

Meeting adjourned at 6:30pm.

DRAFT