Notice of Intent Application

Mill Brook Corridor & Wellington Park Revitalization Phase – 3 Project

Arlington, Massachusetts

---

2 September, 2020

Subject Property

Wellington Park
35 Grove Street
Parcel Number 54-1-1
Arlington, Massachusetts 02476

Applicant and Owner

Emily Sullivan
Town of Arlington
730 Massachusetts Avenue
Arlington, Massachusetts 02476
(781) 316-3012

Representative

Hatch
27 Congress Street, Suite 508
Salem, MA 01970
(978) 224-3122

HATCH

September 2, 2020

Reference: H/362472/100

Arlington Conservation Commission
Attn: Emily Sullivan
730 Massachusetts Avenue
Arlington, MA 02476

Subject: Notice of Intent
Mill Brook Corridor and Wellington Park Revitalization – Phase 3

Dear Members of the Conservation Commission,

On behalf of the owners, the Town of Arlington, Hatch Associates Consultants, Inc. (Hatch) is submitting this Notice of Intent (NOI) Application pursuant to the Massachusetts Wetlands Protection Act (MGL Chapter 131, Section 40) and the Town of Arlington Wetlands Protection Bylaw for the proposed renovations at Wellington Park.

Enclosed please find:

One original and seven copies of the NOI submission

We look forward to meeting with you at the September 17, 2020 Public Hearing. If you have any questions regarding this application or require additional information, please contact me at (978) 224-3110 or at andrew.keel@hatch.com.

Respectfully,

HATCH
Andrew Keel, PLA
Project Manager, Landscape Architect

Cc: DEP Northeast Regional Office

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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

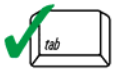
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Arlington
City/Town

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



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

A. General Information

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

35 Grove Street — a. Street Address
Arlington — b. City/Town
02476 — c. Zip Code

Latitude and Longitude:
42deg25'13.27"N — d. Latitude
71deg10'3.28"W — e. Longitude

54,55 — f. Assessors Map/Plat Number
054.0-0001-0001.1,0.55B-0001-0010.0 — g. Parcel /Lot Number

2. Applicant:

Emily — a. First Name
Sullivan — b. Last Name
Town of Arlington — c. Organization
730 Massachusetts Avenue — d. Street Address
Arlington — e. City/Town
MA — f. State
02476 — g. Zip Code
(781) 316-3012 — h. Phone Number
i. Fax Number
ESullivan@town.arlington.ma.us — j. Email Address

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

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

4. Representative (if any):

Andrew — a. First Name
Keel — b. Last Name
Hatch Associates Consultants, Inc. — c. Company
27 Congress St. Suite 508 — d. Street Address
Salem — e. City/Town
MA — f. State
01970 — g. Zip Code
(978) 224-3110 — h. Phone Number
i. Fax Number
andrew.keel@hatch.com — j. Email address

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

exempt — a. Total Fee Paid
na — b. State Fee Paid
na — c. City/Town Fee Paid

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A. General Information (continued)

6. General Project Description:

Mill Brook Corridor & Wellington Park Revitalization - Phase 3

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)

310 CMR 10.53(4)(e)(5) Other: Planting of vegetation to improve habitat value; fill removal and regrading; invasive species

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)
Middlesex County	
c. Book	**d. Page Number**
5718	57

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

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

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. ☒ Bank	8 (1. linear feet)	8 (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	2,725 (1. square feet); 40 (3. cubic feet of flood storage lost)	2,750 (2. square feet); 600 (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	Mill Brook (1. Name of Waterway (if available) - **specify coastal or inland**)	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☒ 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: 300,000 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.
22,780	21,250	1,530

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

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

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

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

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

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

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

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

   2020
   b. Date of map

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

   c. Submit Supplemental Information for Endangered Species Review*

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

         (a) within wetland Resource Area _____ percentage/acreage

         (b) outside Resource Area _____ percentage/acreage

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

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

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

   (b) ☒ Photographs representative of the site

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

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

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

(c) ☐ MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_fee_schedule.htm). Make check payable to "Commonwealth of Massachusetts - NHESP" and ***mail to NHESP*** at above address

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

(d) ☐ Vegetation cover type map of site

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

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhesp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

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

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

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

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

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

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

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

North Shore - Hull to New Hampshire border:

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

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

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

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

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

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

   b. ACEC

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

   a. ☐ Yes ☒ No

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

   a. ☐ Yes ☒ No

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

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

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

      2. ☒ A portion of the site constitutes redevelopment

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

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

      1. ☐ Single-family house

      2. ☐ Emergency road repair

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

D. Additional Information

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

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

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

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

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

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D. Additional Information (cont'd)

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

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

See appendix G Plans
a. Plan Title

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

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

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

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

8. ☐ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

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

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

2. Municipal Check Number

3. Check date

4. State Check Number

5. Check date

6. Payor name on check: First Name

7. Payor name on check: Last Name

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

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F. Signatures and Submittal Requirements

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

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

1. Signature of Applicant	2. Date: 9/2/2020
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any): Andrew Keel	6. Date: 9/2/2020

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

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

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

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

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NOI Wetland Fee Transmittal Form

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

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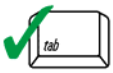

A. Applicant Information

1. Location of Project:

a. Street Address | b. City/Town

c. Check number | d. Fee amount

2. Applicant Mailing Address:

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

3. Property Owner (if different):

a. First Name | b. Last Name

c. Organization

d. Mailing Address

e. City/Town | f. State | g. Zip Code

h. Phone Number | i. Fax Number | j. Email Address

B. Fees

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.

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NOI Wetland Fee Transmittal Form

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B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee

Step 5/Total Project Fee: _____

Step 6/Fee Payments:

Total Project Fee: _____ a. Total Fee from Step 5

State share of filing Fee: _____ b. 1/2 Total Fee **less $**12.50

City/Town share of filling Fee: _____ 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.)

Affidavit of Service

AFFIDAVIT OF SERVICE

I, Andrew Keel, being duly sworn, do hereby state as follows: on September 2, 2020, I mailed a "Notification to Abutters" in compliance with the second paragraph of Massachusetts General Laws, Chapter 131, s.40, the DEP Guide to Abutter Notification dated April 8, l994, and the Arlington Wetlands Protection Bylaw, Title V, Article 8 of the Town of Arlington Bylaws in connection with the following matter:

Mill Brook Corridor & Wellington Park Revitalization – Phase 3

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

Signed under the pains and penalties of perjury, this 2nd day of September 2020,

Andrew Keel, PLA
Project Manager, Landscape Architect
Hatch Associates Consultants, Inc.

Abutter Notification Form

Abutter Notification

Notification to Abutters Under the Massachusetts Wetlands Protection Act and Arlington Wetlands Protection Bylaw

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

The Conservation Commission will hold a public hearing in the second floor conference room of the Town Hall Annex, 730 Massachusetts Avenue, Arlington, on ***17, September, 2020,*** at ***7:30pm*** in accordance with the provisions of the Mass. Wetlands Protection Act (M.G.L. Ch. 131, s. 40, as amended) and the Town of Arlington Bylaws Article 8, Bylaw for Wetland Protection, for a Notice of Intent (or Request for Determination of Applicability) from ***Emily Sullivan*****, for** ***Mill Brook Corridor & Wellington Park Revitalization*** at ***0 Grove Street,*** within ***200 feet of a Riverfront OR a floodway***, on Assessor's Property Map/s # **54, Lot/s # 54-1-1.**

A copy of the application and accompanying plans are available for inspection Mon. - Thurs. 8am-4pm and Fri. 8am-noon at the Conservation Commission office, first floor of the Town Hall Annex, 730 Massachusetts Avenue, Arlington, MA 02476. For more information call the applicant at ***(781) 316-3012*** or the Arlington Conservation Commission at 781-316-3012, or the DEP Northeast Regional Office at 978-694-3200.

NOTE: Notice of the Public Hearing will be published at least five (5) business days in advance in *The Arlington Advocate* and will also be posted at least 48 hours in advance in the Arlington Town Hall.

****

The meeting information for your hearing is:

Date: September 17, 2020

Time: 7:30pm

Certified List of Abutters

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

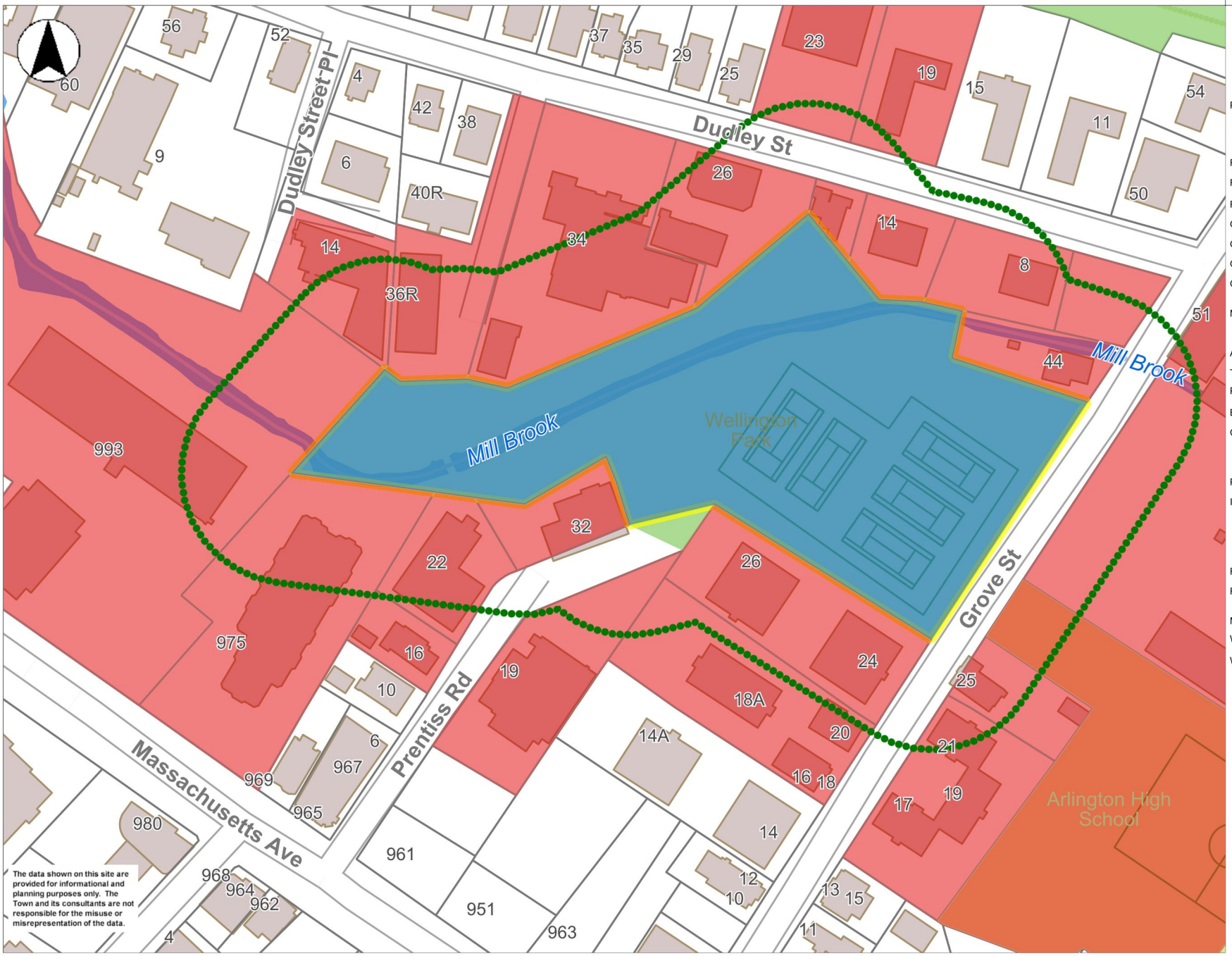
Abutters List
Date: July 22, 2020

Subject Property Address: 0-LOT GROVE ST Arlington, MA
Wellington Park
Subject Property ID: 54-1-1

Search Distance: 100 Feet
Conservation

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

Board of Assessors



The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.

Places by Category
- Police Station
- Fire Station
- School
- Library
- Public Works

Recreation - Facilities

Recreation - Fields Courts

Recreation - Fields Courts

Open Space: Conservation

Open Space - Minuteman B

Open Space - Labels

Open Space
- Town, State, or Priva
- Other Town Owned

MA Highways
- Interstate
- US Highway
- Numbered Routes

Abutting Towns

Town Boundary

Parcels

Buildings

Cemetery - Roads
- Road1
- Road2
- Road3
- Road4

Pavement Markings

Impervious Surface - For B
- Street
- Sidewalk
- Street Island
- Driveway
- Parking Lot
- Bike Path

Roads - For Large Scale (f

Roads - For Small Scale (f
- Major Road
- Local Road

Master Plan Base Map - M

Water Line

Water Body

0 160 320 ft

Printed on 07/22/2020 at 11:34 AM

Abutters List
Date: July 22, 2020

Subject Property Address: 0-LOT GROVE ST Arlington, MA
Wellington Park
Subject Property ID: 54-1-1

Search Distance: 100 Feet
Conservation

Prop ID: 54-1-19.A
Prop Location: 16-20 GROVE ST Arlington, MA
Owner: LOMBARD LEON E & SHIRLEY/TRS
Co-Owner: 20 GROVE STREET REALTY TRUST
Mailing Address:
20 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-1-21.A
Prop Location: 24-26 GROVE ST Arlington, MA
Owner: LOMBARD LEON E JR/TRUSTEE
Co-Owner: TARA-LEAH REALTY TR
Mailing Address:
20 GROVE ST
ARLINGTON, MA 02474

Prop ID: 54-1-24.A
Prop Location: 44 GROVE ST Arlington, MA
Owner: PRETZER XAVID
Co-Owner:
Mailing Address:
44 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-1-25.A
Prop Location: 0-LOT DUDLEY ST Arlington, MA
Owner: PRETZER XAVID
Co-Owner:
Mailing Address:
44 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-1-26
Prop Location: 8 DUDLEY ST Arlington, MA
Owner: ARLINGTON - DUDLEY REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQUARE
SOMERVILLE, MA 02143

Prop ID: 54-1-27
Prop Location: 14 DUDLEY ST Arlington, MA
Owner: ARLINGTON - DUDLEY REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQUARE
SOMERVILLE, MA 02143

Prop ID: 54-1-28
Prop Location: 0-LOT DUDLEY ST Arlington, MA
Owner: ARLINGTON - DUDLEY REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQUARE
SOMERVILLE, MA 02143

Prop ID: 54-2-6
Prop Location: 19 DUDLEY ST Arlington, MA
Owner: NOSTALGIA PROPERTIES LLC
Co-Owner:
Mailing Address:
39 BRIGHTON AVE
BOSTON, MA 02134

Prop ID: 54-3-2.A
Prop Location: 49 GROVE ST Arlington, MA
Owner: TOWN OF ARLINGTON TOWN YARD
Co-Owner: PUBLIC WORKS
Mailing Address:
730 MASS AVE
ARLINGTON, MA 02476

Prop ID: 54-3-2.B
Prop Location: 0-LOT GROVE ST Arlington, MA
Owner: TOWN OF ARLINGTON
Co-Owner: SCHOOL DEPT
Mailing Address:
27 MAPLE STREET
ARLINGTON, MA 02476

Prop ID: 54-3-3.A
Prop Location: 25 GROVE ST Arlington, MA
Owner: SUPPANISANUWONG PICHAI
Co-Owner:
Mailing Address:
25 GROVE ST
ARLINGTON, MA 02476

Prop ID: 54-3-4.A
Prop Location: 17-21 GROVE ST Arlington, MA
Owner: ARLINGTON-GROVE REALTY LLC
Co-Owner:
Mailing Address:
59 UNION SQ
SOMERVILLE, MA 02143

Prop ID: 54.A-1-3.1
Prop Location: 19 PRENTISS RD UNIT 1 Arlington, MA
Owner: ALOSIA REALTY TRUST 1349
Co-Owner: LEONE DAVID A ETAL TRS
Mailing Address:
19 PRENTISS RD UNIT 1
ARLINGTON, MA 02476

Prop ID: 54.A-1-3.2
Prop Location: 19 PRENTISS RD UNIT 2 Arlington, MA
Owner: SUNSHINE NURSERY SCHOOL INC.
Co-Owner:
Mailing Address:
19 PRENTISS RD UNIT 2
ARLINGTON, MA 02476

Prop ID: 55-1-14
Prop Location: 23 DUDLEY ST Arlington, MA
Owner: MALONEY SEAN P/TRUSTEE
Co-Owner: OXBOW REALTY TRUST
Mailing Address:
P. O. BOX 515
LEXINGTON, MA 02420

Prop ID: 55-2-1.A
Prop Location: 32 PRENTISS RD Arlington, MA
Owner: J & G PRENTISS LLC
Co-Owner:
Mailing Address:
32 PRENTISS RD
ARLINGTON, MA 02474

Prop ID: 55-2-3
Prop Location: 22 PRENTISS RD Arlington, MA
Owner: CARNEY JOHN A
Co-Owner:
Mailing Address:
98 RICHFIELD RD
ARLINGTON, MA 02474

Prop ID: 55-2-34
Prop Location: 14 DUDLEY CT Arlington, MA
Owner: 14 DUDLEY COURT LLC
Co-Owner:
Mailing Address:
6 EAST RD
SOUTH CHATHAM, MA 02659

Prop ID: 55-2-39.A
Prop Location: 36-R DUDLEY ST Arlington, MA
Owner: GREENE BRUCE
Co-Owner: JOHNSON LOUISE M
Mailing Address:
36R DUDLEY STREET
ARLINGTON, MA 02476

Prop ID: 55-2-39.B
Prop Location: 34 DUDLEY ST Arlington, MA
Owner: 34 DUDLEY STREET LLC
Co-Owner:
Mailing Address:
34 DUDLEY STREET
ARLINGTON, MA 02476

Prop ID: 55-2-41
Prop Location: 26 DUDLEY ST Arlington, MA
Owner: SANTINI MARK & GARY--TRS
Co-Owner: SANTINI REALTY TRUST
Mailing Address:
P.O. BOX 93
ARLINGTON, MA 02476

Prop ID: 55-2-5
Prop Location: 16 PRENTISS RD Arlington, MA
Owner: DELONG SARA & STEFFAN N
Co-Owner:
Mailing Address:
16 PRENTISS RD
ARLINGTON, MA 02476

Prop ID: 55.B-1-101
Prop Location: 993 MASS AVE UNIT 101 Arlington, MA
Owner: BUCHANAN ELAINE M
Co-Owner:
Mailing Address:
76 BEECH ST UNIT 2
BELMONT, MA 02478

Prop ID: 55.B-1-102
Prop Location: 993 MASS AVE UNIT 102 Arlington, MA
Owner: LIN JANE E
Co-Owner: LEE KEN A
Mailing Address:
993 MASS AVENUE #102
ARLINGTON, MA 02476

Prop ID: 55.B-1-103
Prop Location: 993 MASS AVE UNIT 103 Arlington, MA
Owner: MC KINNON GARRETT
Co-Owner:
Mailing Address:
239 PLEASANT STREET
ARLINGTON, MA 02476

Prop ID: 55.B-1-104
Prop Location: 993 MASS AVE UNIT 104 Arlington, MA
Owner: FABIANO DIANE M
Co-Owner:
Mailing Address:
993 MASS AVE #104
ARLINGTON, MA 02474

Prop ID: 55.B-1-105
Prop Location: 993 MASS AVE UNIT 105 Arlington, MA
Owner: URBAN JULIE A
Co-Owner:
Mailing Address:
993 MASS AVE #105
ARLINGTON, MA 02476

Prop ID: 55.B-1-106
Prop Location: 993 MASS AVE UNIT 106 Arlington, MA
Owner: BOWES ROBERT E
Co-Owner:
Mailing Address:
1010 MASS AVE
ARLINGTON, MA 02476

Prop ID: 55.B-1-107
Prop Location: 993 MASS AVE UNIT 107 Arlington, MA
Owner: SHANNON VIRGINIA A LIFE ESTATE
Co-Owner:
Mailing Address:
993 MASS AVENUE #107
ARLINGTON, MA 02476

Prop ID: 55.B-1-108
Prop Location: 993 MASS AVE UNIT 108 Arlington, MA
Owner: HART ASHLEY
Co-Owner:
Mailing Address:
993 MASSACHUSETTS AVE
UNIT 108
ARLINGTON, MA 02476

Prop ID: 55.B-1-109
Prop Location: 993 MASS AVE UNIT 109 Arlington, MA
Owner: LENNEY CHRISTOPHER
Co-Owner:
Mailing Address:
993 MASS AVENUE #109
ARLINGTON, MA 02476

Prop ID: 55.B-1-110
Prop Location: 993 MASS AVE UNIT 110 Arlington, MA
Owner: REED MARY ELLEN
Co-Owner:
Mailing Address:
993 MASS AVE #110
ARLINGTON, MA 02476

Prop ID: 55.B-1-111
Prop Location: 993 MASS AVE UNIT 111 Arlington, MA
Owner: OSHEA EILEEN
Co-Owner:
Mailing Address:
993 MASS AVE #111
ARLINGTON, MA 02476

Prop ID: 55.B-1-112
Prop Location: 993 MASS AVE UNIT 112 Arlington, MA
Owner: NARDONE WILLIAM & JEAN M
Co-Owner:
Mailing Address:
993 MASS AVENUE #112
ARLINGTON, MA 02476

Prop ID: 55.B-1-113
Prop Location: 993 MASS AVE UNIT 113 Arlington, MA
Owner: SHEEHAN MEAGHAN
Co-Owner:
Mailing Address:
581 OLD STRAWBERRY HILL RD
CENTERVILLE MA, MA 02632

Prop ID: 55.B-1-114
Prop Location: 993 MASS AVE UNIT 114 Arlington, MA
Owner: IKEMOTO BRIAN Y
Co-Owner:
Mailing Address:
993 MASS AVENUE #114
ARLINGTON, MA 02476

Prop ID: 55.B-1-115
Prop Location: 993 MASS AVE UNIT 115 Arlington, MA
Owner: CLERMONT JACQUELYN M
Co-Owner:
Mailing Address:
993 MASSACHUSETTS AVE #115
ARLINGTON, MA 02476

Prop ID: 55.B-1-117
Prop Location: 993 MASS AVE UNIT 117 Arlington, MA
Owner: CHYI SHYUE-LING
Co-Owner:
Mailing Address:
993 MASS AVENUE #117
ARLINGTON, MA 02476

Prop ID: 55.B-1-118
Prop Location: 993 MASS AVE UNIT 118 Arlington, MA
Owner: CHAN YUKTONG & MARY
Co-Owner:
Mailing Address:
993 MASS AVENUE UNIT 118
ARLINGTON, MA 02476

Prop ID: 55.B-1-119
Prop Location: 993 MASS AVE UNIT 119 Arlington, MA
Owner: KUNSMAN JANET M
Co-Owner:
Mailing Address:
134 WOODSIDE LANE
ARLINGTON, MA 02474

Prop ID: 55.B-1-120
Prop Location: 993 MASS AVE UNIT 120 Arlington, MA
Owner: BAGHDADI REZA
Co-Owner: SOLOUKI SAEIDEH
Mailing Address:
993 MASS AVE UNIT 120
ARLINGTON, MA 02476

Prop ID: 55.B-1-121
Prop Location: 993 MASS AVE UNIT 121 Arlington, MA
Owner: PANTAZOPOULOS NICHOLAS
Co-Owner:
Mailing Address:
993 MASS AVE #121
ARLINGTON, MA 02476

Prop ID: 55.B-1-122
Prop Location: 993 MASS AVE UNIT 122 Arlington, MA
Owner: LIVINGSTONE DAVID J
Co-Owner:
Mailing Address:
993 MASS AVENUE #122
ARLINGTON, MA 02476

Prop ID: 55.B-1-123
Prop Location: 993 MASS AVE UNIT 123 Arlington, MA
Owner: ARLINGTON HOUSING AUTHORITY
Co-Owner:
Mailing Address:
4 WINSLOW ST
ARLINGTON, MA 02476

Prop ID: 55.B-1-124
Prop Location: 993 MASS AVE UNIT 124 Arlington, MA
Owner: WILEY JUSTIN
Co-Owner:
Mailing Address:
993 MASS AVE #124
ARLINGTON, MA 02476

Prop ID: 55.B-1-125
Prop Location: 993 MASS AVE UNIT 125 Arlington, MA
Owner: CLABAUGH JERRY A
Co-Owner:
Mailing Address:
993 MASS AVENUE #125
ARLINGTON, MA 02476

Prop ID: 55.B-1-126
Prop Location: 993 MASS AVE UNIT 126 Arlington, MA
Owner: SOUZA PAUL A/TRUSTEE
Co-Owner: BLAIR MICHAEL WARD
Mailing Address:
204 OSCEOLA RD
BELLEAIR, FL 33770

Prop ID: 55.B-1-127
Prop Location: 993 MASS AVE UNIT 127 Arlington, MA
Owner: PASQUALE FRANCO
Co-Owner:
Mailing Address:
993 MASS AVE #127
ARLINGTON, MA 02474

Prop ID: 55.B-1-128
Prop Location: 993 MASS AVE UNIT 128 Arlington, MA
Owner: LAM VINCENT
Co-Owner: ZHAO YAN
Mailing Address:
993 MASS AVE UNIT 128
ARLINGTON, MA 02476

Prop ID: 55.B-1-201
Prop Location: 993 MASS AVE UNIT 201 Arlington, MA
Owner: BAGHDADI REZA
Co-Owner: SOLOUKI SAEIDEH
Mailing Address:
993 MASS AVE #201
ARLINGTON, MA 02476

Prop ID: 55.B-1-202
Prop Location: 993 MASS AVE UNIT 202 Arlington, MA
Owner: PARATORE JOSEPHINE
Co-Owner:
Mailing Address:
28 CROSS STREET
BELMONT, MA 02478

Prop ID: 55.B-1-203
Prop Location: 993 MASS AVE UNIT 203 Arlington, MA
Owner: DANALEVICH JENNIFER
Co-Owner:
Mailing Address:
1 CONN ST #3
WOBURN, MA 01801

Prop ID: 55.B-1-204
Prop Location: 993 MASS AVE UNIT 204 Arlington, MA
Owner: ILIC KATARINA
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 204
ARLINGTON, MA 02476

Prop ID: 55.B-1-205
Prop Location: 993 MASS AVE UNIT 205 Arlington, MA
Owner: PHIPPS HEATHER M
Co-Owner:
Mailing Address:
993 MASS AVE #205
ARLINGTON, MA 02474

Prop ID: 55.B-1-206
Prop Location: 993 MASS AVE UNIT 206 Arlington, MA
Owner: KAHN ELIZABETH/ TRUSTEE
Co-Owner: BURKE REALTY TRUST
Mailing Address:
2424 EUCLID ST
SANTA MONICA, CA 90405

Prop ID: 55.B-1-207
Prop Location: 993 MASS AVE UNIT 207 Arlington, MA
Owner: ILIC KATARINA
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 204
ARLINGTON, MA 02476

Prop ID: 55.B-1-208
Prop Location: 993 MASS AVE UNIT 208 Arlington, MA
Owner: FLANIGAN ELAINE & JAMES
Co-Owner: TRS/JAMES FLANNIGAN TRUST
Mailing Address:
190 BARLEY NECK ROAD
ORLEANS, MA 02653

Prop ID: 55.B-1-209
Prop Location: 993 MASS AVE UNIT 209 Arlington, MA
Owner: HORAN MATTHEW R
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 209
ARLINGTON, MA 02474

Prop ID: 55.B-1-210
Prop Location: 993 MASS AVE UNIT 210 Arlington, MA
Owner: DALLAS ANN F
Co-Owner:
Mailing Address:
993 MASS AVE #210
ARLINGTON, MA 02476

Prop ID: 55.B-1-211
Prop Location: 993 MASS AVE UNIT 211 Arlington, MA
Owner: DILEO RUTSTEIN HEIDI
Co-Owner: DILEO DENNIS
Mailing Address:
14 LOCKE STREET
WINCHESTER, MA 01890

Prop ID: 55.B-1-212
Prop Location: 993 MASS AVE UNIT 212 Arlington, MA
Owner: O`BRIEN MICHAEL
Co-Owner: SHEN QIANRU
Mailing Address:
993 MASS AVE UNIT 212
ARLINGTON, MA 02476

Prop ID: 55.B-1-213
Prop Location: 993 MASS AVE UNIT 213 Arlington, MA
Owner: CHEN QIAN
Co-Owner:
Mailing Address:
993 MASS AVENUE #213
ARLINGTON, MA 02476

Prop ID: 55.B-1-214
Prop Location: 993 MASS AVE UNIT 214 Arlington, MA
Owner: YOUNG WILLIAM F/TRUSTEE
Co-Owner: WILLIAM YOUNG JR TRUST
Mailing Address:
PO BOX 327 DEPT 16
HOUSTON, TX 77001

Prop ID: 55.B-1-215
Prop Location: 993 MASS AVE UNIT 215 Arlington, MA
Owner: KARAASLANIAN JACQUELINE
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 215
ARLINGTON, MA 02476

Prop ID: 55.B-1-216
Prop Location: 993 MASS AVE UNIT 216 Arlington, MA
Owner: PAUL DAVID S
Co-Owner:
Mailing Address:
993 MASS AVE #216
ARLINGTON, MA 02476

Prop ID: 55.B-1-217
Prop Location: 993 MASS AVE UNIT 217 Arlington, MA
Owner: HEALEY MARGARET L
Co-Owner:
Mailing Address:
993 MASS AVE
ARLINGTON, MA 02476

Prop ID: 55.B-1-218
Prop Location: 993 MASS AVE UNIT 218 Arlington, MA
Owner: PINE DANIEL R
Co-Owner:
Mailing Address:
51 STOWECROFT ROAD
ARLINGTON, MA 02476

Prop ID: 55.B-1-219
Prop Location: 993 MASS AVE UNIT 219 Arlington, MA
Owner: RASOGIANNI PANAGIOTA
Co-Owner:
Mailing Address:
993 MASS AVENUE #219
ARLINGTON, MA 02476

Prop ID: 55.B-1-220
Prop Location: 993 MASS AVE UNIT 220 Arlington, MA
Owner: BOWLER ELIZABETH M
Co-Owner:
Mailing Address:
993 MASS AVENUE #220
ARLINGTON, MA 02476

Prop ID: 55.B-1-221
Prop Location: 993 MASS AVE UNIT 221 Arlington, MA
Owner: GUTHRIE LINDA
Co-Owner:
Mailing Address:
993 MASS AVE #221
ARLINGTON, MA 02476

Prop ID: 55.B-1-222
Prop Location: 993 MASS AVE UNIT 222 Arlington, MA
Owner: FREDERICK THOMAS & MARIA
Co-Owner:
Mailing Address:
167 SEVEN STAR ROAD
GROVELAND, MA 01834

Prop ID: 55.B-1-223
Prop Location: 993 MASS AVE UNIT 223 Arlington, MA
Owner: SIRACUSA JAMES M JR
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 223
ARLINGTON, MA 02476

Prop ID: 55.B-1-224
Prop Location: 993 MASS AVE UNIT 224 Arlington, MA
Owner: GOULD MARGARET M--ETAL
Co-Owner: GOULD PATRICK A
Mailing Address:
91-1511 KAIKOHOLA ST
EWA BEACH, HI 96706

Prop ID: 55.B-1-225
Prop Location: 993 MASS AVE UNIT 225 Arlington, MA
Owner: BURKE SARA
Co-Owner:
Mailing Address:
993 MASS AVE #225
ARLINGTON, MA 02476

Prop ID: 55.B-1-226
Prop Location: 993 MASS AVE UNIT 226 Arlington, MA
Owner: ORIA MYRA
Co-Owner:
Mailing Address:
993 MASS AVE #226
ARLINGTON, MA 02476

Prop ID: 55.B-1-227
Prop Location: 993 MASS AVE UNIT 227 Arlington, MA
Owner: ZHOU CHANGHAO
Co-Owner:
Mailing Address:
993 MASSACHUSETTS AVE #227
ARLINGTON, MA 02476

Prop ID: 55.B-1-228
Prop Location: 993 MASS AVE UNIT 228 Arlington, MA
Owner: MARTIN ROBERT J & KATHRYN S
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 228
ARLINGTON, MA 02476

Prop ID: 55.B-1-301
Prop Location: 993 MASS AVE UNIT 301 Arlington, MA
Owner: MATTESON MARY BLISS
Co-Owner:
Mailing Address:
993 MASS AVE #301
ARLINGTON, MA 02476

Prop ID: 55.B-1-302
Prop Location: 993 MASS AVE UNIT 302 Arlington, MA
Owner: ZHU HUOHUI
Co-Owner: JI YANMIN
Mailing Address:
20 HAWTHORNE AVENUE
ARLINGTON, MA 02476

Prop ID: 55.B-1-303
Prop Location: 993 MASS AVE UNIT 303 Arlington, MA
Owner: NAJAFABADI MALIHE AHMADI
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 303
ARLINGTON, MA 02476

Prop ID: 55.B-1-304
Prop Location: 993 MASS AVE UNIT 304 Arlington, MA
Owner: MICKEVICH ANNA
Co-Owner:
Mailing Address:
993 MASS AVE #304
ARLINGTON, MA 02476

Prop ID: 55.B-1-305
Prop Location: 993 MASS AVE UNIT 305 Arlington, MA
Owner: BHATTACHAN JONU &
Co-Owner: TULACHAN ANUP
Mailing Address:
993 MASS AVE UNIT 305
ARLINGTON, MA 02474

Prop ID: 55.B-1-306
Prop Location: 993 MASS AVE UNIT 306 Arlington, MA
Owner: HARVEY THOMAS M
Co-Owner:
Mailing Address:
993 MASS AVE UNIT 306
ARLINGTON, MA 02476

Prop ID: 55.B-1-307
Prop Location: 993 MASS AVE UNIT 307 Arlington, MA
Owner: AGHDAMLIAN LUCIE A
Co-Owner: AGHDAMLIAN ANTRANIK S
Mailing Address:
993 MASS AVENUE #307
ARLINGTON, MA 02476

Prop ID: 55.B-1-308
Prop Location: 993 MASS AVE UNIT 308 Arlington, MA
Owner: CHEAH JENYENG & SUSAN &
Co-Owner: LIANG WENKWAY
Mailing Address:
993 MASS AVENUE #308
ARLINGTON, MA 02476

Prop ID: 55.B-1-309
Prop Location: 993 MASS AVE UNIT 309 Arlington, MA
Owner: WECHSLER MARJORIE
Co-Owner:
Mailing Address:
993 MASS AVE #309
ARLINGTON, MA 02476

Prop ID: 55.B-1-310
Prop Location: 993 MASS AVE UNIT 310 Arlington, MA
Owner: SHEN GRACE
Co-Owner:
Mailing Address:
993 MASS AVE #320
ARLINGTON, MA 02476

Prop ID: 55.B-1-311
Prop Location: 993 MASS AVE UNIT 311 Arlington, MA
Owner: HAMWEY BARBARA
Co-Owner:
Mailing Address:
993 MASS AVENUE #311
ARLINGTON, MA 02476

Prop ID: 55.B-1-312
Prop Location: 993 MASS AVE UNIT 312 Arlington, MA
Owner: CHAVES ANTONIO F-MARIA M
Co-Owner:
Mailing Address:
434 APPLETON STREET
ARLINGTON, MA 02476

Prop ID: 55.B-1-313
Prop Location: 993 MASS AVE UNIT 313 Arlington, MA
Owner: GARCIA FRANCISCO--ETAL
Co-Owner: GARCIA CORALIA M
Mailing Address:
5 COPPERSMITH WAY
LEXINGTON, MA 02476

Prop ID: 55.B-1-314
Prop Location: 993 MASS AVE UNIT 314 Arlington, MA
Owner: GUAN CHENGHE
Co-Owner: ZHANG JING
Mailing Address:
993 MASS AVE #314
ARLINGTON, MA 02476

Prop ID: 55.B-2-101
Prop Location: 995 MASS AVE UNIT 101 Arlington, MA
Owner: BARNES ANGELA/ETAL
Co-Owner: FITTANTE MICHAEL
Mailing Address:
2 BAKER ST
HONOLULU, HI 96818

Prop ID: 55.B-2-102
Prop Location: 995 MASS AVE UNIT 102 Arlington, MA
Owner: DEFEO MATTHEW
Co-Owner:
Mailing Address:
995 MASS AVE
UNIT # 102
ARLINGTON, MA 02476

Prop ID: 55.B-2-103
Prop Location: 995 MASS AVE UNIT 103 Arlington, MA
Owner: TEEHAN EDWARD R JR &
Co-Owner: TEEHAN MARGARET M
Mailing Address:
995 MASS AVENUE #103
ARLINGTON, MA 02476

Prop ID: 55.B-2-104
Prop Location: 995 MASS AVE UNIT 104 Arlington, MA
Owner: CORRICELLI DAVID
Co-Owner:
Mailing Address:
995 MASS AVENUE #104
ARLINGTON, MA 02476

Prop ID: 55.B-2-105
Prop Location: 995 MASS AVE UNIT 105 Arlington, MA
Owner: PASQUALE FRANCO
Co-Owner:
Mailing Address:
995 MASS AVE UNIT 105
ARLINGTON, MA 02476

Prop ID: 55.B-2-106
Prop Location: 995 MASS AVE UNIT 106 Arlington, MA
Owner: LERNER DEVON A
Co-Owner:
Mailing Address:
48 FLORENCE AVENUE
UNIT 2
ARLINGTON, MA 02476

Prop ID: 55.B-2-201
Prop Location: 995 MASS AVE UNIT 201 Arlington, MA
Owner: ZAVARO GEORGE
Co-Owner: ZAVARO NAHREIN
Mailing Address:
60 BRIGHTON ST
BELMONT, MA 02478

Prop ID: 55.B-2-202
Prop Location: 995 MASS AVE UNIT 202 Arlington, MA
Owner: GARRITY ANNE M--TRUSTEE
Co-Owner: D & G REALTY TRUST
Mailing Address:
995 MASS AVENUE #202
ARLINGTON, MA 02476

Prop ID: 55.B-2-203
Prop Location: 995 MASS AVE UNIT 203 Arlington, MA
Owner: CHIVUKULA SRINIVAS & SUSMITHA
Co-Owner:
Mailing Address:
8 HERON CIR UNIT 8
WALPOLE, MA 02081

Prop ID: 55.B-2-204
Prop Location: 995 MASS AVE UNIT 204 Arlington, MA
Owner: MACDONALD SHARON
Co-Owner:
Mailing Address:
995 MASS AVENUE #204
ARLINGTON, MA 02476

Prop ID: 55.B-2-205
Prop Location: 995 MASS AVE UNIT 205 Arlington, MA
Owner: CICCOLO MICHAEL
Co-Owner: GALLAGHER JASON E
Mailing Address:
54 SAINT MARKS RD
DORCHESTER, MA 02124

Prop ID: 55.B-2-206
Prop Location: 995 MASS AVE UNIT 206 Arlington, MA
Owner: LAN TAO/CHEN KEXI
Co-Owner:
Mailing Address:
8 ALBAMONT ROAD
WINCHESTER, MA 01890

Prop ID: 55.B-2-301
Prop Location: 995 MASS AVE UNIT 301 Arlington, MA
Owner: SU CLEMENT C
Co-Owner: WONG WENDY R
Mailing Address:
995 MASS AVE #301
ARLINGTON, MA 02476

Prop ID: 55.B-2-302
Prop Location: 995 MASS AVE UNIT 302 Arlington, MA
Owner: MCGOLDRICK ROBERTA J
Co-Owner:
Mailing Address:
995 MASS AVE #302
ARLINGTON, MA 02476

Prop ID: 55.B-2-303
Prop Location: 995 MASS AVE UNIT 303 Arlington, MA
Owner: TASHJIAN RONALD S/TRUSTEE
Co-Owner: TASHJIAN NOMINEE TRUST
Mailing Address:
37 BOULDER RIDGE
PLYMOUTH, MA 02360

Prop ID: 55.B-2-304
Prop Location: 995 MASS AVE UNIT 304 Arlington, MA
Owner: CLEVELAND THOMAS /TRUSTEE
Co-Owner: SANDRA CLEVELAND TRUST
Mailing Address:
EDINBURG CENTER/SANDRA CLEVELAND
205 BURLINGTON RD
BEDFORD, MA 01730

Prop ID: 55.B-2-305
Prop Location: 995 MASS AVE UNIT 305 Arlington, MA
Owner: BIRD CHRISTINE W
Co-Owner:
Mailing Address:
995 MASS AVE #305
ARLINGTON, MA 02476

Prop ID: 55.B-2-306
Prop Location: 995 MASS AVE UNIT 306 Arlington, MA
Owner: LEUNG YUK KWAI/ TRUSTEE
Co-Owner: YUK KWAI LEUNG TRUST UDT
Mailing Address:
801 FRANKLIN ST #715
OAKLAND, CA 94607

Prop ID: 55.B-2-401
Prop Location: 995 MASS AVE UNIT 401 Arlington, MA
Owner: BLOOMQUIST ALAN
Co-Owner:
Mailing Address:
88 APPLETON STREET
QUINCY, MA 02171

Prop ID: 55.B-2-402
Prop Location: 995 MASS AVE UNIT 402 Arlington, MA
Owner: KREIFELDT ALEXANDER G
Co-Owner:
Mailing Address:
995 MASS AVE #402
ARLINGTON, MA 02476

Prop ID: 55.B-2-403
Prop Location: 995 MASS AVE UNIT 403 Arlington, MA
Owner: BARRETT JOHN A
Co-Owner:
Mailing Address:
995 MASS AVENUE #403
ARLINGTON, MA 02476

Prop ID: 55.B-2-404
Prop Location: 995 MASS AVE UNIT 404 Arlington, MA
Owner: SHINE GAETANA/MICHAEL
Co-Owner:
Mailing Address:
995 MASS AVE #404
ARLINGTON, MA 02476

Prop ID: 55.B-2-405
Prop Location: 995 MASS AVE UNIT 405 Arlington, MA
Owner: QUI GEPING
Co-Owner:
Mailing Address:
6 NASSAU DR
WINCHESTER, MA 01890

Prop ID: 55.B-2-406
Prop Location: 995 MASS AVE UNIT 406 Arlington, MA
Owner: BOYCE SUZANNE E
Co-Owner:
Mailing Address:
2700 ASHLAND AVE UINT 21
CINCINNATI, OH 45206

Prop ID: 55.B-2-501
Prop Location: 995 MASS AVE UNIT 501 Arlington, MA
Owner: GRUBEL JOANNA
Co-Owner:
Mailing Address:
995 MASS AVE UNIT 501
ARLINGTON, MA 02474

Prop ID: 55.B-2-502
Prop Location: 995 MASS AVE UNIT 502 Arlington, MA
Owner: WEISS JOHN E & EMILY S
Co-Owner:
Mailing Address:
995 MASS AVE UNIT 502
ARLINGTON, MA 02476

Prop ID: 55.B-2-503
Prop Location: 995 MASS AVE UNIT 503 Arlington, MA
Owner: ROPI ELAINE
Co-Owner:
Mailing Address:
995 MASS AVENUE #503
ARLINGTON, MA 02476

Prop ID: 55.B-2-504
Prop Location: 995 MASS AVE UNIT 504 Arlington, MA
Owner: CARLINO JANET
Co-Owner:
Mailing Address:
995 MASS AVENUE #504
ARLINGTON, MA 02476

Prop ID: 55.B-2-505
Prop Location: 995 MASS AVE UNIT 505 Arlington, MA
Owner: LIANG RUITING &
Co-Owner: QIAO JING
Mailing Address:
995 MASS AVE #505
ARLINGTON, MA 02476

Prop ID: 55.B-2-506
Prop Location: 995 MASS AVE UNIT 506 Arlington, MA
Owner: MASTROCOLA DAVID/TRUSTEE
Co-Owner: MARY KATHRYN MASTROCOLA 2016
Mailing Address:
995 MASS AVE UNIT #506
ARLINGTON, MA 02476

Prop ID: 55.C-1-101
Prop Location: 975 MASS AVE UNIT 101 Arlington, MA
Owner: DELANO ROBERT J/TRUSTEE
Co-Owner: ROBERT J DELANO 2012 REVOCABLE
Mailing Address:
975 MASS AVENUE #101
ARLINGTON, MA 02476

Prop ID: 55.C-1-102
Prop Location: 975 MASS AVE UNIT 102 Arlington, MA
Owner: LANDSKOV ERIK L & GEOFFREY
Co-Owner: LANDSKOV DAVID L
Mailing Address:
32 OLDHAM RD
ARLINGTON, MA 02474

Prop ID: 55.C-1-103
Prop Location: 975 MASS AVE UNIT 103 Arlington, MA
Owner: SRETER JULIA I & ESTHER E
Co-Owner: SRETER ALBERT J TRUSTEES
Mailing Address:
33 BEDFORD ST SUITE 4
LEXINGTON, MA 02420

Prop ID: 55.C-1-104
Prop Location: 975 MASS AVE UNIT 104 Arlington, MA
Owner: CHENG TING-WEN
Co-Owner:
Mailing Address:
975 MASS AVE APT 104
ARLINGTON, MA 02476

Prop ID: 55.C-1-105
Prop Location: 975 MASS AVE UNIT 105 Arlington, MA
Owner: KAWATE TOMOHIKO
Co-Owner:
Mailing Address:
975 MASS AVENUE #105
ARLINGTON, MA 02476

Prop ID: 55.C-1-106
Prop Location: 975 MASS AVE UNIT 106 Arlington, MA
Owner: TORPEY MARY L
Co-Owner:
Mailing Address:
975 MASS AVENUE #106
ARLINGTON, MA 02476

Prop ID: 55.C-1-107
Prop Location: 975 MASS AVE UNIT 107 Arlington, MA
Owner: STERN SALLY R
Co-Owner:
Mailing Address:
975 MASS AVENUE #107
ARLINGTON, MA 02476

Prop ID: 55.C-1-108
Prop Location: 975 MASS AVE UNIT 108 Arlington, MA
Owner: LIPTON SHARON R & AMITAI
Co-Owner:
Mailing Address:
975 MASS AVENUE #108
ARLINGTON, MA 02476

Prop ID: 55.C-1-109
Prop Location: 975 MASS AVE UNIT 109 Arlington, MA
Owner: GARSIDE PAUL/TRUSTEE
Co-Owner: L & S REALTY TRUST
Mailing Address:
2 VINE BROOK WAY
UNIT 109
WOBURN, MA 01801

Prop ID: 55.C-1-201
Prop Location: 975 MASS AVE UNIT 201 Arlington, MA
Owner: JULIER WILLIAM/WALBURGA MABEY
Co-Owner:
Mailing Address:
975 MASSACHUSETTS AVE #201
ARLINGTON, MA 02476

Prop ID: 55.C-1-202
Prop Location: 975 MASS AVE UNIT 202 Arlington, MA
Owner: HODGDON LAWRENCE A JR/TRUSTEE
Co-Owner: HODGDON FAMILY TRUST
Mailing Address:
975 MASS AVENUE #202
ARLINGTON, MA 02476

Prop ID: 55.C-1-203
Prop Location: 975 MASS AVE UNIT 203 Arlington, MA
Owner: ODONOHOE THOMAS A/CATHERINE
Co-Owner:
Mailing Address:
975 MASS AVE #203
ARLINGTON, MA 02474

Prop ID: 55.C-1-204
Prop Location: 975 MASS AVE UNIT 204 Arlington, MA
Owner: COOK CHARLES/TRUSTEE
Co-Owner: CHARLES C COOK TRUST
Mailing Address:
975 MASS AVENUE #204
ARLINGTON, MA 02476

Prop ID: 55.C-1-205
Prop Location: 975 MASS AVE UNIT 205 Arlington, MA
Owner: DAVIDOVITZ MICHAEL/MARA
Co-Owner:
Mailing Address:
975 MASS AVENUE #205
ARLINGTON, MA 02476

Prop ID: 55.C-1-206
Prop Location: 975 MASS AVE UNIT 206 Arlington, MA
Owner: SPRINGS CAROL C
Co-Owner:
Mailing Address:
975 MASS AVENUE #206
ARLINGTON, MA 02476

Prop ID: 55.C-1-207
Prop Location: 975 MASS AVE UNIT 207 Arlington, MA
Owner: DAVIDSON PATRICIA S
Co-Owner: LIFE ESTATE
Mailing Address:
975 MASS AVE UNIT 207
ARLINGTON, MA 02476

Prop ID: 55.C-1-208
Prop Location: 975 MASS AVE UNIT 208 Arlington, MA
Owner: ZMIJEWSKI DAVID T
Co-Owner:
Mailing Address:
975 MASS AVENUE #208
ARLINGTON, MA 02476

Prop ID: 55.C-1-209
Prop Location: 975 MASS AVE UNIT 209 Arlington, MA
Owner: WELCH CHERYL A/TRUSTEE
Co-Owner: CHERYL WELCH REVOCABLE LIVING
Mailing Address:
975 MASS AVE #209
ARLINGTON, MA 02476

Prop ID: 55.C-1-301
Prop Location: 975 MASS AVE UNIT 301 Arlington, MA
Owner: WANG LISI
Co-Owner:
Mailing Address:
85 FULLER TERR
WEST NEWTON, MA 02465

Prop ID: 55.C-1-302
Prop Location: 975 MASS AVE UNIT 302 Arlington, MA
Owner: MACMILLAN LYNMARIE
Co-Owner:
Mailing Address:
975 MASS AVE #302
ARLINGTON, MA 02476

Prop ID: 55.C-1-303
Prop Location: 975 MASS AVE UNIT 303 Arlington, MA
Owner: DISESSA LORRAINE
Co-Owner:
Mailing Address:
975 MASS AVE #303
ARLINGTON, MA 02476

Prop ID: 55.C-1-304
Prop Location: 975 MASS AVE UNIT 304 Arlington, MA
Owner: MANGANARO DIANE MARIE
Co-Owner:
Mailing Address:
8 BRATTLE LANE
ARLINGTON, MA 02476

Prop ID: 55.C-1-305
Prop Location: 975 MASS AVE UNIT 305 Arlington, MA
Owner: GOULD MURIEL B
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 305
ARLINGTON, MA 02476

Prop ID: 55.C-1-306
Prop Location: 975 MASS AVE UNIT 306 Arlington, MA
Owner: KUIN JAMES
Co-Owner:
Mailing Address:
60 SPRING GROVE RD
ANDOVER, MA 01810

Prop ID: 55.C-1-307
Prop Location: 975 MASS AVE UNIT 307 Arlington, MA
Owner: CHAUDHURI MEERA/ TRUSTEE
Co-Owner: 975 MASS AVE UNIT 307 RLTY TR
Mailing Address:
2279 SEMINOLE RD #1
ATLANTIC BEACH, FL 32233

Prop ID: 55.C-1-308
Prop Location: 975 MASS AVE UNIT 308 Arlington, MA
Owner: MATSUI AKIRA
Co-Owner: MATSUI NAOMI
Mailing Address:
975 MASSACHUSETTS AVE
APT 308
ARLINGTON, MA 02476-4545

Prop ID: 55.C-1-309
Prop Location: 975 MASS AVE UNIT 309 Arlington, MA
Owner: FONTAINE KENNETH
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 309
ARLINGTON, MA 02476

Prop ID: 55.C-1-401
Prop Location: 975 MASS AVE UNIT 401 Arlington, MA
Owner: GOLDSMITH KEVIN J/TR &
Co-Owner: GOLDSMITH DEBORAH E/TRUSTEE OF
Mailing Address:
975 MASS AVE #401
ARLINGTON, MA 02476

Prop ID: 55.C-1-402
Prop Location: 975 MASS AVE UNIT 402 Arlington, MA
Owner: BASU BIJAY/SANKARI
Co-Owner:
Mailing Address:
975 MASS AVENUE #402
ARLINGTON, MA 02476

Prop ID: 55.C-1-403
Prop Location: 975 MASS AVE UNIT 403 Arlington, MA
Owner: COHN STEPHEN N TRUSTEE
Co-Owner: FIRST RAYMOND FAMILY TRUST
Mailing Address:
23 CAMBRIDGE ST
WINCHESTER, MA 01890

Prop ID: 55.C-1-404
Prop Location: 975 MASS AVE UNIT 404 Arlington, MA
Owner: SCICCHITANO JUDITH M
Co-Owner:
Mailing Address:
975 MASS AVENUE #404
ARLINGTON, MA 02476

Prop ID: 55.C-1-405
Prop Location: 975 MASS AVE UNIT 405 Arlington, MA
Owner: LEE BARBARA Y T /TRUSTEE
Co-Owner: THE BARBARA Y T LEE 2006 TRUST
Mailing Address:
975 MASS AVENUE
UNIT 405
ARLINGTON, MA 02476

Prop ID: 55.C-1-406
Prop Location: 975 MASS AVE UNIT 406 Arlington, MA
Owner: MORAIS ANGELA S
Co-Owner:
Mailing Address:
975 MASS AVENUE #406
ARLINGTON, MA 02476

Prop ID: 55.C-1-407
Prop Location: 975 MASS AVE UNIT 407 Arlington, MA
Owner: MARTIN GWENDOLYN
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 407
ARLINGTON, MA 02476

Prop ID: 55.C-1-408
Prop Location: 975 MASS AVE UNIT 408 Arlington, MA
Owner: DING XIAOJUAN
Co-Owner:
Mailing Address:
125 JOHNSON RD
WINCHESTER, MA 01890

Prop ID: 55.C-1-409
Prop Location: 975 MASS AVE UNIT 409 Arlington, MA
Owner: DIMINO MICHAEL /TRUSTEE
Co-Owner: MICHAEL H DIMINO TRUST
Mailing Address:
195 EDENFIELD AVE
WATERTOWN, MA 02472

Prop ID: 55.C-1-501
Prop Location: 975 MASS AVE UNIT 501 Arlington, MA
Owner: HOEFER ROBERT F/TRUSTEE
Co-Owner: ROBERT HOEFER FAMILY TRUST
Mailing Address:
975 MASS AVENUE #501
ARLINGTON, MA 02476

Prop ID: 55.C-1-502
Prop Location: 975 MASS AVE UNIT 502 Arlington, MA
Owner: ALI SULEIMAN
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 502
ARLINGTON, MA 02476-4546

Prop ID: 55.C-1-503
Prop Location: 975 MASS AVE UNIT 503 Arlington, MA
Owner: FREDERICK JOHN B
Co-Owner:
Mailing Address:
975 MASS AVENUE #503
ARLINGTON, MA 02476

Prop ID: 55.C-1-504
Prop Location: 975 MASS AVE UNIT 504 Arlington, MA
Owner: BACHINI REGINA M
Co-Owner:
Mailing Address:
975 MASS AVENUE #504
ARLINGTON, MA 02476

Prop ID: 55.C-1-505
Prop Location: 975 MASS AVE UNIT 505 Arlington, MA
Owner: FOLEY JAMES & KATHLEEN/TRS
Co-Owner: JIM AND KATHY 2008 TRUST
Mailing Address:
975 MASS AVENUE #505
ARLINGTON, MA 02476

Prop ID: 55.C-1-506
Prop Location: 975 MASS AVE UNIT 506 Arlington, MA
Owner: DUNN JULIE B
Co-Owner:
Mailing Address:
975 MASS AVE #506
ARLINGTON, MA 02476

Prop ID: 55.C-1-507
Prop Location: 975 MASS AVE UNIT 507 Arlington, MA
Owner: YANG HONG
Co-Owner: CHEN XI
Mailing Address:
829 ALTAIRE WALK
PALO ALTO, CA 94303

Prop ID: 55.C-1-508
Prop Location: 975 MASS AVE UNIT 508 Arlington, MA
Owner: TOPAZ DONALD I
Co-Owner:
Mailing Address:
975 MASS AVENUE #508
ARLINGTON, MA 02476

Prop ID: 55.C-1-509
Prop Location: 975 MASS AVE UNIT 509 Arlington, MA
Owner: DICIACCIO FRANK N & NANCY
Co-Owner:
Mailing Address:
975 MASS AVE UNIT 509
ARLINGTON, MA 02476

LEGAL NOTICE CHARGE AUTHORIZATION

DATE: 9/2/2020

TO: legals@wickedlocal.com

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

Thank you.

Signed:

_____

Andrew Keel, PLA
Project Manager, Landscape Architect
Hatch Associates Consultants, Inc.

Send bill to:

Emily Sullivan
730 Massachusetts Avenue
Arlington, MA 02476
Phone: 781-316-3012
Esullivan@town.arlington.ma.us

Appendix A – Narrative

NARRATIVE TABLE OF CONTENTS

HATCH

1. Introduction

On behalf of the Applicant, the Town of Arlington, Hatch is filing the enclosed Notice of Intent (NOI) Application with the Arlington Conservation Commission and Massachusetts Department of Environmental Protection (MassDEP) for revitalization of the Mill Brook corridor and adjacent Wellington Park (Appendix A – Figure 1) Assessors Map 54, Parcel 1-1. The majority of proposed activities take place within the FEMA-defined regulatory floodway or within the floodplain. This is a Phase III of the subject project. Phase II NOI for Mill Brook Corridor and Wellington Park Revitalization Project was prepared by Weston & Sampson in January 2019 and approved in February 2019 (DEP File No. 091-035).

The focus of the project as proposed in this NOI involves:

- Removal of (3) existing trees varying in size (4" dbh. Mulberry, 10" dbh. Mulberry, 16" dbh. Norway Maple) and invasive vegetation
- Modifications to existing boardwalk platform and transition to new porous path
- Installation of 6' wide porous bituminous concrete pathway (2,355 square feet)
- Installation of picnic bench over a concrete pad
- Installation of Naturalistic Exploration Play Area (boulders and black locust logs)
- Construction of stormwater BMP - bioretention basin, forebay and vegetated swale
- Planting of approximately 14 new 1-2" caliper canopy trees
- Planning of approximately 206 new understory trees and shrubs
- Planting approximately 2,215 new herbaceous plants

Plans for the locations of these removals and improvements within the park can be found in Appendix G – Plans.

2. Background and Existing Conditions

Wellington Park is a 2.72-acre public recreational park located in central Arlington, MA adjacent to Arlington High School. The project site is bordered by Grove Street to the east, Mill Brook to the north and north-west, private and Town-owned properties to the south-west.

Mill Brook crosses the northern edge of the site and flows from west to east. The existing banks are generally armored with grouted riprap. Sections of grouted riprap are eroded along the normal waterline. The banks of the brook transition to a stone and masonry wall on the east side of the park as it approaches the culvert that passes under Grove Street. This stone and masonry wall is in fair condition. Recent upgrades to the brook as part of the Wellington Brook Phase 2 improvements project included creation of a flood storage area. This storage is approximately 4 ft. deep from the existing ground surface and the bottom of new flood storage. The eastern half of the flood storage area ranges from approximately 1 to 2 feet lower than the FEMA 100-year floodplain. The side slopes near the inlet of the flood storage area are reinforced with riprap, with natural stone weirs in the Mill Brook downstream of the inlet and outlet to channel flow into the flood storage area. The flood storage capacity during the FEMA 100-year event is approximately 70 cubic yards.

Existing structures in Wellington Park include brick columns at the park entrance on Grove Street, five tennis courts enclosed by fences, and a large climbing structure made up of wood poles, rope line, and supporting guywires. The site also includes a pedestrian footpath, which is informal in some places and made of compacted earth/stone dust in other areas. At the westernmost end of the site, there is an existing wooden footbridge that crosses Mill Brook towards Dudley street.

The proposed project seeks to improve the park site universal accessibility and connectivity of recreation paths, install recreation amenities like a picnic table, bottle filler, and exploration/seating area, inprove water quality of stormwater runoff flowing through parl lands and enhance park vegetation quality and habitat (including invasive species control).

3. Environmental Considerations

Impacted environmental resource areas include riverfront area, 100-year flood zone and the bank. Each of these impact areas are discussed in further detail, below.

An estimated 2,725 square feet of work will be within the 100-year flood zone. The proposed regrading occurs in the location of the naturalistic exploration area all between elevations 62 and 63. Two small earth mounds are proposed as part of the exploration area, one of which falls within the 100-year flood zone. This mound accounts for approximately 40 cubic feet of fill. The proposed grade within the natural log and boulder feature of the exploration area will be lowered approximately 12” for a cut quantity of approximately 600 cubic feet. These areas net out for a total cut quantity of 560 cubic feet.

Approximately 22,780 square feet of riverfront area is within the limit of work. This work will include bioretention basin, outfall vegetated swale, porous bituminous concrete paving and invasive removals. The creation of bioretention pond storage area requires a 1’ high berm on one side. The fill created by this berm is mitigated by the excavated bioretention surface area. The permeable pavement path is proposed to be at grade, except by a small raise in grade where the grass swale passes under the path. The fill there is mitigated by the excavated swale, invasive species removal and pedestrian path. This area is previously developed riverfront area (maintained lawn area, with the exception of the Japanese knotweed). By removing invasive vegetation and planting native species the ecological value of the Brook will be improved and the riverfront area will become a more diverse habitat for local species.

Approximately 8 LF of bank disturbance will occur where the shallow vegetative swale meets the bank. This area is currently made up of placed riprap. The riprap in this area will be temporarily moved in order to grade the shallow swale depression and then replaced in kind at the same elevation and location.

The only change in pervious area is near the tennis court entry toward the main park entrance (within the 50ft and 100ft riverfront buffer), where 100 square feet of stone dust path and lawn will be converted into concrete pad for a picnic table, and 234 square feet of concrete which lines the bioretention forebay(within the 100ft and 200ft riverfront buffer). This impervious area is not any closer to Mill Brook than existing impervious area at the site.

4. Meeting Riverfront Standards for Redevelopment Projects

The riverfront area within the limits of this project was previously developed as a recreational park and most recently altered with the completion of the pervious Wellington Park and Mill Brook - Phase 2 project creation of flood storage area and extension of paths and boardwalk. All proposed work at this site is considered re-development work in riverfront area. Each standard for work within the riverfront for redevelopment projects (per 310 CMR 10.58 (5)) are provided below, followed by an explanation on how the project meets each standard.

(a) At a minimum, proposed work shall result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.

Proposed work includes a bioretention basin, vegetated swale as well as removal of invasive species. The biobasin, a water quality BMP, controls parts of the existing impervious areas currently draining to the brook within the project area and will reduce sediment loads and other pollutants, therefore improves quality of runoff entering the river. This project will result in an improvement over existing conditions of the capacity of the riverfront area to protect the interests identified in M.G.L. c. 131 § 40.

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

Per Appendix C of the Notice of Intent, this project will adhere to the stormwater standards established by the Department.

(c) Within 200 foot riverfront areas, proposed work shall not be located closer to the river than existing conditions or 100 feet, whichever is less, or not closer than existing conditions within 25 foot riverfront areas, except in accordance with 310 CMR 10.58(5)(f) or (g).

The porous bituminous concrete footpath, boardwalk transition, exploration/play area, picnic table, bottle filler, biobasin and vegetated swale will all be within previously altered area (maintained lawn and man-made bank). Invasive species management work will be in accordance with 310 CMR 10.58(5)(f) as this area is a degraded riverfront area (invasive species dominated area which does not provide optimal riverfront area habitat.) The project will provide improved habitat with a variety of native species being planted at the site.

(d) *Proposed work, including expansion of existing structures, shall be located outside the riverfront area or toward the riverfront area boundary and away from the river, except in accordance with 310 CMR 10.58(5)(f) or (g).*

Proposed work is within the 200 ft riverfront area, however the work will be in accordance with 310 CMR 10.58(5)(f) as much of the work (invasive species maintenance, biobasin and porous bituminous concrete paving) is within a degraded riverfront area (maintained lawn and invasive species dominated area, neither of which currently provide significant riverfront area habitat).

(e) *The area of proposed work shall not exceed the amount of degraded area, provided that the proposed work may alter up to 10% if the degraded area is less than 10% of the riverfront area, except in accordance with 310 CMR 10.58(5)(f) or (g).*

The area of proposed work within the riverfront area is 22,780 sf. Total riverfront area on the parcel is 300,000 sf. Thus, this project will alter 7.6 percent of the site's riverfront area. The work will be in accordance with 310 CMR 10.58(5)(f) as much of the work (invasive species maintenance, biobasin, exploration area and porous bituminous concrete paving) is within a degraded riverfront area.

(f) When an applicant proposes restoration on-site of degraded riverfront area, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), and (e) at a ratio in square feet of at least 1:1 of restored area to area of alteration not conforming to the criteria. Areas immediately along the river shall be selected for restoration. Alteration not conforming to criteria shall begin at the riverfront area boundary. Restoration shall include:

1. *removal of all debris, but retaining any trees or other mature vegetation;*
2. *grading to a topography which reduces runoff and increases infiltration;*
3. *coverage by topsoil at a depth consistent with natural conditions at the site; and*
4. *seeding and planting with an erosion control seed mixture, followed by plantings of herbaceous and woody species appropriate to the site;*

Restoration efforts will include creation of a biobasin area with a shallow vegetated swale outfall which will allow additional infiltration of surface runoff before entering the Brook, topsoil will be installed over disturbed degraded areas, various native species will be planted to provide a more natural environment. Three trees are proposed to be removed based on proximity to the proposed pathway, overall health and species habitat value. As part of the project (14) new canopy trees are being proposed. With the proposed tree removals the surrounding grade can regraded and lowered to reduce runoff and potential erosion toward the Brook and provide safe access for both the MWRA sewer easement and park users.

(g) When an applicant proposes mitigation either on-site or in the riverfront area within the same general area of the river basin, alteration may be allowed notwithstanding the criteria of 310 CMR 10.58(5)(c), (d), or (e) at a ratio in square feet of at least 2:1 of mitigation area to area of alteration not conforming to the criteria or an equivalent level of environmental protection where square footage is not a relevant measure. Alteration not conforming to the criteria shall begin at the riverfront area boundary. Mitigation may include off-site restoration of riverfront areas, conservation restrictions under M.G.L. c. 184, §§ 31 through 33 to preserve undisturbed riverfront areas that could be otherwise altered under 310 CMR 10.00, the purchase of development rights within the riverfront area, the restoration of bordering vegetated wetland, projects to remedy an existing adverse impact on the interests identified in M.G.L. c. 131, § 40 for which the applicant is not legally responsible, or similar activities undertaken voluntarily by the applicant which will support a determination by the issuing authority of no significant adverse impact. Preference shall be given to potential mitigation projects, if any, identified in a River Basin Plan approved by the Secretary of the Executive Office of Energy and Environmental Affairs.

Not applicable.

(h) The issuing authority shall include a continuing condition in the Certificate of Compliance for projects under 310 CMR 10.58(5)(f) or (g) prohibiting further alteration within the restoration or mitigation area, except as may be required to maintain the area in its restored or mitigated condition. Prior to requesting the issuance of the Certificate of Compliance, the applicant shall demonstrate the restoration or mitigation has been successfully completed for at least two growing seasons.

Per Arlington conservation commission requirements, the area will be monitored for three years to ensure success of planting areas.

5. Vegetation Removal and Replacement

Per Section 24 of the Arlington Regulations for Wetlands Protection (March 1, 2018), vegetation that is removed within the jurisdiction of the conservation commission must be replaced in-kind. The vegetation to be removed includes invasive species, and trees (3).

The proposal to remove three trees is based on proximity to the proposed pathway, overall tree health and species habitat value. As part of the project (14) new canopy trees are being proposed. Replacement of the above-mentioned vegetation (invasives and trees) will provide an opportunity to create a more diverse native habitat.

See appendix H – sheet L-7 plant schedule for full list of species. All of the proposed plant material is native to the area and most of the selected material is included in the Town of Arlington preferred plant list.

6. Climate Change Resiliency

Per Section 31 of the Arlington Regulations for Wetlands Protection (March 1, 2018), the Applicant shall consider the project's adaptation to potential climate change impacts by addressing the following:

(1) Describe project design considerations to limit storm and flood damage during extended periods of disruption and flooding as might be expected in extreme weather events. See Vegetative Wetlands Section 21, Land Subject to Flooding Section 23, and Adjacent Upland Resource Area Section 25, of these Regulations.

Adherence to requirement #1: Currently, the park's existing lawn area - specifically the zone to the north of the tennis courts - stays wet following rain events. This area is low-lying and acts as a basin, receiving stormwater that flows from adjacent lawn areas of slightly higher elevation, as well as from flow coming down Prentiss Road. Surface water in this pocket has been observed to drain slowly, likely due to reasons including soil compaction. The prolonged wet condition negatively impacts use of the park by visitors. Two impacts in particular are: (1) the existing lawn areas are used as informal pedestrian paths across the park and, when wet, reduce pedestrian movement; and (2) the existing informal footpath to the bridge is composed

of compacted earth, and when wet park users tend to walk on the vegetated edges, further contributing to the expanded degradation of vegetation.

To address these impacts of storm events to visitors' use of the park, recent park improvements replaced existing stone dust walks with porous bituminous concrete providing a more stable walking surface and a slight raising of the walk grade. The current project proposed to expand the porous pathway network providing connectivity to pedestrian bridge and adjacent Prentiss Road, using the same materials and methods as the recent Wellington Phase 2 project. This will provide a pedestrian pathway that can be used sooner after storm events than the current condition permit and will protect the vegetation adjacent to the path. Currently compacted green areas on the west side of the park will receive loam soil and woodland or meadow native seed that is not intended for regular mowing (see appendix F for operations and maintenance). When established the meadow grasses will slow the runoff and promote infiltration. Proposed seed establishment fencing along the new porous footpaths will limit pedestrian traffic onto the newly graded areas.

The existing impervious surfaces within the park are the tennis courts; perimeter drains are at the edges of the courts, and the drains are connected to storage directly under them.
The tennis courts are outside of this project's limit of work. A small area with benches and receptacles is adjacent to two gated tennis court access points was paved recently as part of phase 2 with cast-in-place concrete surfacing for the following reasons: to provide an easy-to-maintain area; to offer a stable walking surface around the benches and receptacles; to reduce heat absorption; and to minimize settlement. Similarly, adjacent to this existing sitting area, this project proposes a picnic table over a concrete pad and small porous walkway extension leading to it. The amount of impervious surface being added is approximately 100sf.

The regrading and net removal of approximately 560 cubic feet of soil in the area of the naturalistic exploration area will provide new flood storage area within the 100-year flood zone.

This project's limit of work does not extend to the north bank of the Brook. Current Brook flooding is accommodated mostly by overflow over the north bank; it extends into a vegetated area where no formal pathways exist, thus limiting impacts to current park use.

(2) Describe project stormwater surface runoff, which may increase due to storm surges and extreme weather events, and how this will be managed / mitigated to prevent pollution (including nutrients from fertilizers, roadway runoff, etc.) from entering the resource area with consideration of eliminating impervious surfaces as feasible. See Stormwater Management Section 33 of these Regulations.

Adherence to requirement #2: Currently storm runoff from Prentiss Road enters the park at the north-east end of the roadway pavement. The area draining to this point is approximately 0.50 acre in size and is 95% impervious. This runoff brings sediments onto the park lawns and erodes lawn areas, and results in soggy conditions limiting use of recreational areas after rainfall. The proposed biobasin with a sediment forebay (234 sf of new impervious area), will collect the sediments and trash within the paved forebay and will direct runoff to the bioretention area. The bioretention area is designed to store and infiltrate the first flush runoff volume (0.5" of

rainfall over the contributing impervious areas) and safely convey the runoff form larger storm frequencies through the outfall weir into the outfall vegetated swale in a controlled fashion. This will limit the park areas currently being inundated by runoff.

(3) *Describe project vegetation / planting plans and other measures to improve the resiliency of the wildlife habitat of the resource area to withstand potential temperature and rainfall changes (drought and excess) due to climate change. See Vegetation Removal and Replacement Section 24 of these Regulations.*

Adherence to requirement #3: The south bank is lined with a handful of existing deciduous trees and tree stumps offering wildlife habitat, shade, and temperature mitigation. Most of the existing trees and stumps are located along the edge of the Brook. A total of 8 new shade trees are proposed along with (6) white pine. The proposed trees will provide new canopy cover reducing the effects of heat island effect.

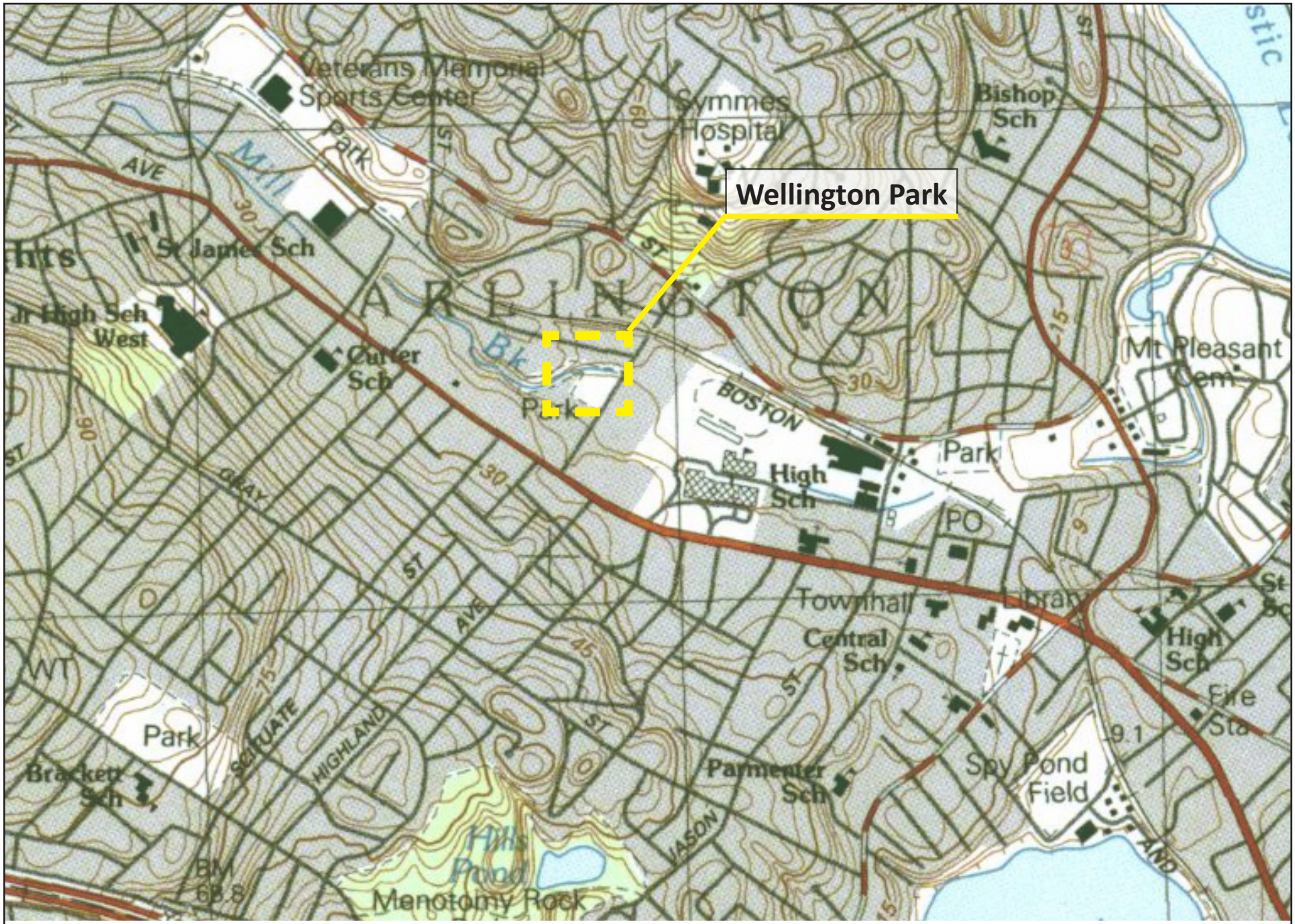
The pruning of (4) large existing frees is also proposed, (3) Norway Maples and (1) Mulberry. The pruning of the existing invasive trees to remain will limit the potential for spread and reduce competition with the newly planted native trees which will improve the park wildlife habitat and ecological value.

Clearing and grubbing will occur so that overgrown plant material is removed, and the growing condition is improved for the trees to remain. The woodland areas of the park do not currently have a significant understory layer. New understory trees and shrubs will be planted to provide a diverse habitat. The existing groundcover layer of the park is also in poor condition. Herbaceous groundcovers, along with native woodland and meadow seed mixes are proposed to reduce the amount of lawn and provide habitat value.

A great deal of invasive plant removal was completed as part of the previous Wellington Park – Phase 2 improvements. A few existing stands of knotweed have survived along with areas of bittersweet, and garlic mustard. The removal of this remaining invasive vegetation as part of this project will again improve wildlife habitat and ecological diversity.

All proposed plant material (canopy, understory and groundcover) is native and selected for its ability to provide habitat value, pest resistance, wind resistance, heat stress resistance and drought tolerance as well as improve the species diversity of Wellington Park and Mill Brook.

Appendix B – Figures



Mill Brook Corridor and Wellington Park Revitalization - 35 Grove Street Arlington, MA 02476

HATCH

Figure 1
USGS Context Map

Mill Brook Corridor and Wellington Park Revitalization - 35 Grove Street Arlington, MA 02476

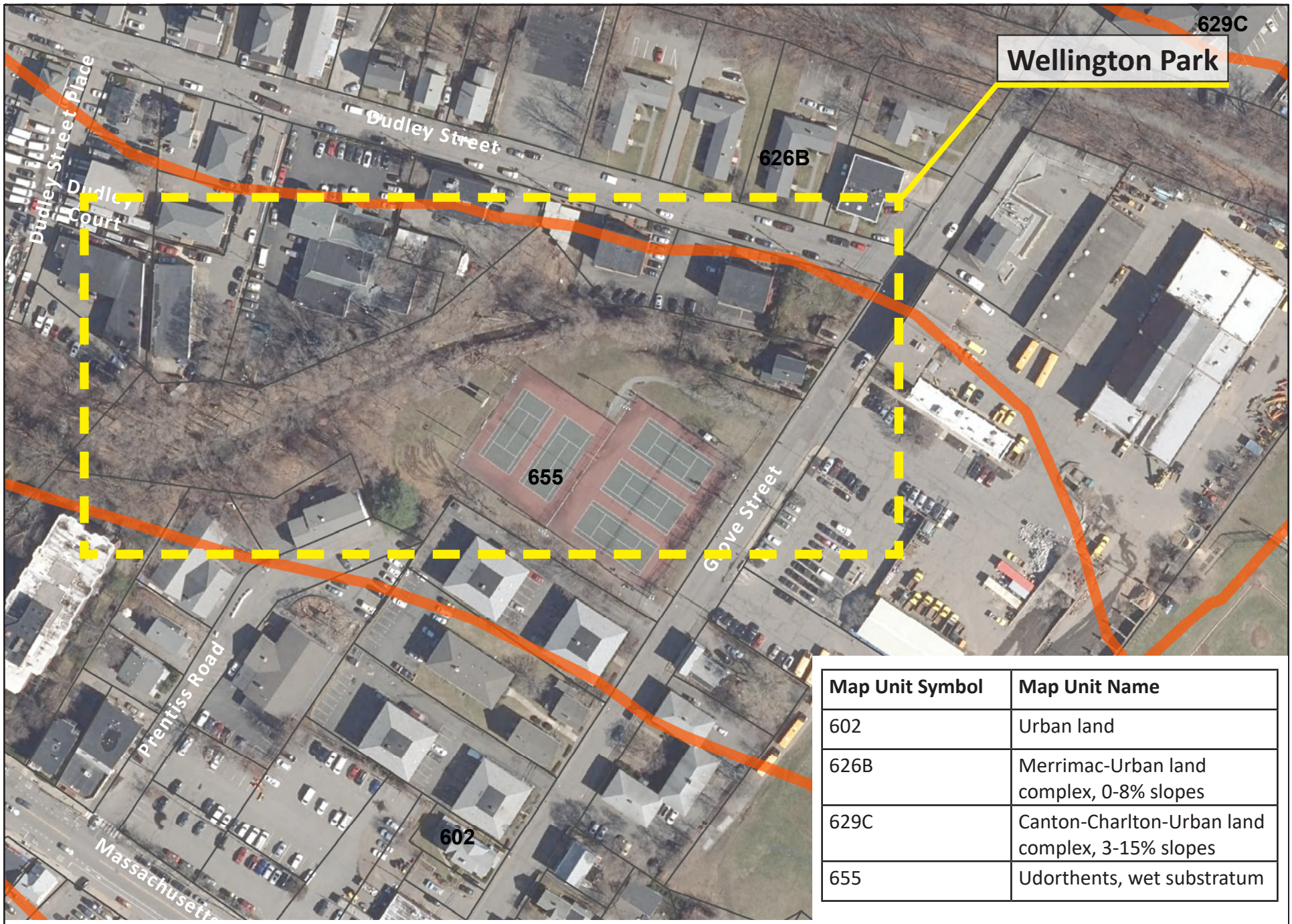
HATCH

Figure 2
NHESP

Mill Brook Corridor and Wellington Park Revitalization - 35 Grove Street Arlington, MA 02476

HATCH

Figure 3
DEP Wetlands

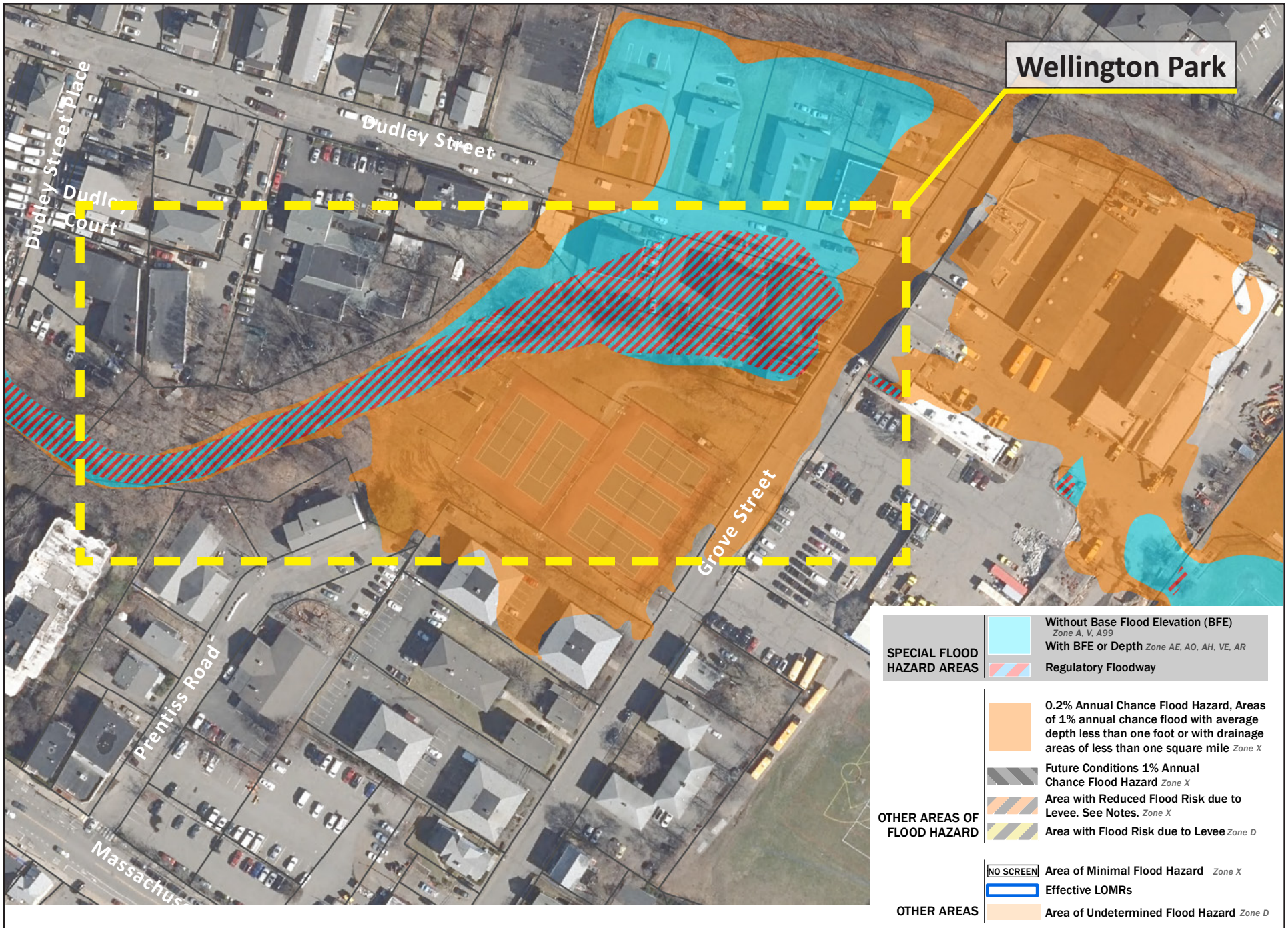


Map Unit Symbol	Map Unit Name
602	Urban land
626B	Merrimac-Urban land complex, 0-8% slopes
629C	Canton-Charlton-Urban land complex, 3-15% slopes
655	Udorthents, wet substratum

Mill Brook Corridor and Wellington Park Revitalization - 35 Grove Street Arlington, MA 02476

HATCH

Figure 4
Soils



Mill Brook Corridor and Wellington Park Revitalization - 35 Grove Street Arlington, MA 02476

HATCH

Figure 5
FEMA Flood Zones

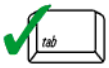
Appendix C – Stormwater Report

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.

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[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.

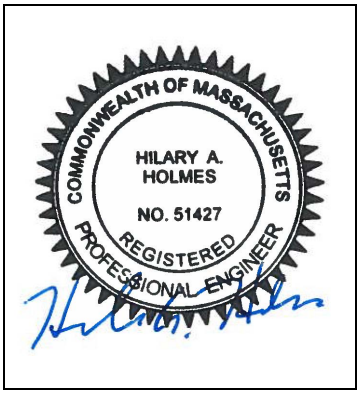
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the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



9/3/2020

Signature and Date

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): Porous pavement for new paths

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.

1. Introduction

The Town of Arlington proposes improvements to a portion of the town-owned Wellington Park and the south bank of the adjacent town-owned segment of Mill Brook, located off Grove Street in Arlington, Massachusetts. The proposed work will be implemented in one phase. It will include regrading and installation of walking paths, landscape improvements including exploration play area, picnic table, educational/interpretive signage, removal of invasive plant materials (with replacement per Town regulations), and a water quality biobasin.

Existing lawn areas will require minimal grading, and they will be loamed and seeded. Existing invasive species will be removed and either replaced with no mow/native grasses. The following sections describe the stormwater implications of the proposed renovations, including design considerations and compliance with the Massachusetts Stormwater Standards.

2. Background and Existing Conditions

Soils map information is available from the Natural Resources Conservation Service Web Soil Survey.

Soils at Wellington Park are clasified as Udorthents, wet substratum. Udorthents are areas from which soil has been excavated and/or deposited due to construction operations. These areas have been disturbed to such an extent that the natural layers of soil are no longer recognizable and are no longer a major factor in determining limitations or capabilities of the land.
In the previous pahase of the project, the site was surveyed and a series of test pits were excavated across the site. Soil data is available in a separate summary by W&S, dated 2018.

Based on the test pits shown in this report, soils generally consist of sandy and gravelly materials. Soil boring data can be found in Appendix D.

Land cover across the project area is consistent with its use as an existing park. The site is covered in grassed areas, with pedestrian paths. The park is bounded by Grove Street to the south, Prentiss Road and multi-family residential to the west, and Mill Brook to the immediate north and east. This project will disturb 22780 square feet or. 0.52 acres of land.

Stormwater runoff at the site presently consists of runoff from the path and from Prentiss Road into grassed/vegetated areas of the park. Runoff brings sediments and debris to the park that eventually can enter the brook. Soggy conditions of lawn are observed after rain events. There are no drainage utilities in the project area excpt for the stormwater storage and underdrains under existing tennis courts.

3. Stormwater Standards

Standard 1: No New Untreated Discharges

The proposed project will create no new untreated discharges. A new pedestrian path extension will be installed in place of informal existing compacted earth pathways; it will be installed as permeable pavement and will remain pervious. A picnic table over a concrete pad and small walkway extension leading to it is proposed. The amount of impervious surface being added is 160 sf and it is abutting a large grassed area.

The proposed biobasin with a sediment forebay (234 sf of new impervious area), will keep the sediments and trash away within the paved forebay and will direct runoff to the bioretention area. Bioretention area is designed to store and infiltrate the first flush runoff volume (0.5" of rainfall over the contributing impervious areas) and safely convey the runoff from larger storm frequencies through the outfall weir into the outfall grass swale in a controlled fashion.

Impervious surfaces are so small that they do not affect runoff curve numbers used in TR55 hydrologic calculations and the time of concentration for existing and proposed conditions also remain the same. The proposed biobasin is designed as a water quality control BMP. Due to the limitation of space and flat grades the basin will not provide noticeable reduction of peak discharges, however some attenuation is being achieved. The table below summarizes the pre- and post- discharge conditions from the entire park site. The hydrology report are included at the end of this section.

PEAK DISCHARGE SUMMARY					
STORM FREQUENCY	1-YEAR (CFS)	2-YEAR (CFS)	10-YEAR (CFS)	25-YEAR (CFS)	100-YEAR (CFS)
EXISTING	1.65	2.22	4.23	5.97	9.82
PROPOSED	1.64	2.21	4.21	5.94	9.76

Standard 3: Recharge

Due to the land cover under proposed conditions being similar to existing conditions and impervious areas being disconnected, additional recharge does not need to be provided; however, the biobasin is designed without underdrains and will provide required recharge volume based on contributing impervious areas. The calculations are included in the end of this section.

Standard 4: Water Quality

The proposed site improvements consist of one disconnected impervious area surrounded by large expanses of grassed park space. As such, no dedicated stormwater quality treatment facilities are required for the new improvements. The proposed biobasin is designed to treat runoff from off-site impervious areas to the maximum extent practicable. The water quality volume provided by the basin exceeds ½" of rainfall over the project and off-site impervious areas. The water quality calculations are included in the end of this section

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

Not applicable; the project is not subject to higher potential pollutant loads

Standard 6: Critical Areas

There will be no new discharge to critical areas.

Standard 7: Redevelopments and Other Projects Subject to the Standards Only to the Maximum Extent Practicable

This project consists of the redevelopment of an existing site. All attempts have been made to improve the existing stormwater conditions and meet the Massachusetts Stormwater Standards to the maximum extent practicable. This includes the use of Low Impact Development measures like porous pavement for new paths and disconnected impervious surfaces. In addition, the proposed biobasin will provide recharge and water quality control for of the off-site contributing areas.

Standard 8: Construction Period Pollution Prevention and Erosion and Sediment Control

A Construction Period Pollution Prevention and Erosion and Sediment Control plan has been created and is attached to the stormwater report

Standard 9: Operation and Maintenance Plan

An Operation and Maintenance plan has been created and is included in Appendix F.

Standard 10: Prohibition of Illicit Discharges

By the nature of the proposed work the majority of site improvements will be a passive use with an absence of structural drainage system. There will be no opportunity for illicit discharges into a stormwater drainage system.

ILLICIT DISCHARGE COMPLIANCE STATEMENT

Andrew Keel, PLA, Hatch, 27 Congress Street, Salem, MA 01970

Date: September 3, 2020

This statement is provided in accordance with the provisions of the Massachusetts Stormwater Management Standard 10 and of the Massachusetts Stormwater Management Handbook. Note the following:

- All stormwater management systems contain no connection to the site's wastewater sewer system or to any other non-stormwater collection system.
- Groundwater collection systems on the site are not connected to the site's wastewater sewer system or to any other non-stormwater collection system.
- The facility's Operations & Maintenance Plan is designed to prevent any discharge of non-stormwater to the drainage system.
- Any illicit discharges identified during or after construction will be immediately disconnected.

Conclusion

The project as designed is consistent with the intent of the Massachusetts Stormwater Standards, and that the design utilizes the best approach to minimizing offsite impacts

4. Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan

SECTION 1: Introduction

The Town of Arlington proposes improvements to a portion of the town-owned Wellington Park and the south bank of the adjacent town-owned segment of Mill Brook, located off Grove Street in Arlington, Massachusetts. The proposed work will be implemented in one phase. It will include regrading and installation of walking paths, landscape improvements including exploration play area, picnic table, educational/interpretive signage, removal of invasive plant materials (with replacement per Town regulations), and a water quality biobasin. A

Existing lawn areas will require minimal grading, and they will be loamed and seeded. Existing invasive species will be removed and either replaced with no mow/native grasses. The following sections describe the stormwater implications of the proposed renovations, including design considerations and compliance with the Massachusetts Stormwater Standards. As part of this project, this "Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan" has been created to ensure that no further disturbance to the wetland resource is created during the project.

Construction sequencing will follow these steps:

- Stake out limits of disturbance
- Install perimeter sedimentation barriers at downstream limits of grading or clearing
- Install tree protection measures
- Perform selective clearing and grubbing, including removal of invasive plants
- Stockpile any removed topsoil and install sedimentation barriers around stockpiles
- Grade areas for swale, pathways and exploration /play area. Apply temporary stabilization
- Install concrete forebay and weir wall.
- Install boardwalk transition, porous pavement pathways, other site furnishings and exploration area features
- Once adjacent disturbed areas are stabilized, excavate biobasin, install outlet concrete weir structure, and install stone and biosoil mix. Seed and mulch berm and surrounding areas.
- Install planting and plant protection fencing
- Once all project areas are fully stabilized, remove any remaining sedimentation barriers and re-stabilize and remaining disturbed areas.

SECTION 2: Construction Period Pollution Prevention Measures

Best Management Practices (BMPs) will be utilized as Construction Period Pollution Prevention Measures to reduce potential pollutants and prevent any off-site discharge. The objectives of the BMPs for construction activity are to minimize the disturbed areas, stabilize any disturbed areas, control the site perimeter and retain sediment. Both erosion and sedimentation controls and non-stormwater best management measures will be used to minimize site disturbance and ensure compliance with the performance standards of the WPA and Stormwater Standards. Measures will be taken to minimize the area disturbed by construction activities to reduce the

potential for soil erosion and stormwater pollution problems. In addition, good housekeeping measures will be followed for the day-to-day operation of the construction site under the control of the contractor to minimize the impact of construction. This section describes the control practices that will be in place during construction activities. Recommended control practices will comply with the standards set in the MA DEP Stormwater Policy Handbook.

2.1 Minimize Disturbed Area and Protect Natural Features and Soil

In order to minimize disturbed areas, work will be completed within well-defined work limits. These work limits are shown on the construction plans. The Contractor shall not disturb native vegetation in the undisturbed wetland area without prior approval from the Engineer. The Contractor will be responsible to make sure that all of their workers and any subcontractors know the proper work limits and do not extend their work into the undisturbed areas. The protective measures are described in more detail in the following sections.

2.2 Control Stormwater Flowing onto and through the project

Construction areas adjacent to wetland resources will be lined with compost filter sock. The socks will be inspected daily, and accumulated silt will be removed as needed.

2.3 Stabilize Soils

The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, mulching, the use of erosion control mats, or other protective measures shall be provided as specified. The Contractor shall take account of the conditions of the soil where erosion control seeding will take place to ensure that materials used for re-vegetation are adaptive to the sediment control.

2.4 Proper Storage and Cover of Any Stockpiles

The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project and shall require written approval of the Engineer. Adequate measures for erosion and sediment control such as the placement of compost filter socks around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation. There shall be no storage of equipment or materials in areas designated as wetlands. The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

2.5 Perimeter Controls and Sediment Barriers

Erosion control measures, including perimeter controls (compost filter socks) are shown on the drawings in Appendix G, specifically on drawing SP-1 Site Preparation Plan.

2.6 Storm Drain Inlet Protection

There are no storm drains in the work area.

2.7 Retain Sediment On-Site

The Contractor will be responsible to monitor erosion control measures. Whenever necessary the Contractor will clear sediment from the compost filter tube and silt curtain that have been silted up during construction. Daily monitoring should be conducted and recorded.

2.8 Material Handling and Waste Management

Materials stored on-site will be stored in a neat, orderly manner in appropriate containers. Materials will be kept in their original containers with the original manufacturer's label. Substances will not be mixed with one another unless recommended by the manufacturer. Waste materials will be collected and stored in a securely lidded metal container from a licensed management company. The waste and any construction debris from the site will be hauled off-site daily and disposed of properly. The contractor will be responsible for waste removal. Manufacturer's recommendations for proper use and disposal will be followed for materials. Sanitary waste will be collected from the portable units a minimum of once a week, by a licensed sanitary waste management contractor.

2.9 Designated Washout Areas

The Contractor shall use washout facilities at their own facilities, unless otherwise directed by the Engineer.

2.10 Proper Equipment/Vehicle Fueling and Maintenance Practices

On-site vehicles will be monitored for leaks and receive regular preventative maintenance to reduce the risk of leakage. To ensure that leaks on stored equipment do not contaminate the site, oil-absorbing mats will be placed under oil-containing equipment during storage. Regular fueling and service of the equipment may be performed using approved methods and with care taken to minimize chance of spills. Repair of equipment or machinery within the 100' water resources area shall not be allowed without the prior approval of the Engineer. Any petroleum products will be stored in tightly sealed containers that are clearly labeled with spill control pads/socks placed under/around their perimeters.

2.11 Equipment/Vehicle Washing

The Contractor will be responsible to ensure that no equipment is washed on-site.

SECTION 3: Spill Prevention and Control Plan

The Contractor will be responsible for preventing spills in accordance with the project specifications and applicable federal, state and local regulations. The Contractor will identify a properly trained site employee, involved with the day-to-day site operations to be the spill prevention and cleanup coordinator. The name(s) of the responsible spill personnel will be posted on-site. Each employee will be instructed that all spills are to be reported to the spill prevention and cleanup coordinator.

3.1 Spill Control Equipment

Spill control/containment equipment will be kept in the Work Area. Materials and equipment necessary for spill cleanup will be kept either in the Work Area or in an otherwise accessible on-site location. Equipment and materials will include, but not be limited to, absorbent booms/mats, brooms, dust pans, mops, rags, gloves, goggles, sand, plastic and metal containers specifically for this purpose. It is the responsibility of the Contractor to ensure the inventory will be readily accessible and maintained.

3.2 Notification

Workers will be directed to inform the on-site supervisor of a spill event. The supervisor will assess the incident and initiate proper containment and response procedures immediately upon notification. Workers should avoid direct contact with spilled materials during the containment procedures. Primary notification of a spill should be made to the local Fire Department and Police Departments. Secondary Notification will be to the certified cleanup contractor if deemed necessary by Fire and/or Police personnel. The third level of notification (within 1 hour) is to the DEP or municipality's Licensed Site Professional (LSP). The specific cleanup contractor to be used will be identified by the Contractor prior to commencement of construction activities.

3.3 Spill Containment and Clean-Up Measures

Spills will be contained with granular sorbent material, sand, sorbent pads, booms or all of the above to prevent spreading. Certified cleanup contractors should complete spill cleanup. The material manufacturer's recommended methods for spill cleanup will be clearly posted and on-site personnel will be made aware of the procedures and the location of the information and cleanup supplies.

3.4 Hazardous Materials Spill Report

The Contractor will report and record any spill. The spill report will present a description of the release, including the quantity and type of material, date of the spill, circumstances leading to the release, location of spill, response actions and personnel, documentation of notifications and corrective measures implemented to prevent reoccurrence.

This document does not relieve the Contractor of the Federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, 40 CFR Part 302 and the State requirements specified under the Massachusetts Contingency Plan (M.C.P) relating to spills or other releases of oils or hazardous substances. Where a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117 or 40 CFR Part 302, occurs during a twenty-four (24) hour period, the Contractor is required to comply with the response requirements of the above mentioned regulations. Spills of oil or hazardous material in excess of the reportable quantity will be reported to the National Response Center (NRC).

SECTION 4: Contact Information/Responsible Parties

Owner/Operator:
Emily Sullivan
Arlington Conservation Commission
730 Massachusetts Avenue
Arlington, MA 02476
(781) 316-3012

Engineer:
Andrew Keel, PLA
Hatch
27 Congress Street
Salem, MA 01970
978-740-0096

Site Inspector: TBD

Contractor: TBD

SECTION 5: Erosion and Sedimentation Control

Erosion and Sedimentation Control Drawings can be found in the Appendix G, specifically on drawing SP-1 Site Preparation Plan.

SECTION 6: Site Development Plan

The Site Development Plan is included in the attached plans found in the Appendix G.

SECTION 7: Operation and Maintenance of Erosion Control

The erosion control measures will be installed as detailed on the drawings. If there is a failure to the controls the Contractor, under the supervision of the Engineer, will be required to stop work until the failure is repaired. Periodically throughout the work, whenever the Engineer deems it necessary, the sediment that has been deposited against the controls will be removed to ensure that the controls are working properly.

SECTION 8: Inspection Schedule

During construction, the erosion and sedimentation controls will be inspected daily. Once the Contractor is selected, an onsite inspector will be selected to work closely with the Engineer to ensure that erosion and sedimentation controls are in place and working properly. An Inspection Form is included below.

INSPECTION FORM

INSPECTED BY:_____DATE:_____TIME:_____

YES	NO	DOES NOT APPLY	ITEM
			Do any erosion/siltation control measures require repair or clean out to maintain adequate function?
			Is there any evidence that sediment is leaving the site and entering the wetlands?
			Are any temporary soil stockpiles or construction materials located in non-approved areas?
			Are on-site construction traffic routes, parking, and storage of equipment and supplies located in areas not specifically designed for them?

SPECIFIC LOCATION, CURRENT WEATHER CONDITIONS, AND ACTION TO BE TAKEN:

_____

_____

_____

_____

_____

OTHER COMMENTS:

_____

_____

PENDING THE ACTIONS NOTED ABOVE I CERTIFY THAT THE SITE IS IN COMPLIANCE WITH THE CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN.

SIGNATURE:_____DATE: _____

Wellington Park - Revitalization of the Mill Brook Corridor
75% Design
Green Infrastructure Stormwater Calculations
Static Method

By: EUA
Checked By: HH
Date: 8/28/2020

Total Project Area(within LOD) (SF)	**22,779**
Open space/lawn/ parkland	20,377
Porous Asphalt (SF)	2,009
Impervious Area (SF)	393
Off-site Area draining to Biobasin (SF)	**22,312**
Impervious Area (SF)	21,156
Open space/lawn	1,156

Water Quality Volume Required (CF)	**898**

(1/2" over impervious area)

Stormwater BMP Storage Volumes					
Stormwater BMP Facility	**Total Drainage Area (SF)**	**Depth Of Layer (FT)**	**Void Ratio %**	**Storage Volume Provided (CF)**	**WQ Volume Required (CF)**
Total Drainage Area (SF)	22,312				
Impervious Area (SF)	24,321				
Biobasin Ponding Area (SF)	933				
Biobasin Surface Area (SF)	700				
Temporary ponding		0.5	100%	408.25	
Biosoil mix		1.5	20%	279.90	
Stone later		1.0	40%	373.20	
Total				**1061**	**898**
% Water Quality Volume Requirement Met					**118.2%**

Hydrologic Soil Group Type	A
Target Depth Factor F (IN)	0.60
Impervious Area to Biobasin ImpA (SF)	21,156

Recharge Volume Required Rv (CF)	**RV=F*ImpA**	**1058**
% Recharge Volume Requirement Met		**100.3%**

Soils based on borings	loamy sand
Infiltration Rawls rate F (IN/HR)	2.41
Saturated Soil Conductivity (in/HR)	2.41
Bottom Area A SF	933

Drawdown Time (HR)	**T=Rv/(K*A)**	**5.65**
Drawdown Time Requirement Met	**72 hr max%**	**5.65 < 72**

INSTRUCTIONS:

Version 1, Automated: Mar. 4, 2008

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: Wellington Park, Arlington

TSS Removal Calculation Worksheet

B BMP[1]	C TSS Removal Rate[1]	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Bioretention Area	0.90	1.00	0.90	0.10
Grass Channel	0.50	0.10	0.05	0.05
	0.00	0.05	0.00	0.05
	0.00	0.05	0.00	0.05
	0.00	0.05	0.00	0.05

Total TSS Removal = 95%

Separate Form Needs to be Completed for Each Outlet or BMP Train

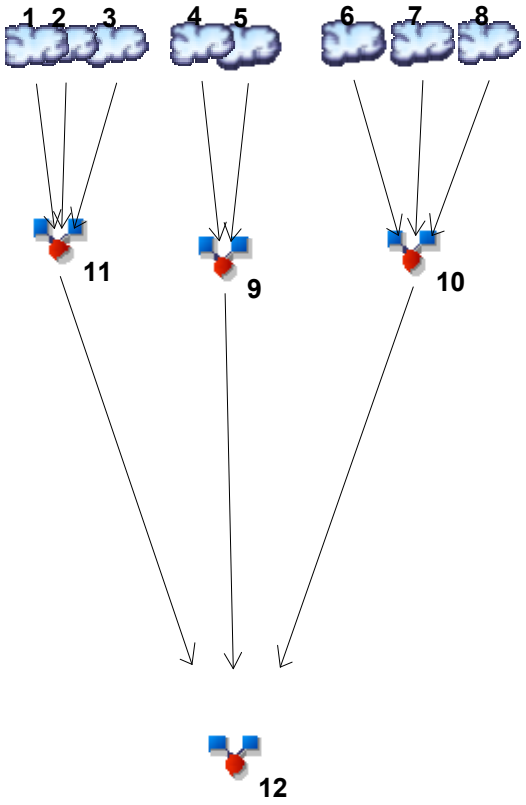
Project: Wellington Park
Prepared By: E. Adamowicz
Date: 8/28/2020

*Equals remaining load from previous BMP (E) which enters the BMP

Non-automated TSS Calculation Sheet must be used if Proprietary BMP Proposed

1. From MassDEP Stormwater Handbook Vol. 1

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	TO END OF PRENTISS
2	SCS Runoff	LAWN- MIDDLE
3	SCS Runoff	LAWN LOWER
4	SCS Runoff	TO MILL BROOK WEST
5	SCS Runoff	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	TO MILL BROOK CENTER
7	SCS Runoff	TO MILL BROOK - RESTORATION
8	SCS Runoff	TO MILL BROOK EAST
9	Combine	WEST TO RIVER
10	Combine	EAST TO RIVER
11	Combine	TO RIVER- CENTER
12	Combine	TOTAL SITE

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	1.303	1.578	-------	2.012	2.412	3.061	3.660	4.379	TO END OF PRENTISS
2	SCS Runoff	------	0.005	0.018	-------	0.046	0.077	0.137	0.198	0.277	LAWN- MIDDLE
3	SCS Runoff	------	0.003	0.009	-------	0.023	0.039	0.068	0.099	0.139	LAWN LOWER
4	SCS Runoff	------	0.023	0.072	-------	0.185	0.313	0.551	0.794	1.108	TO MILL BROOK WEST
5	SCS Runoff	------	0.293	0.353	-------	0.447	0.535	0.677	0.808	0.966	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	------	0.057	0.147	-------	0.333	0.537	0.910	1.288	1.775	TO MILL BROOK CENTER
7	SCS Runoff	------	0.009	0.030	-------	0.077	0.129	0.228	0.330	0.462	TO MILL BROOK - RESTORATION
8	SCS Runoff	------	0.016	0.048	-------	0.123	0.208	0.367	0.529	0.739	TO MILL BROOK EAST
9	Combine	4, 5,	0.299	0.412	-------	0.624	0.839	1.221	1.599	2.074	WEST TO RIVER
10	Combine	6, 7, 8,	0.079	0.224	-------	0.530	0.866	1.490	2.135	2.963	EAST TO RIVER
11	Combine	1, 2, 3,	1.307	1.604	-------	2.081	2.528	3.263	3.951	4.784	TO RIVER- CENTER
12	Combine	9, 10, 11	1.652	2.217	-------	3.220	4.225	5.974	7.685	9.821	TOTAL SITE

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

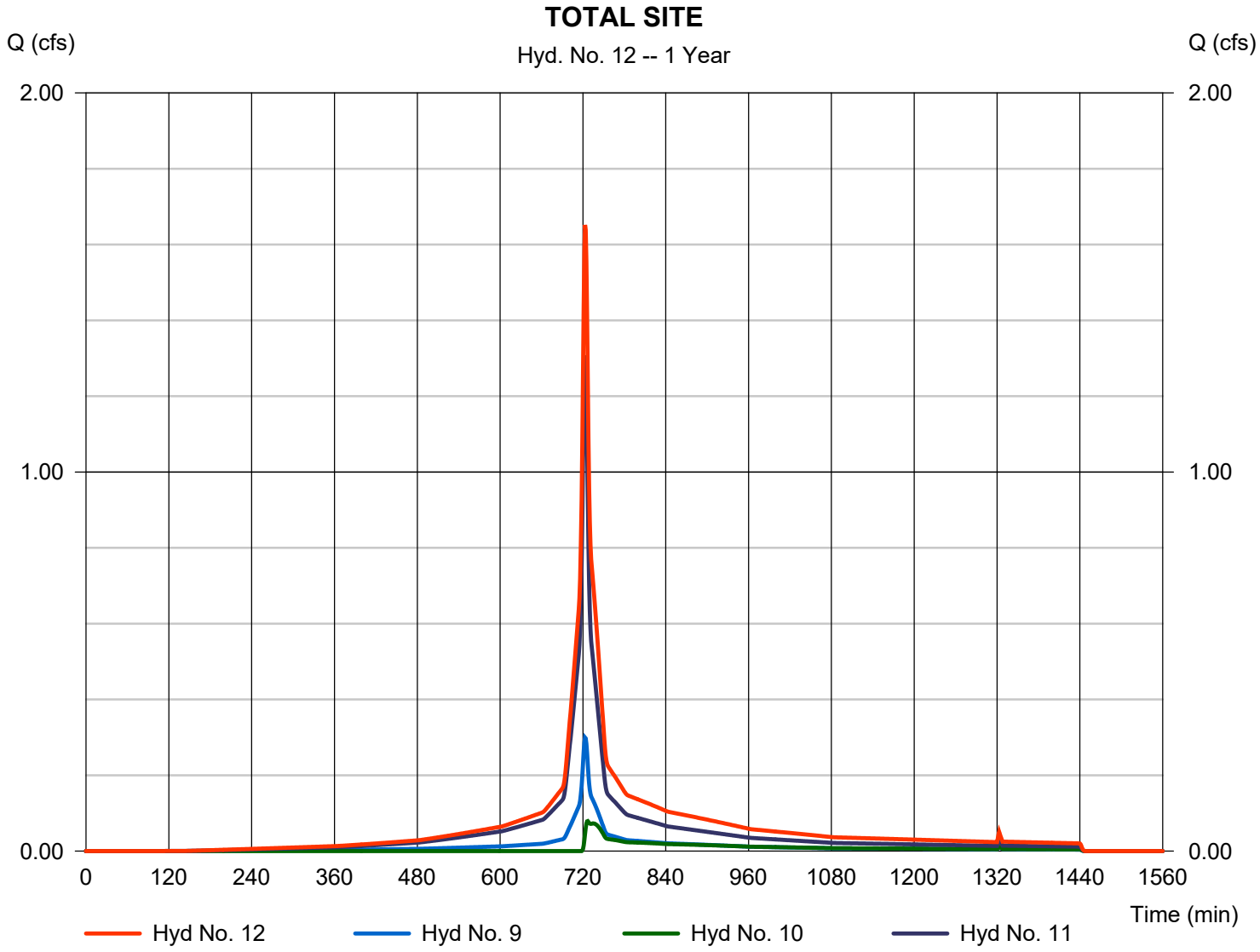
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.303	1	723	4,070	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.005	1	735	45	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.003	1	735	22	------	------	------	LAWN LOWER
4	SCS Runoff	0.023	1	737	192	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.293	1	723	938	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.057	1	726	355	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.009	1	735	75	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.016	1	737	128	------	------	------	TO MILL BROOK EAST
9	Combine	0.299	1	723	1,130	4, 5,	------	------	WEST TO RIVER
10	Combine	0.079	1	727	557	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	1.307	1	723	4,138	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	1.652	1	723	5,825	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 1.652 cfs
Storm frequency	= 1 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 5,825 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

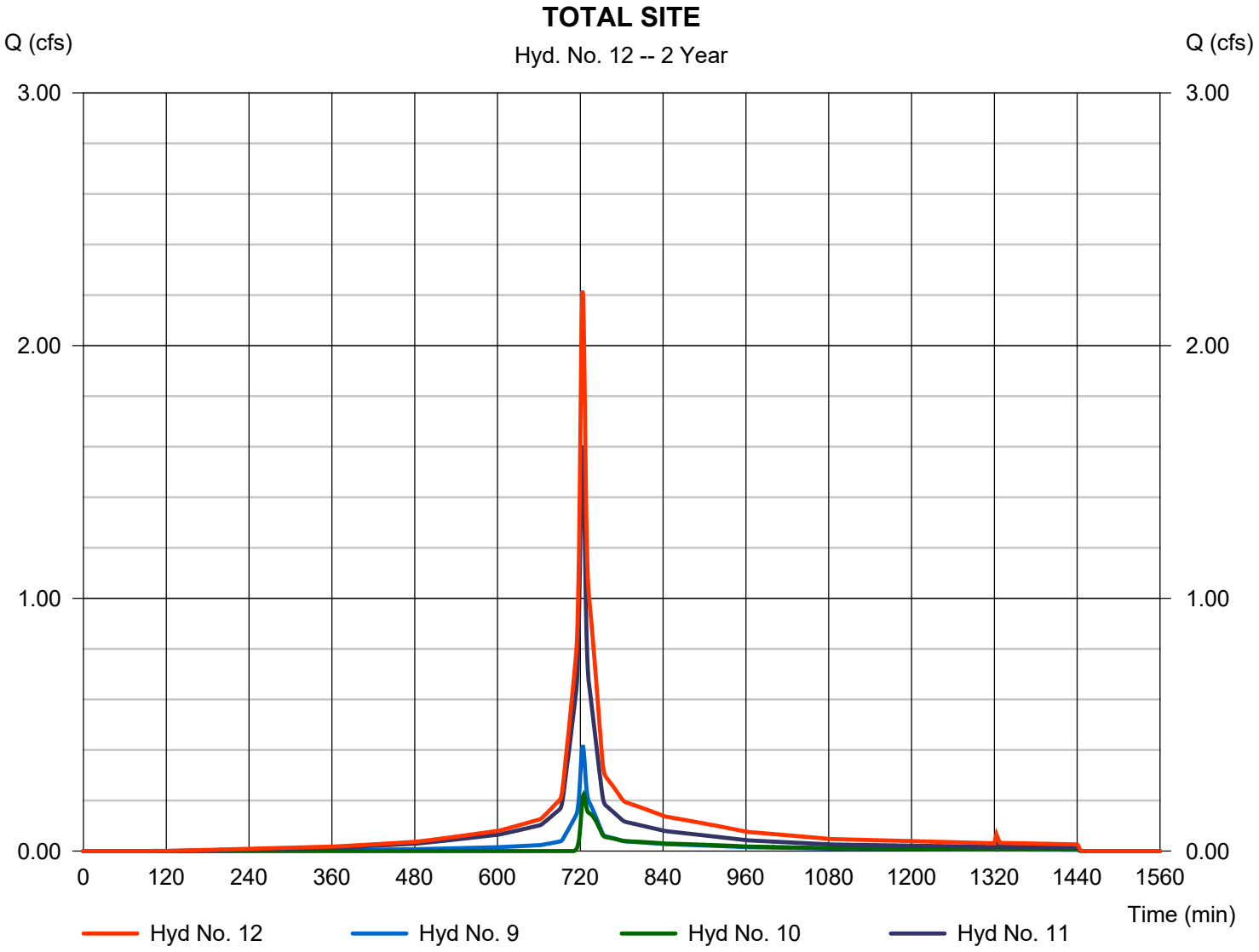
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.578	1	723	4,987	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.018	1	724	82	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.009	1	724	41	------	------	------	LAWN LOWER
4	SCS Runoff	0.072	1	725	348	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.353	1	723	1,141	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.147	1	725	616	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.030	1	724	136	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.048	1	725	232	------	------	------	TO MILL BROOK EAST
9	Combine	0.412	1	723	1,490	4, 5,	------	------	WEST TO RIVER
10	Combine	0.224	1	725	984	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	1.604	1	723	5,109	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	2.217	1	723	7,583	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 2.217 cfs
Storm frequency	= 2 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 7,583 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

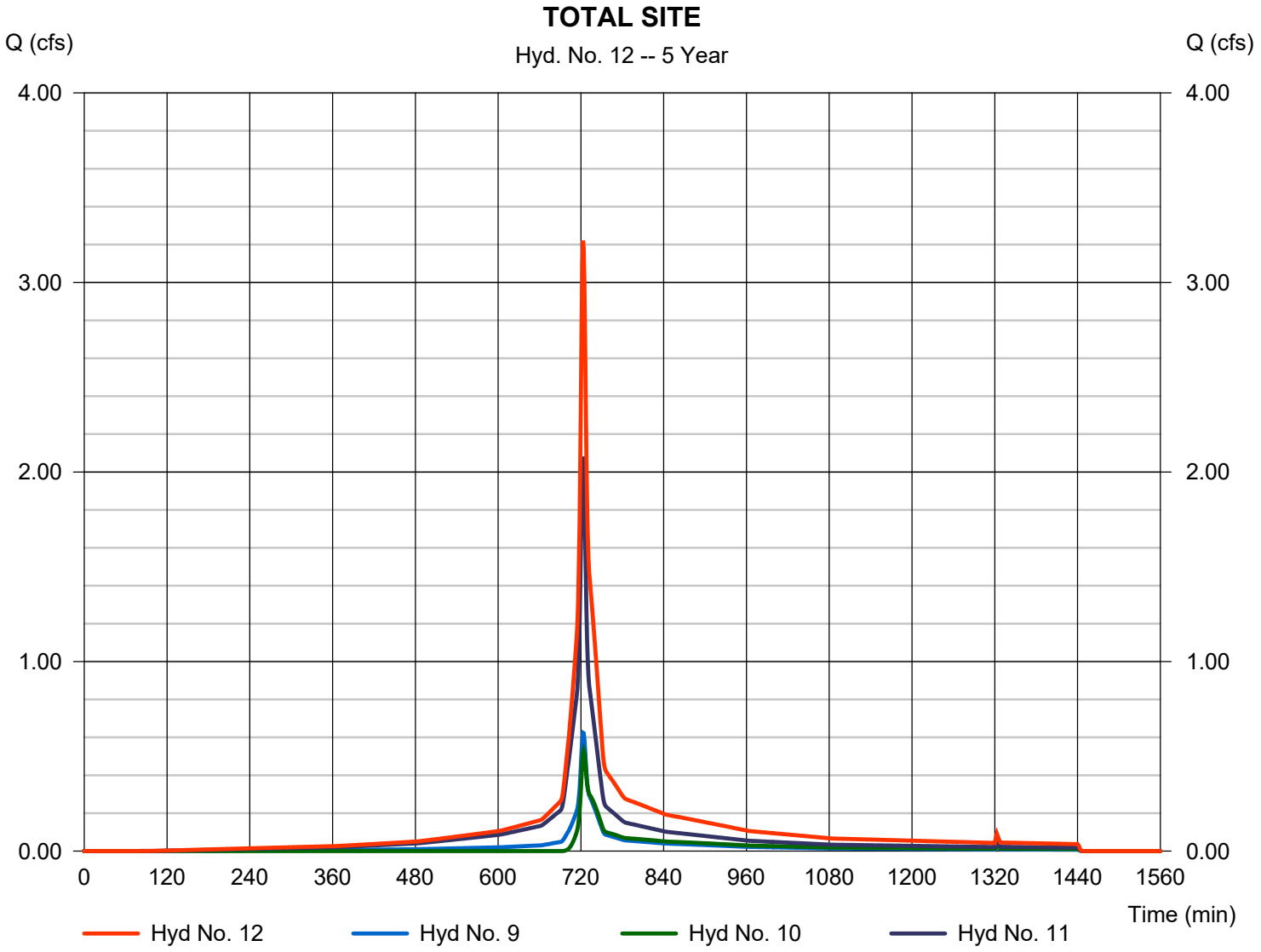
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.012	1	723	6,447	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.046	1	723	156	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.023	1	723	78	------	------	------	LAWN LOWER
4	SCS Runoff	0.185	1	724	664	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.447	1	723	1,464	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.333	1	724	1,129	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.077	1	723	259	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.123	1	724	443	------	------	------	TO MILL BROOK EAST
9	Combine	0.624	1	723	2,128	4, 5,	------	------	WEST TO RIVER
10	Combine	0.530	1	724	1,831	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	2.081	1	723	6,680	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	3.220	1	723	10,639	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 3.220 cfs
Storm frequency	= 5 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 10,639 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

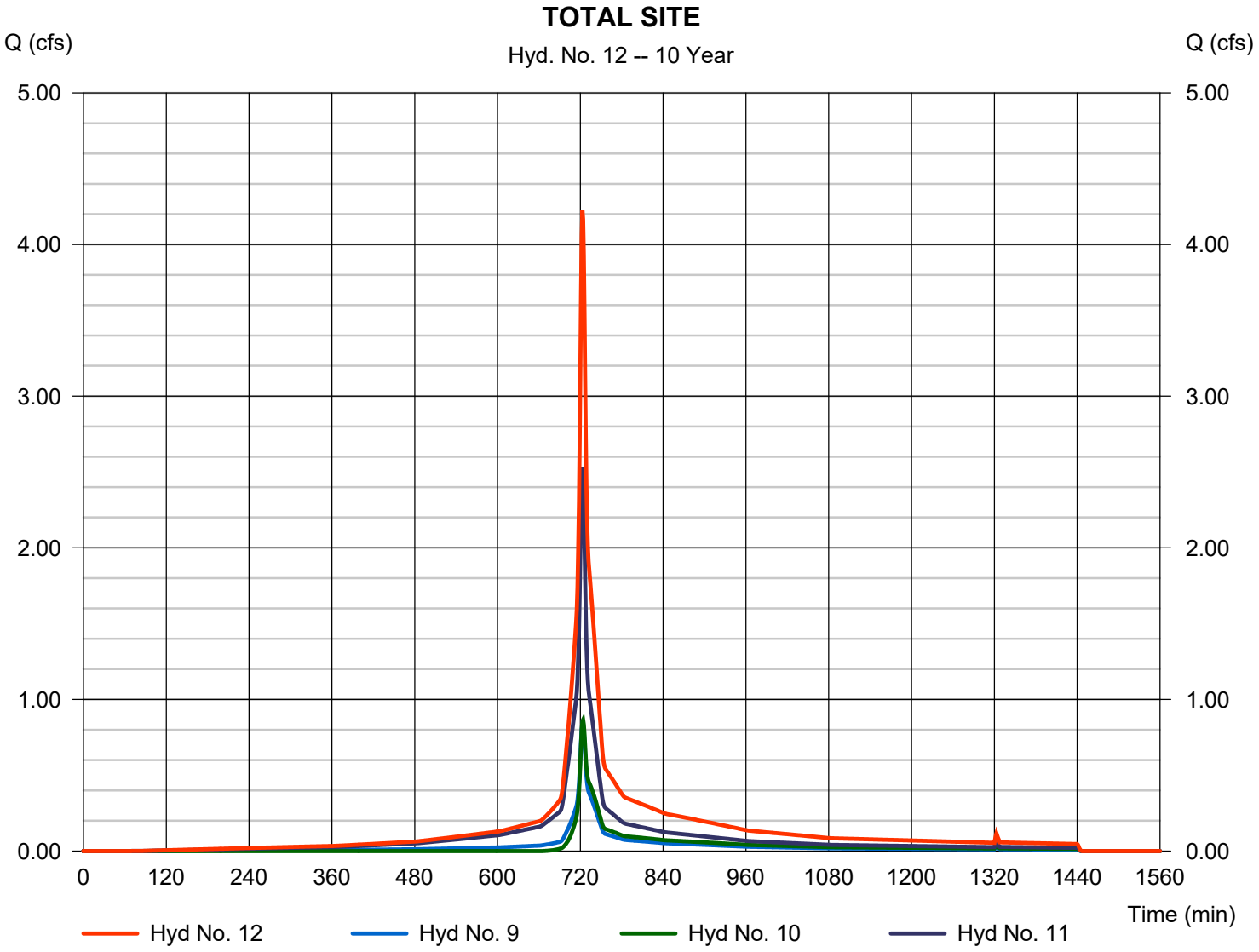
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.412	1	723	7,802	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.077	1	723	238	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.039	1	723	119	------	------	------	LAWN LOWER
4	SCS Runoff	0.313	1	724	1,014	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.535	1	723	1,762	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.537	1	724	1,688	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.129	1	723	396	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.208	1	724	676	------	------	------	TO MILL BROOK EAST
9	Combine	0.839	1	723	2,776	4, 5,	------	------	WEST TO RIVER
10	Combine	0.866	1	724	2,761	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	2.528	1	723	8,158	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	4.225	1	723	13,695	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 4.225 cfs
Storm frequency	= 10 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 13,695 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

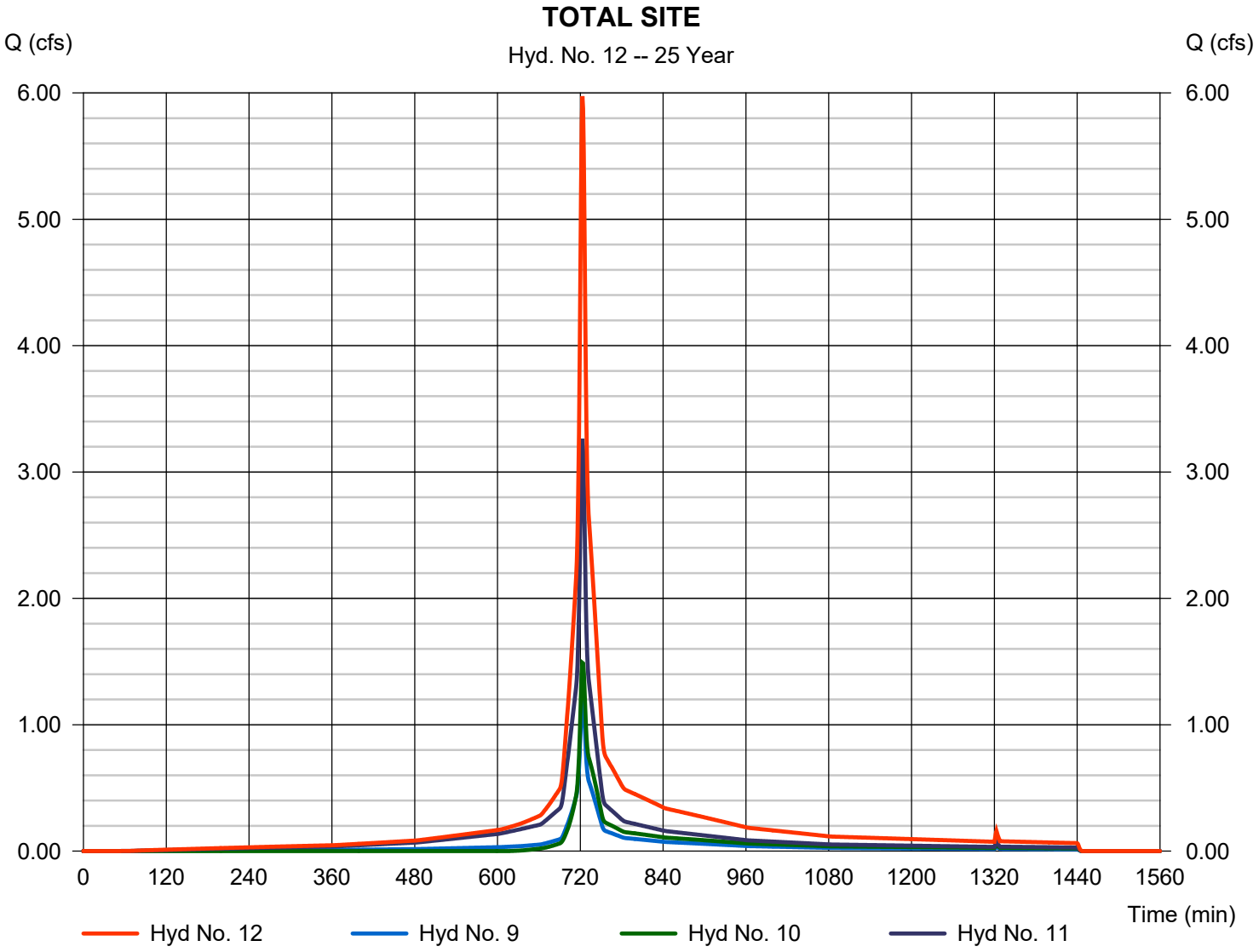
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.061	1	723	10,009	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.137	1	722	392	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.068	1	722	196	------	------	------	LAWN LOWER
4	SCS Runoff	0.551	1	724	1,672	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.677	1	723	2,249	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.910	1	724	2,726	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.228	1	722	653	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.367	1	724	1,115	------	------	------	TO MILL BROOK EAST
9	Combine	1.221	1	723	3,921	4, 5,	------	------	WEST TO RIVER
10	Combine	1.490	1	723	4,494	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	3.263	1	723	10,597	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	5.974	1	723	19,011	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 5.974 cfs
Storm frequency	= 25 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 19,011 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

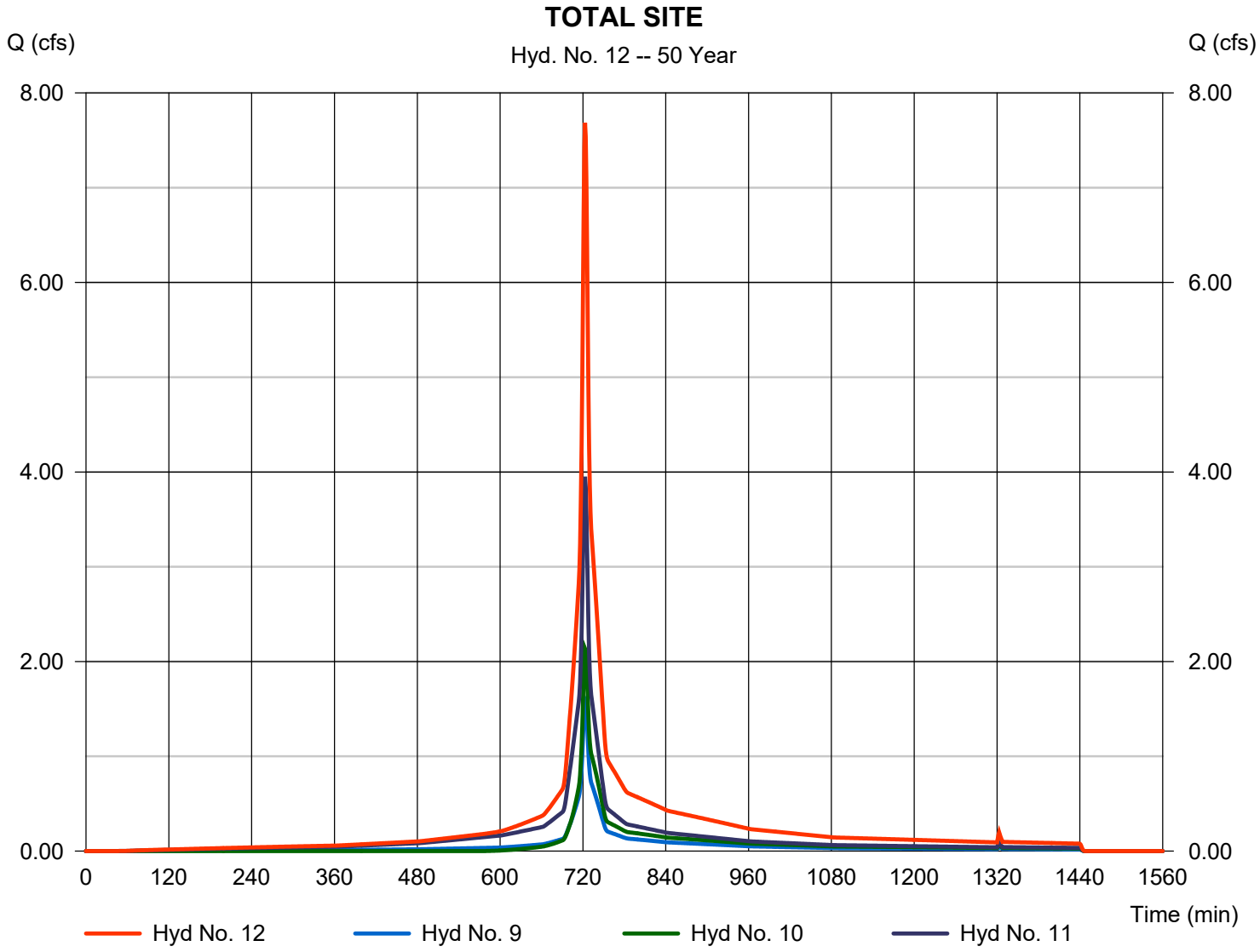
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.660	1	723	12,055	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.198	1	722	552	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.099	1	722	276	------	------	------	LAWN LOWER
4	SCS Runoff	0.794	1	724	2,354	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.808	1	723	2,700	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.288	1	724	3,791	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.330	1	722	920	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.529	1	724	1,569	------	------	------	TO MILL BROOK EAST
9	Combine	1.599	1	723	5,054	4, 5,	------	------	WEST TO RIVER
10	Combine	2.135	1	723	6,280	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	3.951	1	723	12,883	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	7.685	1	723	24,216	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	=	Combine	Peak discharge	=	7.685 cfs
Storm frequency	=	50 yrs	Time to peak	=	723 min
Time interval	=	1 min	Hyd. volume	=	24,216 cuft
Inflow hyds.	=	9, 10, 11	Contrib. drain. area	=	0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

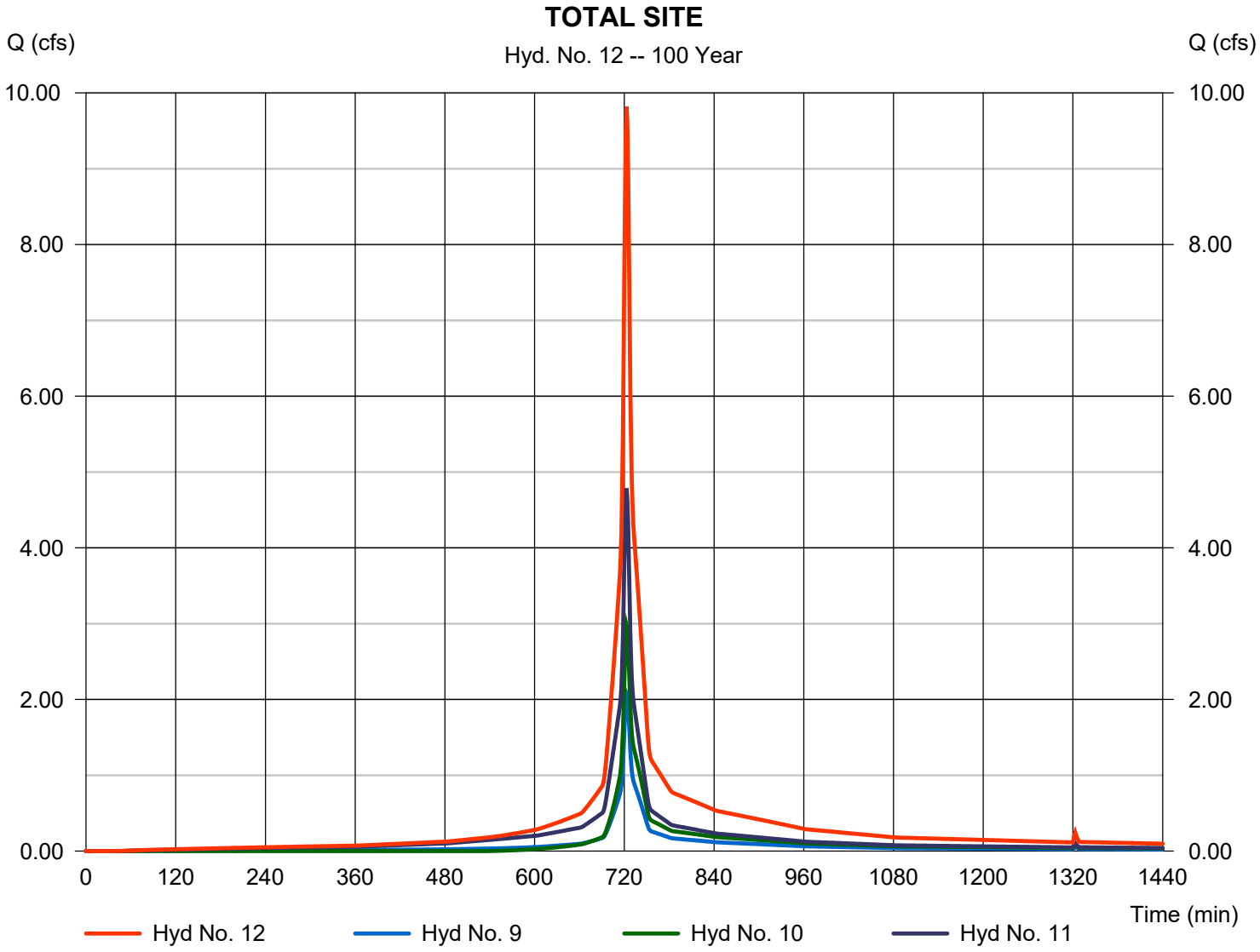
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.379	1	723	14,520	------	------	------	TO END OF PRENTISS
2	SCS Runoff	0.277	1	722	760	------	------	------	LAWN- MIDDLE
3	SCS Runoff	0.139	1	722	380	------	------	------	LAWN LOWER
4	SCS Runoff	1.108	1	723	3,242	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.966	1	723	3,242	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.775	1	723	5,167	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.462	1	722	1,266	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.739	1	723	2,161	------	------	------	TO MILL BROOK EAST
9	Combine	2.074	1	723	6,484	4, 5,	------	------	WEST TO RIVER
10	Combine	2.963	1	723	8,595	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	4.784	1	723	15,660	1, 2, 3,	------	------	TO RIVER- CENTER
12	Combine	9.821	1	723	30,739	9, 10, 11	------	------	TOTAL SITE

Hydrograph Report

Hyd. No. 12

TOTAL SITE

Hydrograph type	= Combine	Peak discharge	= 9.821 cfs
Storm frequency	= 100 yrs	Time to peak	= 723 min
Time interval	= 1 min	Hyd. volume	= 30,739 cuft
Inflow hyds.	= 9, 10, 11	Contrib. drain. area	= 0.000 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	69.8703	13.1000	0.8658	--------
3	0.0000	0.0000	0.0000	--------
5	79.2597	14.6000	0.8369	--------
10	88.2351	15.5000	0.8279	--------
25	102.6072	16.5000	0.8217	--------
50	114.8193	17.2000	0.8199	--------
100	127.1596	17.8000	0.8186	--------

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

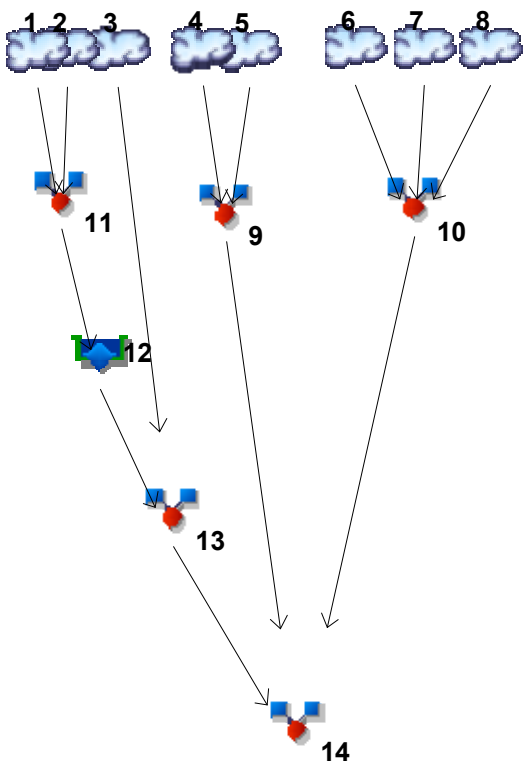
Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.58	3.09	0.00	3.90	4.65	5.87	7.00	8.36
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Table of Contents

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	TO FOREBAY
2	SCS Runoff	TO BIORETENTION DIRECT
3	SCS Runoff	TO END OF SWALE
4	SCS Runoff	TO MILL BROOK WEST
5	SCS Runoff	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	TO MILL BROOK CENTER
7	SCS Runoff	TO MILL BROOK - RESTORATION
8	SCS Runoff	TO MILL BROOK EAST
9	Combine	WEST TO RIVER
10	Combine	EAST TO RIVER
11	Combine	TO POND
12	Reservoir	OUT OF BR
13	Combine	TO SWALE OUTLET
14	Combine	TOTAL TO RIVER

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	1.293	1.577	-------	2.024	2.435	3.100	3.714	4.450	TO FOREBAY
2	SCS Runoff	------	0.005	0.018	-------	0.046	0.077	0.137	0.198	0.277	TO BIORETENTION DIRECT
3	SCS Runoff	------	0.003	0.009	-------	0.023	0.039	0.068	0.099	0.139	TO END OF SWALE
4	SCS Runoff	------	0.023	0.072	-------	0.185	0.313	0.551	0.794	1.108	TO MILL BROOK WEST
5	SCS Runoff	------	0.293	0.353	-------	0.447	0.535	0.677	0.808	0.966	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	------	0.057	0.147	-------	0.333	0.537	0.910	1.288	1.775	TO MILL BROOK CENTER
7	SCS Runoff	------	0.009	0.030	-------	0.077	0.129	0.228	0.330	0.462	TO MILL BROOK - RESTORATION
8	SCS Runoff	------	0.016	0.048	-------	0.123	0.208	0.367	0.529	0.739	TO MILL BROOK EAST
9	Combine	4, 5,	0.299	0.412	-------	0.624	0.839	1.221	1.599	2.074	WEST TO RIVER
10	Combine	6, 7, 8,	0.079	0.224	-------	0.530	0.866	1.490	2.135	2.963	EAST TO RIVER
11	Combine	1, 2,	1.296	1.594	-------	2.070	2.512	3.235	3.908	4.720	TO POND
12	Reservoir	11	1.277	1.570	-------	2.037	2.472	3.183	3.844	4.642	OUT OF BR
13	Combine	3, 12	1.279	1.579	-------	2.059	2.508	3.245	3.933	4.766	TO SWALE OUTLET
14	Combine	9, 10, 13	1.637	2.210	-------	3.211	4.210	5.943	7.632	9.755	TOTAL TO RIVER

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.293	1	723	3,961	------	------	------	TO FOREBAY
2	SCS Runoff	0.005	1	735	45	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.003	1	735	22	------	------	------	TO END OF SWALE
4	SCS Runoff	0.023	1	737	192	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.293	1	723	938	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.057	1	726	355	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.009	1	735	75	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.016	1	737	128	------	------	------	TO MILL BROOK EAST
9	Combine	0.299	1	723	1,130	4, 5,	------	------	WEST TO RIVER
10	Combine	0.079	1	727	557	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	1.296	1	723	4,006	1, 2,	------	------	TO POND
12	Reservoir	1.277	1	724	4,002	11	64.32	602	OUT OF BR
13	Combine	1.279	1	724	4,025	3, 12	------	------	TO SWALE OUTLET
14	Combine	1.637	1	724	5,712	9, 10, 13	------	------	TOTAL TO RIVER

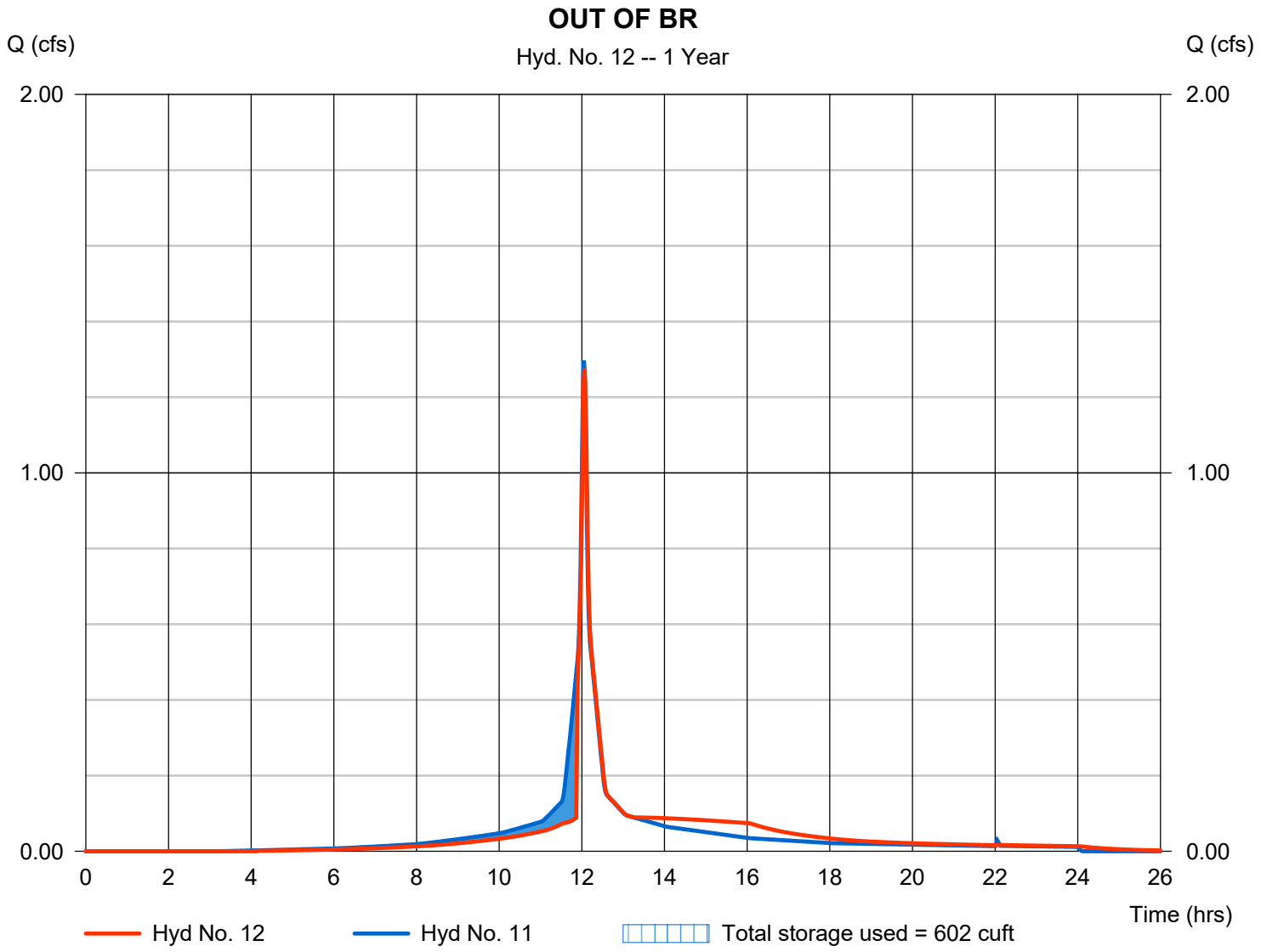
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	1.277 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	4,002 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.32 ft
Reservoir name	=	BIORET	Max. Storage	=	602 cuft

Storage Indication method used. Outflow includes exfiltration.



Pond Report

Pond No. 1 - BIORET

Pond Data

Pond storage is based on user-defined values.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	61.75	n/a	0	0
1.00	62.75	n/a	280	280
2.50	64.25	n/a	263	543
3.00	64.75	n/a	403	946
3.50	65.25	n/a	506	1,452
3.75	65.50	n/a	253	1,705
4.25	66.00	n/a	506	2,211

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.00	5.00	20.00	0.00
Crest El. (ft)	= 64.75	65.25	65.50	0.00
Weir Coeff.	= 3.33	3.33	2.60	3.33
Weir Type	= Rect	Rect	Broad	---
Multi-Stage	= No	No	No	No

Exfil.(in/hr) = 2.000 (by Wet area)

TW Elev. (ft) = 64.20

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

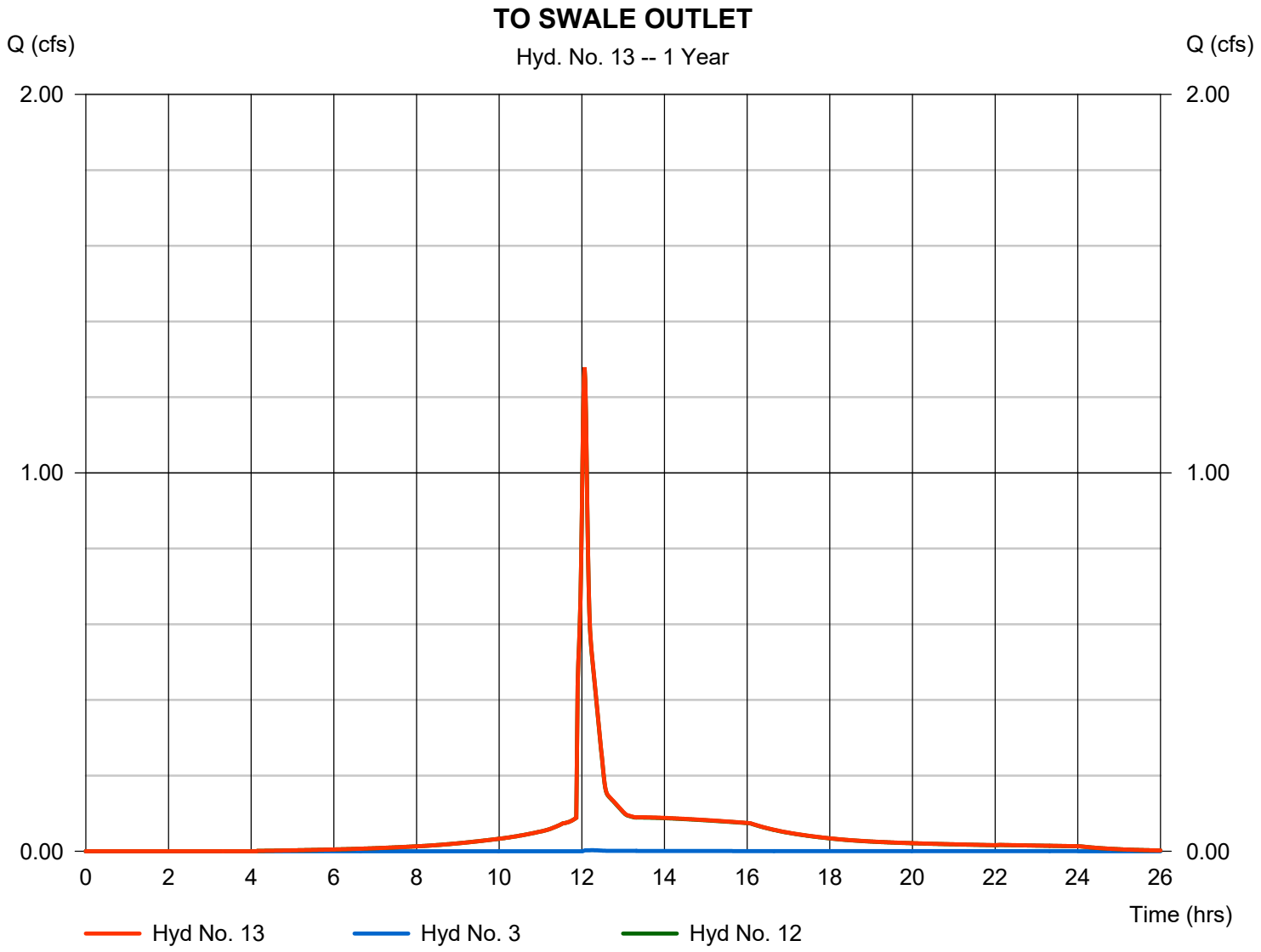
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	61.75	---	---	---	---	0.00	0.00	0.00	---	0.000	---	0.000
1.00	280	62.75	---	---	---	---	0.00	0.00	0.00	---	0.032	---	0.074
2.50	543	64.25	---	---	---	---	0.00	0.00	0.00	---	0.038	---	0.089
3.00	946	64.75	---	---	---	---	0.00	0.00	0.00	---	0.000	---	8.760
3.50	1,452	65.25	---	---	---	---	0.00	0.00	0.00	---	0.000	---	20.02
3.75	1,705	65.50	---	---	---	---	0.00	0.00	0.00	---	0.000	---	93.56
4.25	2,211	66.00	---	---	---	---	0.00	0.00	0.00	---	0.000	---	302.10

Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	=	Combine	Peak discharge	=	1.279 cfs
Storm frequency	=	1 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	4,025 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	0.030 ac

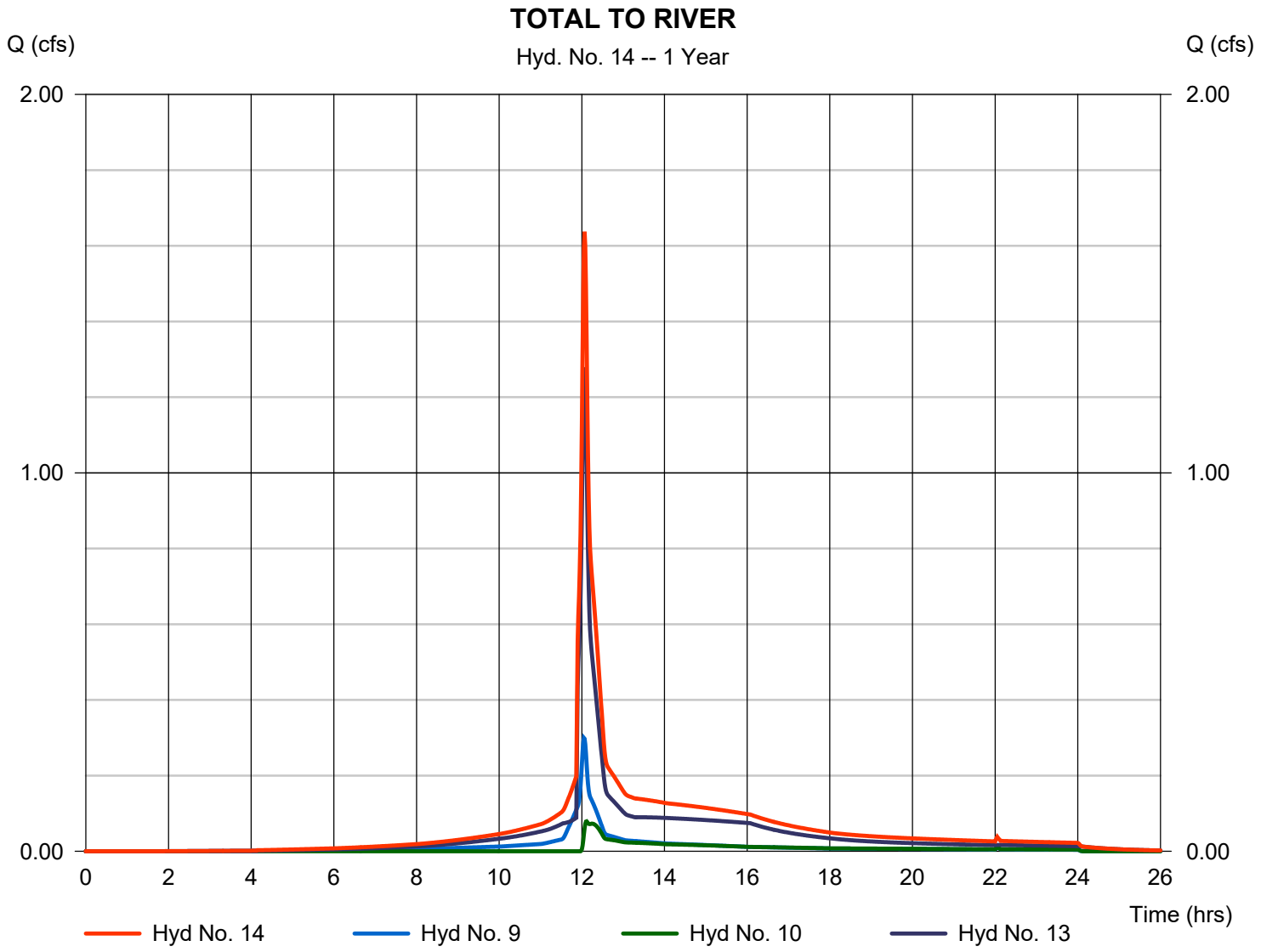


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 1.637 cfs
Storm frequency	= 1 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 5,712 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	1.577	1	723	4,889	------	------	------	TO FOREBAY
2	SCS Runoff	0.018	1	724	82	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.009	1	724	41	------	------	------	TO END OF SWALE
4	SCS Runoff	0.072	1	725	348	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.353	1	723	1,141	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.147	1	725	616	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.030	1	724	136	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.048	1	725	232	------	------	------	TO MILL BROOK EAST
9	Combine	0.412	1	723	1,490	4, 5,	------	------	WEST TO RIVER
10	Combine	0.224	1	725	984	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	1.594	1	723	4,970	1, 2,	------	------	TO POND
12	Reservoir	1.570	1	724	4,967	11	64.34	615	OUT OF BR
13	Combine	1.579	1	724	5,007	3, 12	------	------	TO SWALE OUTLET
14	Combine	2.210	1	724	7,481	9, 10, 13	------	------	TOTAL TO RIVER

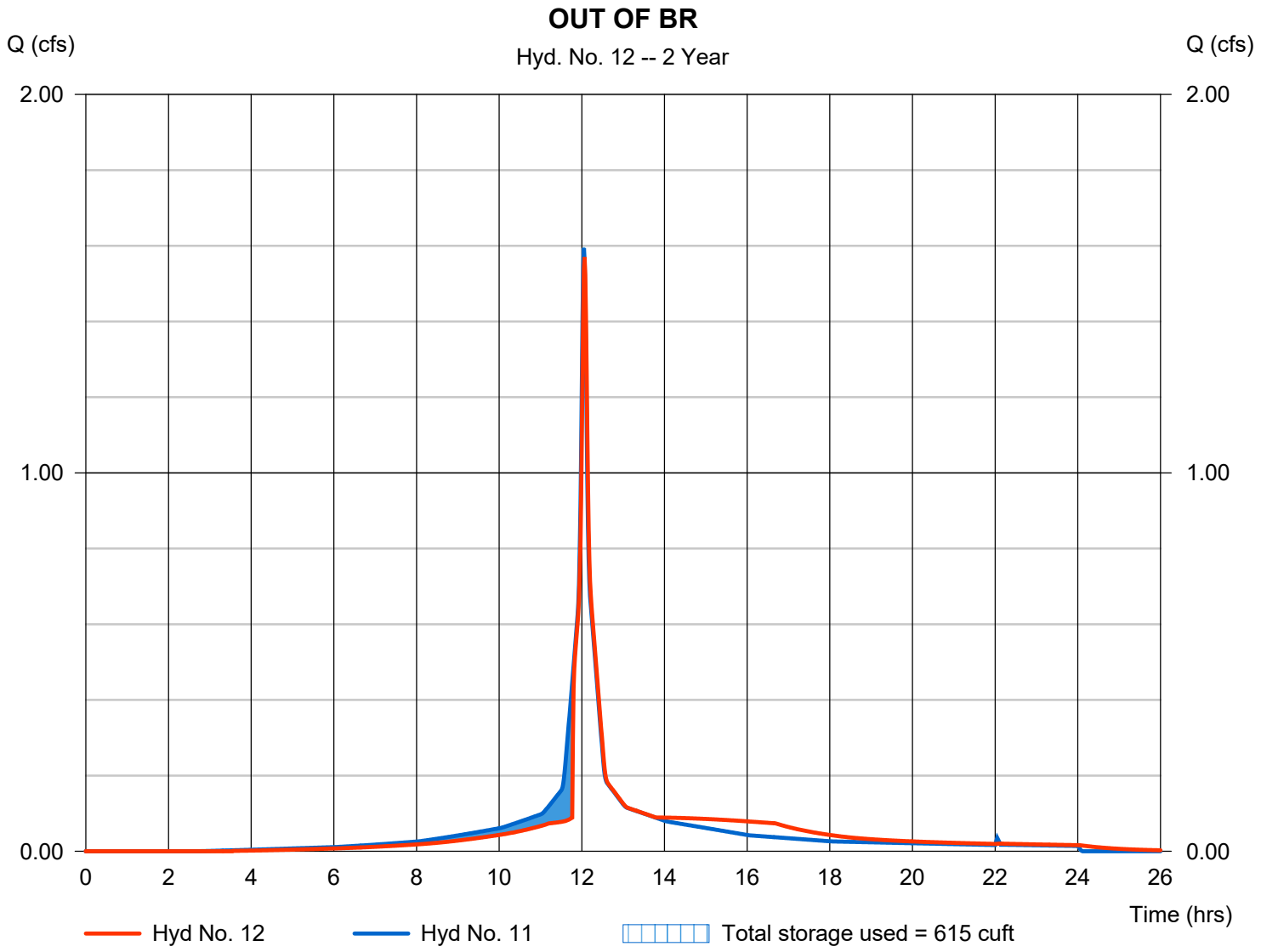
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	1.570 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	4,967 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.34 ft
Reservoir name	=	BIORET	Max. Storage	=	615 cuft

Storage Indication method used. Outflow includes exfiltration.

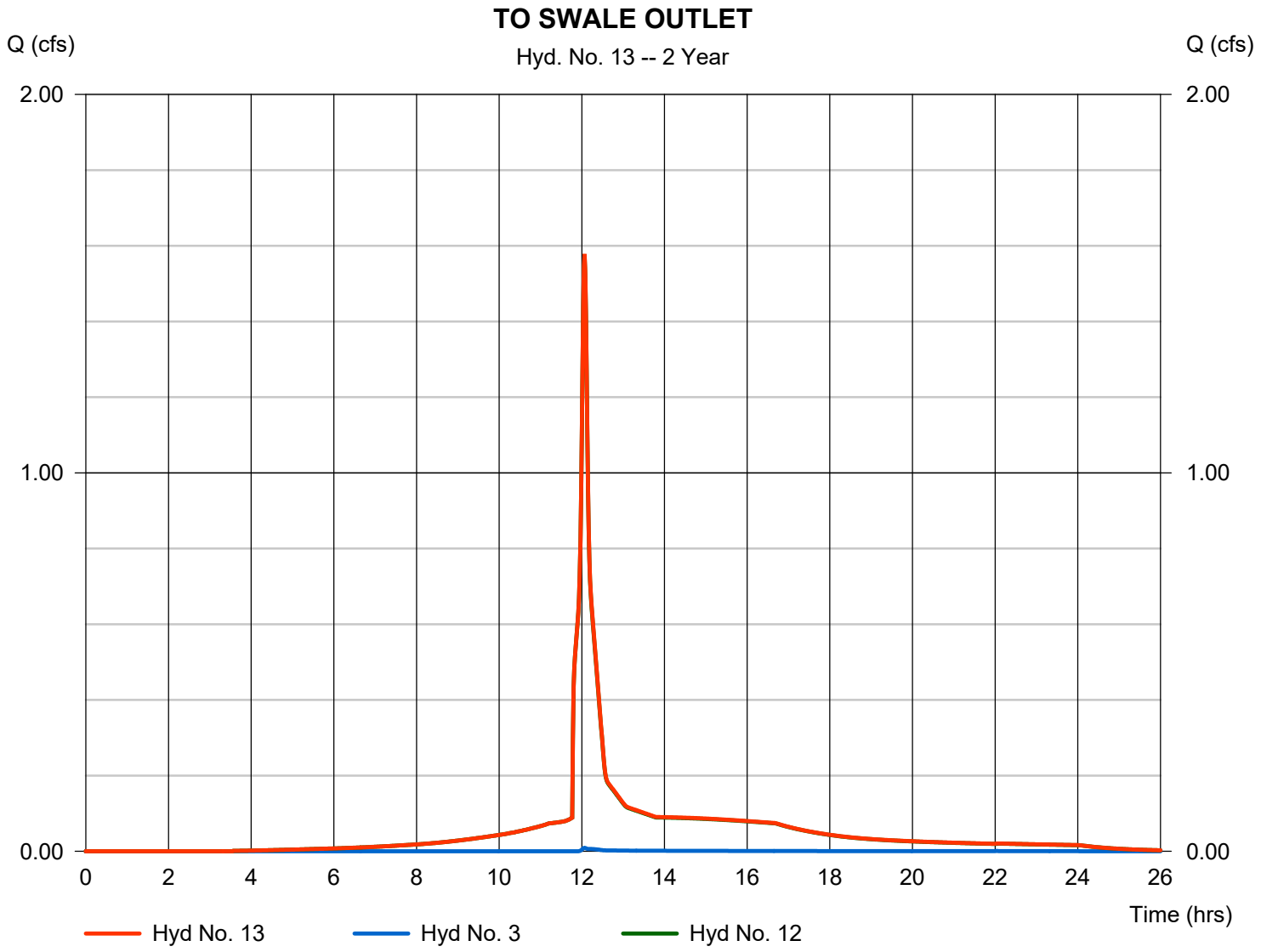


Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	=	Combine	Peak discharge	=	1.579 cfs
Storm frequency	=	2 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	5,007 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	0.030 ac

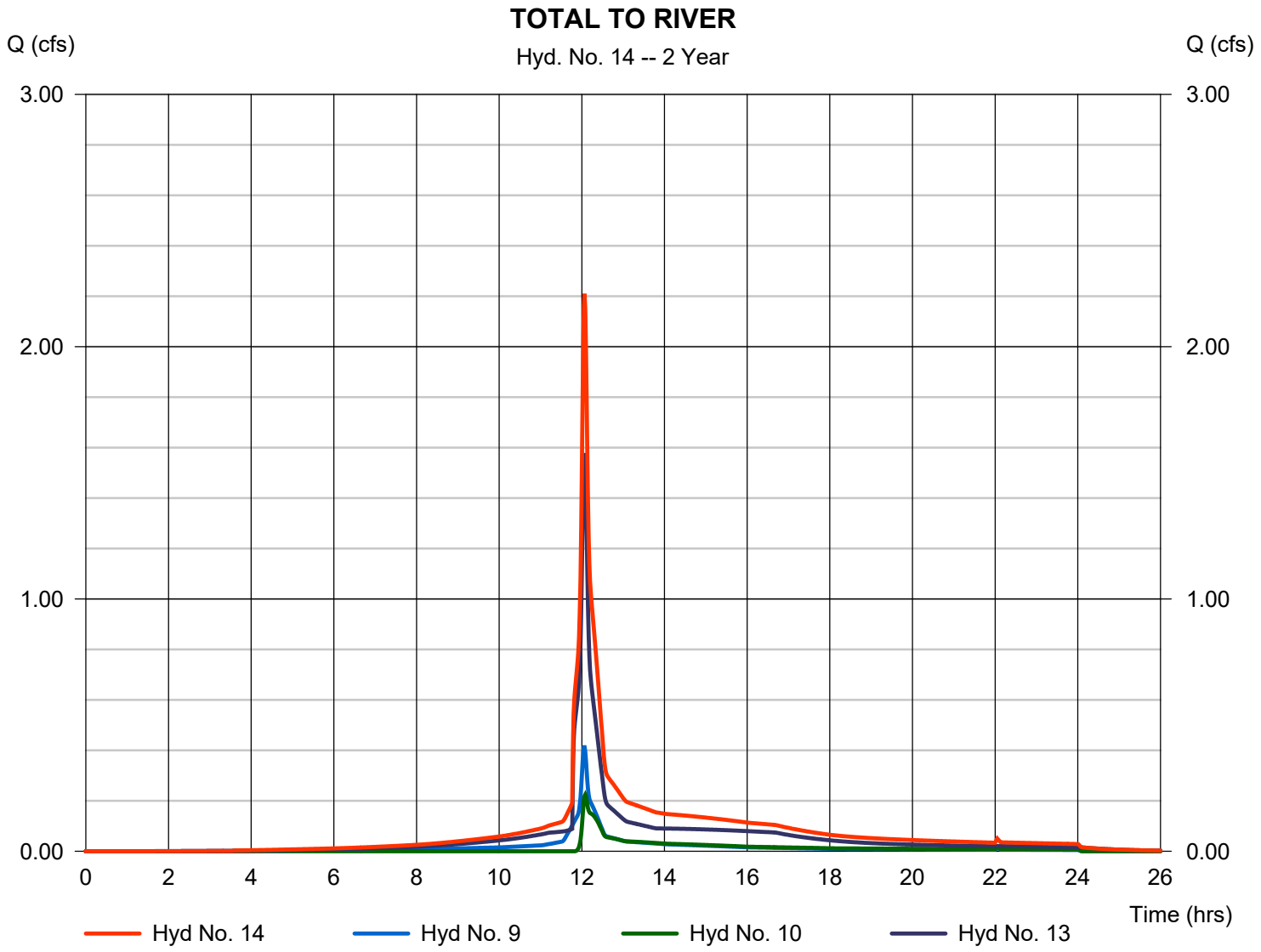


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 2.210 cfs
Storm frequency	= 2 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 7,481 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.024	1	723	6,370	------	------	------	TO FOREBAY
2	SCS Runoff	0.046	1	723	156	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.023	1	723	78	------	------	------	TO END OF SWALE
4	SCS Runoff	0.185	1	724	664	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.447	1	723	1,464	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.333	1	724	1,129	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.077	1	723	259	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.123	1	724	443	------	------	------	TO MILL BROOK EAST
9	Combine	0.624	1	723	2,128	4, 5,	------	------	WEST TO RIVER
10	Combine	0.530	1	724	1,831	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	2.070	1	723	6,526	1, 2,	------	------	TO POND
12	Reservoir	2.037	1	724	6,522	11	64.37	637	OUT OF BR
13	Combine	2.059	1	724	6,600	3, 12	------	------	TO SWALE OUTLET
14	Combine	3.211	1	724	10,559	9, 10, 13	------	------	TOTAL TO RIVER

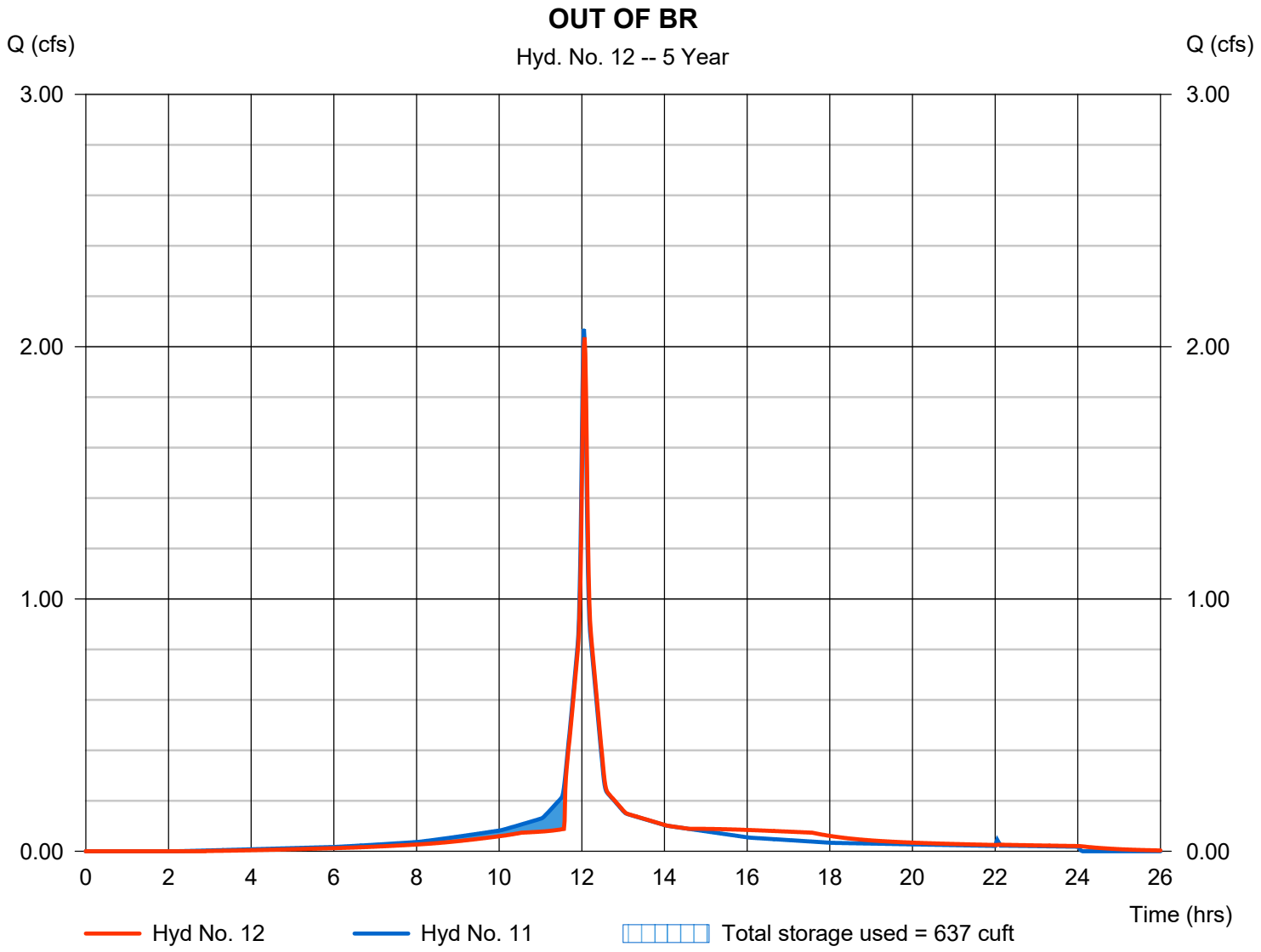
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	2.037 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	6,522 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.37 ft
Reservoir name	=	BIORET	Max. Storage	=	637 cuft

Storage Indication method used. Outflow includes exfiltration.

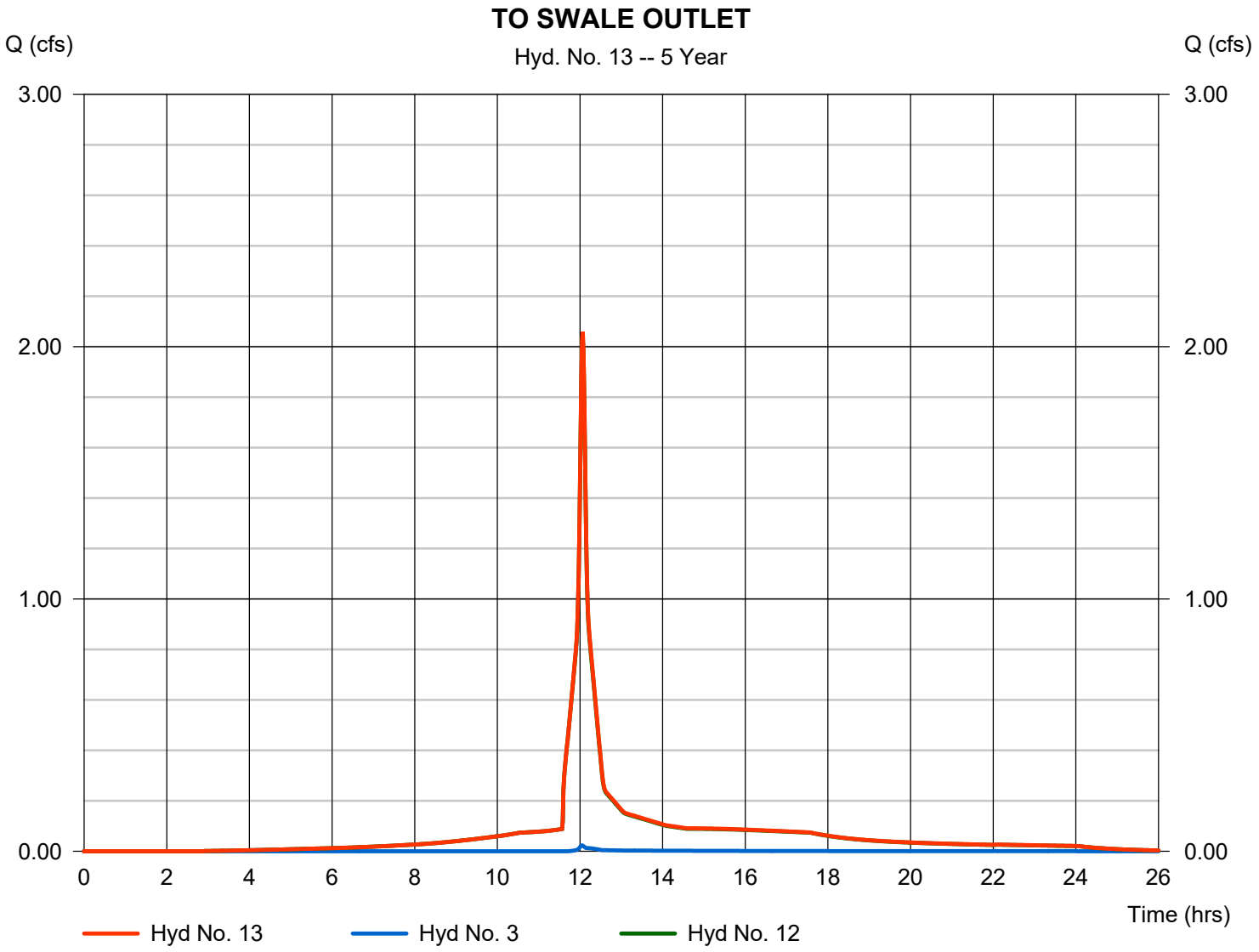


Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	=	Combine	Peak discharge	=	2.059 cfs
Storm frequency	=	5 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	6,600 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	0.030 ac

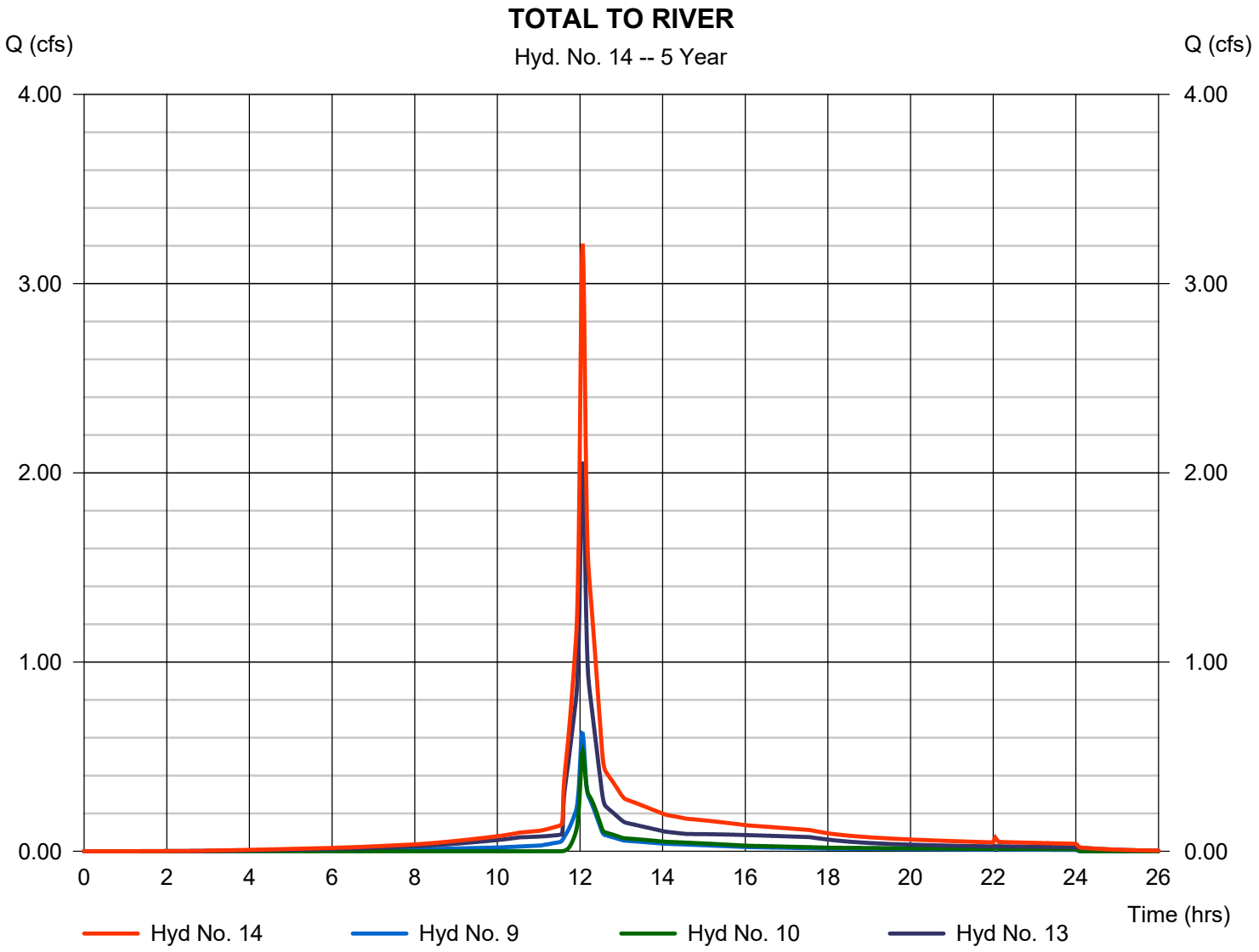


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 3.211 cfs
Storm frequency	= 5 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 10,559 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	2.435	1	723	7,747	------	------	------	TO FOREBAY
2	SCS Runoff	0.077	1	723	238	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.039	1	723	119	------	------	------	TO END OF SWALE
4	SCS Runoff	0.313	1	724	1,014	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.535	1	723	1,762	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.537	1	724	1,688	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.129	1	723	396	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.208	1	724	676	------	------	------	TO MILL BROOK EAST
9	Combine	0.839	1	723	2,776	4, 5,	------	------	WEST TO RIVER
10	Combine	0.866	1	724	2,761	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	2.512	1	723	7,985	1, 2,	------	------	TO POND
12	Reservoir	2.472	1	724	7,981	11	64.39	657	OUT OF BR
13	Combine	2.508	1	724	8,100	3, 12	------	------	TO SWALE OUTLET
14	Combine	4.210	1	724	13,637	9, 10, 13	------	------	TOTAL TO RIVER

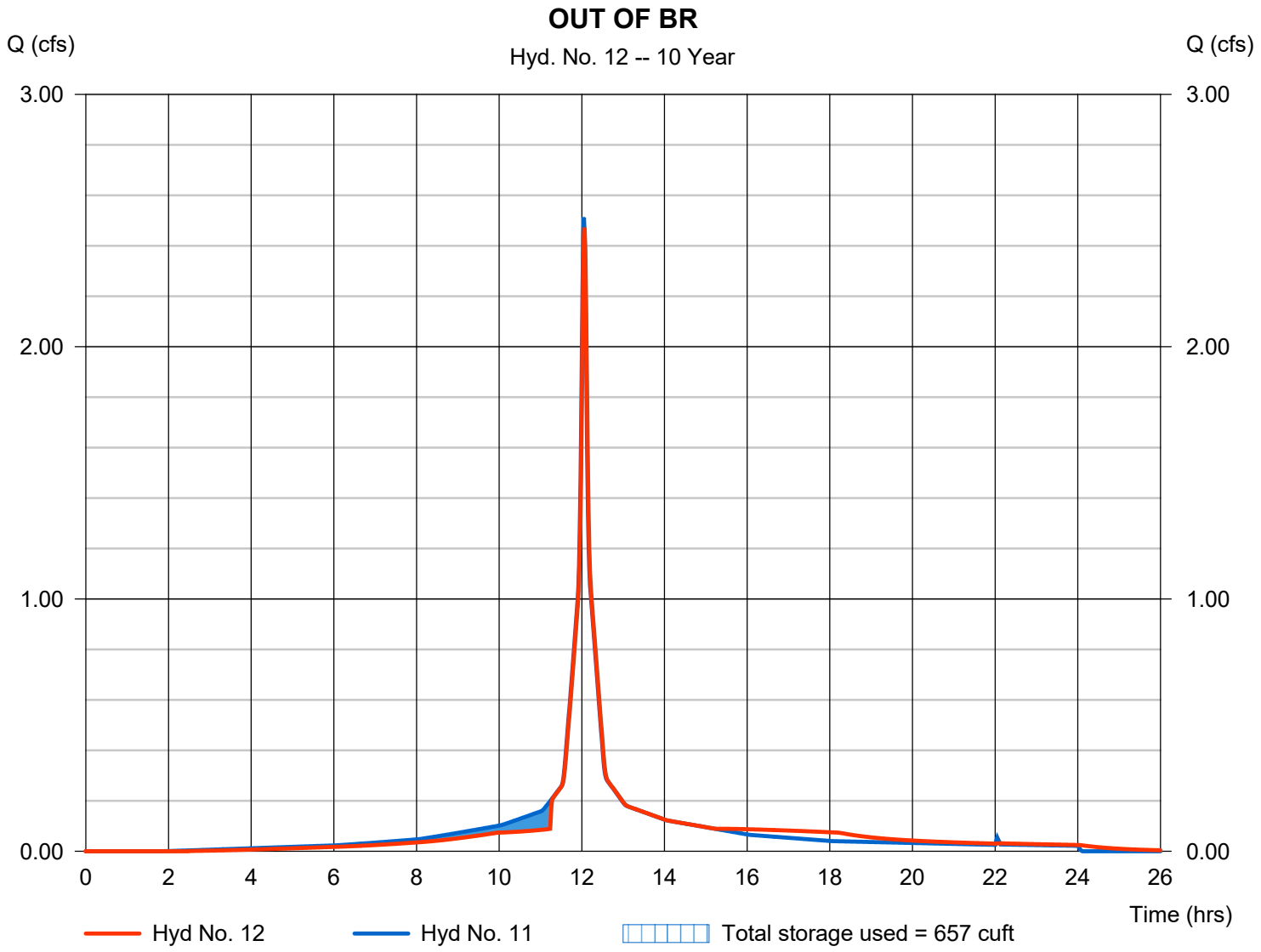
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	2.472 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	7,981 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.39 ft
Reservoir name	=	BIORET	Max. Storage	=	657 cuft

Storage Indication method used. Outflow includes exfiltration.

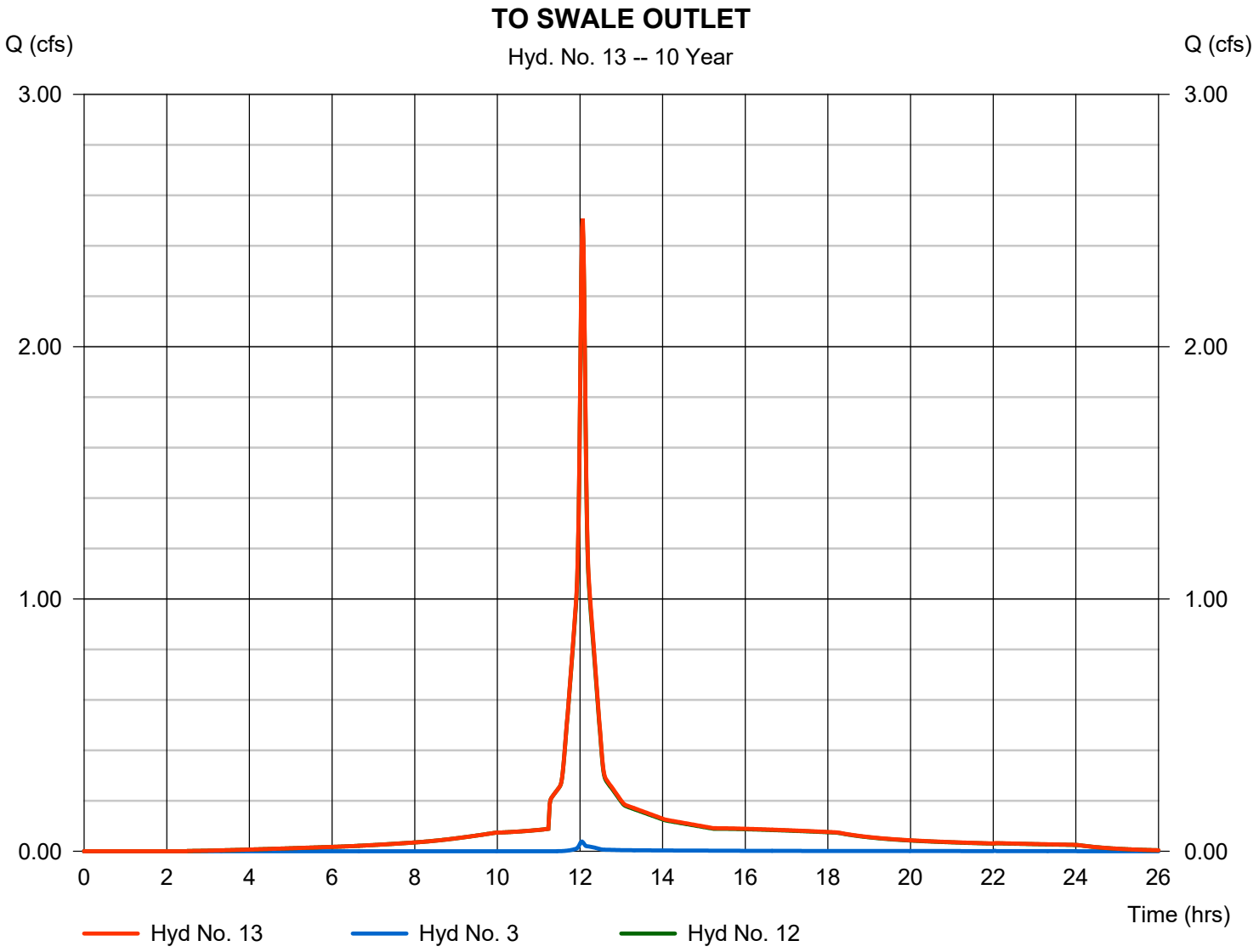


Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	=	Combine	Peak discharge	=	2.508 cfs
Storm frequency	=	10 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	8,100 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	0.030 ac

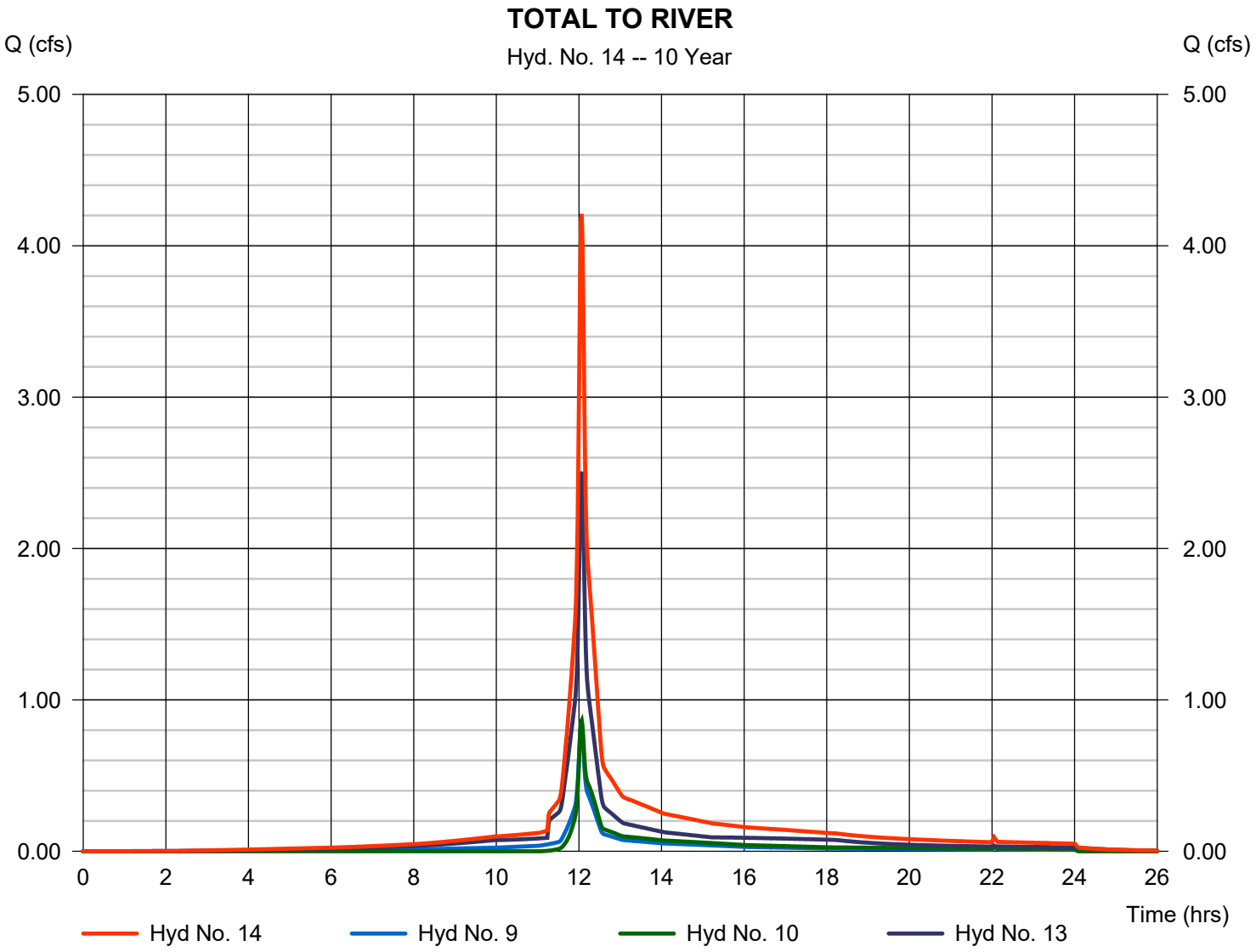


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 4.210 cfs
Storm frequency	= 10 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 13,637 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.100	1	723	9,993	------	------	------	TO FOREBAY
2	SCS Runoff	0.137	1	722	392	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.068	1	722	196	------	------	------	TO END OF SWALE
4	SCS Runoff	0.551	1	724	1,672	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.677	1	723	2,249	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	0.910	1	724	2,726	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.228	1	722	653	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.367	1	724	1,115	------	------	------	TO MILL BROOK EAST
9	Combine	1.221	1	723	3,921	4, 5,	------	------	WEST TO RIVER
10	Combine	1.490	1	723	4,494	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	3.235	1	723	10,385	1, 2,	------	------	TO POND
12	Reservoir	3.183	1	724	10,381	11	64.43	689	OUT OF BR
13	Combine	3.245	1	724	10,577	3, 12	------	------	TO SWALE OUTLET
14	Combine	5.943	1	724	18,992	9, 10, 13	------	------	TOTAL TO RIVER

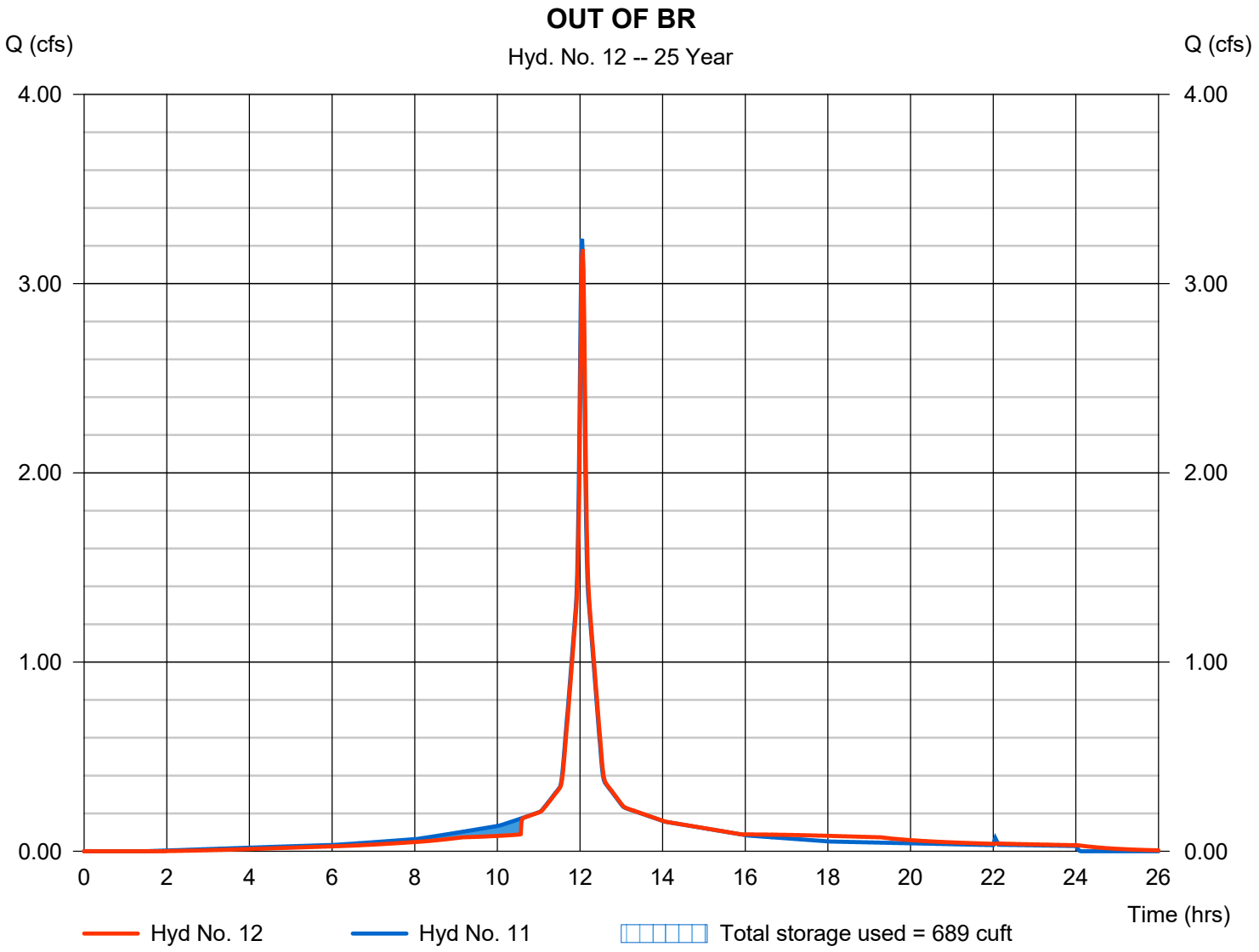
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	3.183 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	10,381 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.43 ft
Reservoir name	=	BIORET	Max. Storage	=	689 cuft

Storage Indication method used. Outflow includes exfiltration.

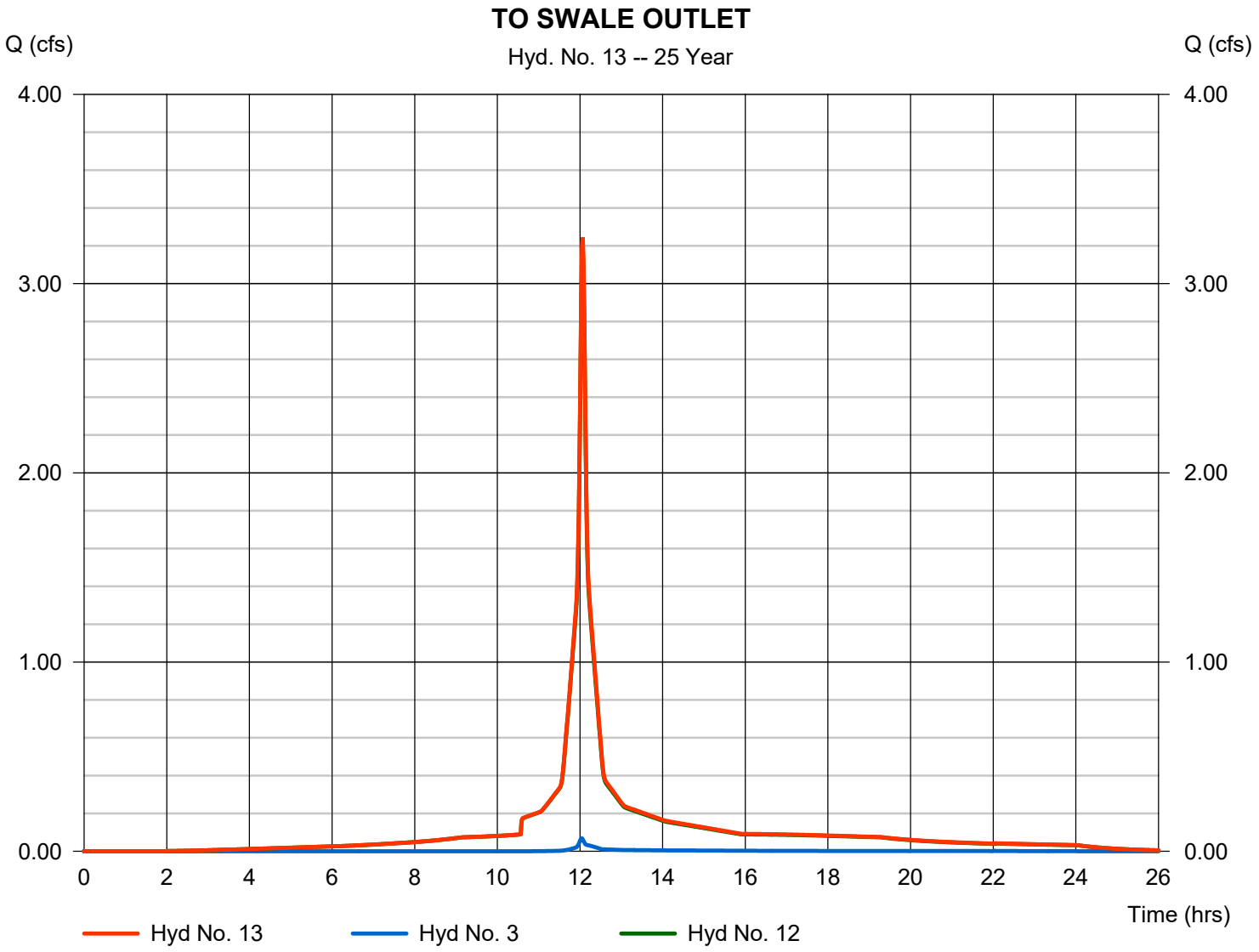


Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	=	Combine	Peak discharge	=	3.245 cfs
Storm frequency	=	25 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	10,577 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	0.030 ac

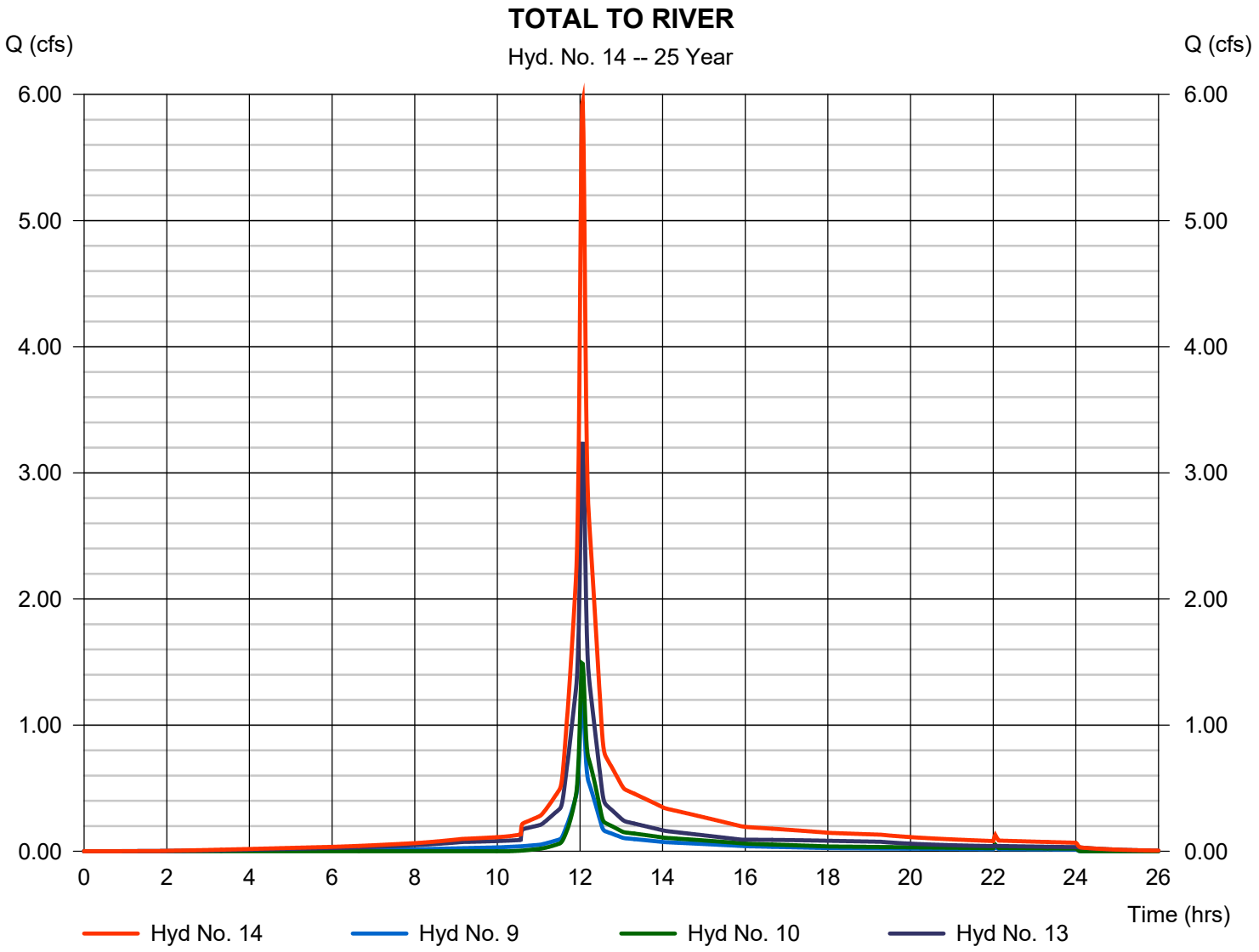


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 5.943 cfs
Storm frequency	= 25 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 18,992 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	3.714	1	723	12,077	------	------	------	TO FOREBAY
2	SCS Runoff	0.198	1	722	552	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.099	1	722	276	------	------	------	TO END OF SWALE
4	SCS Runoff	0.794	1	724	2,354	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.808	1	723	2,700	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.288	1	724	3,791	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.330	1	722	920	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.529	1	724	1,569	------	------	------	TO MILL BROOK EAST
9	Combine	1.599	1	723	5,054	4, 5,	------	------	WEST TO RIVER
10	Combine	2.135	1	723	6,280	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	3.908	1	723	12,629	1, 2,	------	------	TO POND
12	Reservoir	3.844	1	724	12,625	11	64.47	720	OUT OF BR
13	Combine	3.933	1	724	12,901	3, 12	------	------	TO SWALE OUTLET
14	Combine	7.632	1	724	24,234	9, 10, 13	------	------	TOTAL TO RIVER

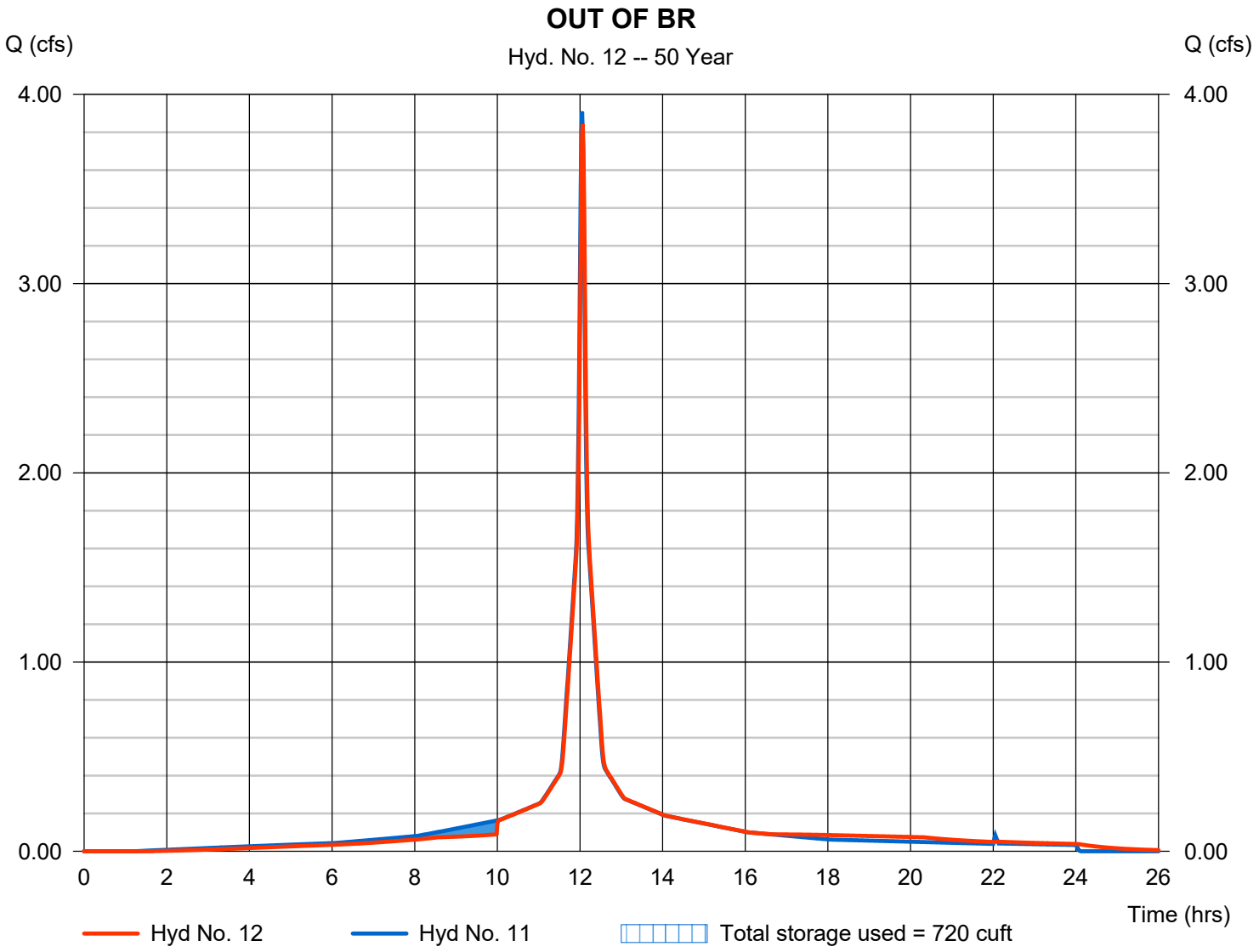
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	3.844 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	12,625 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.47 ft
Reservoir name	=	BIORET	Max. Storage	=	720 cuft

Storage Indication method used. Outflow includes exfiltration.

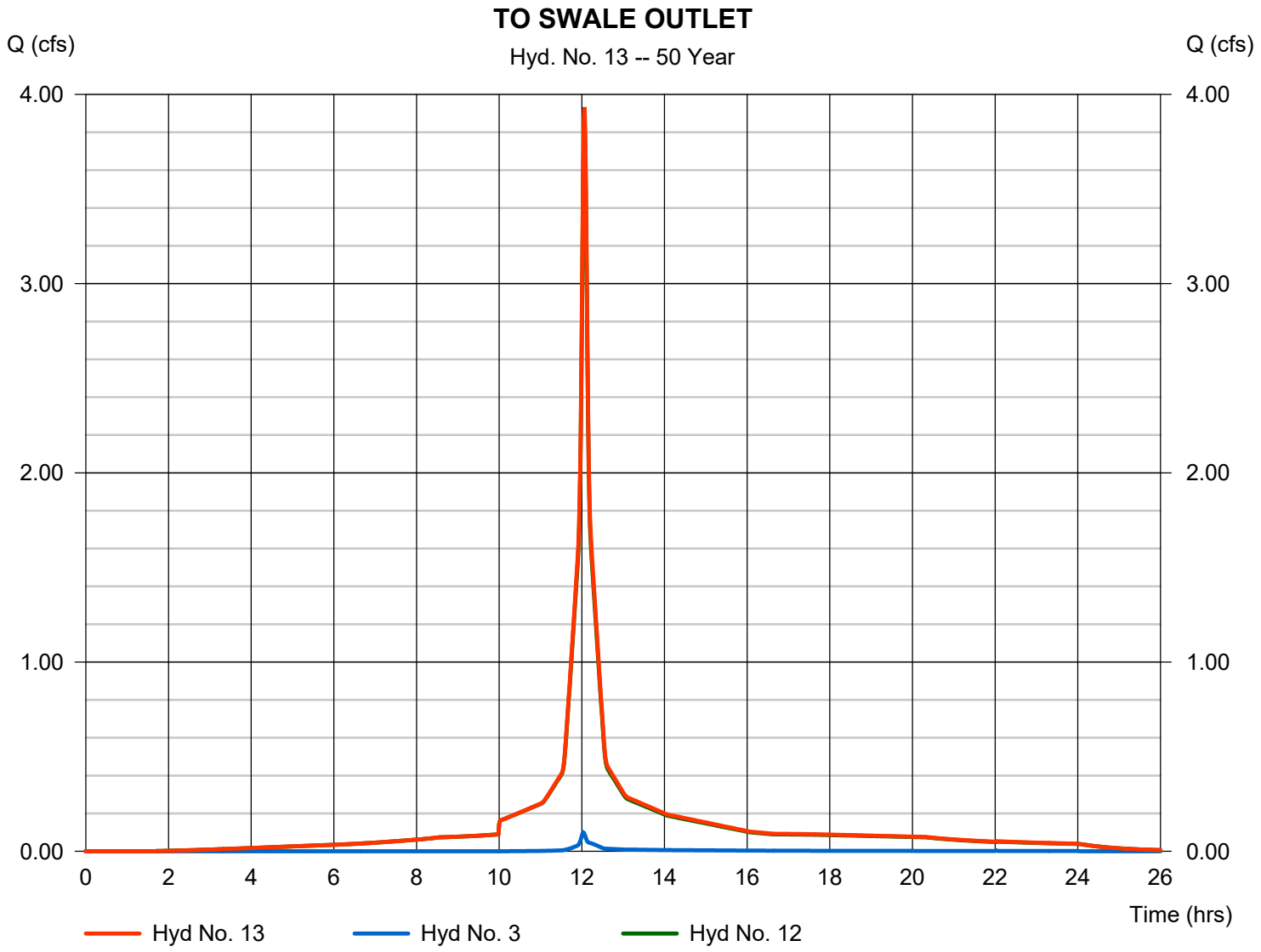


Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	=	Combine	Peak discharge	=	3.933 cfs
Storm frequency	=	50 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	12,901 cuft
Inflow hyds.	=	3, 12	Contrib. drain. area	=	0.030 ac

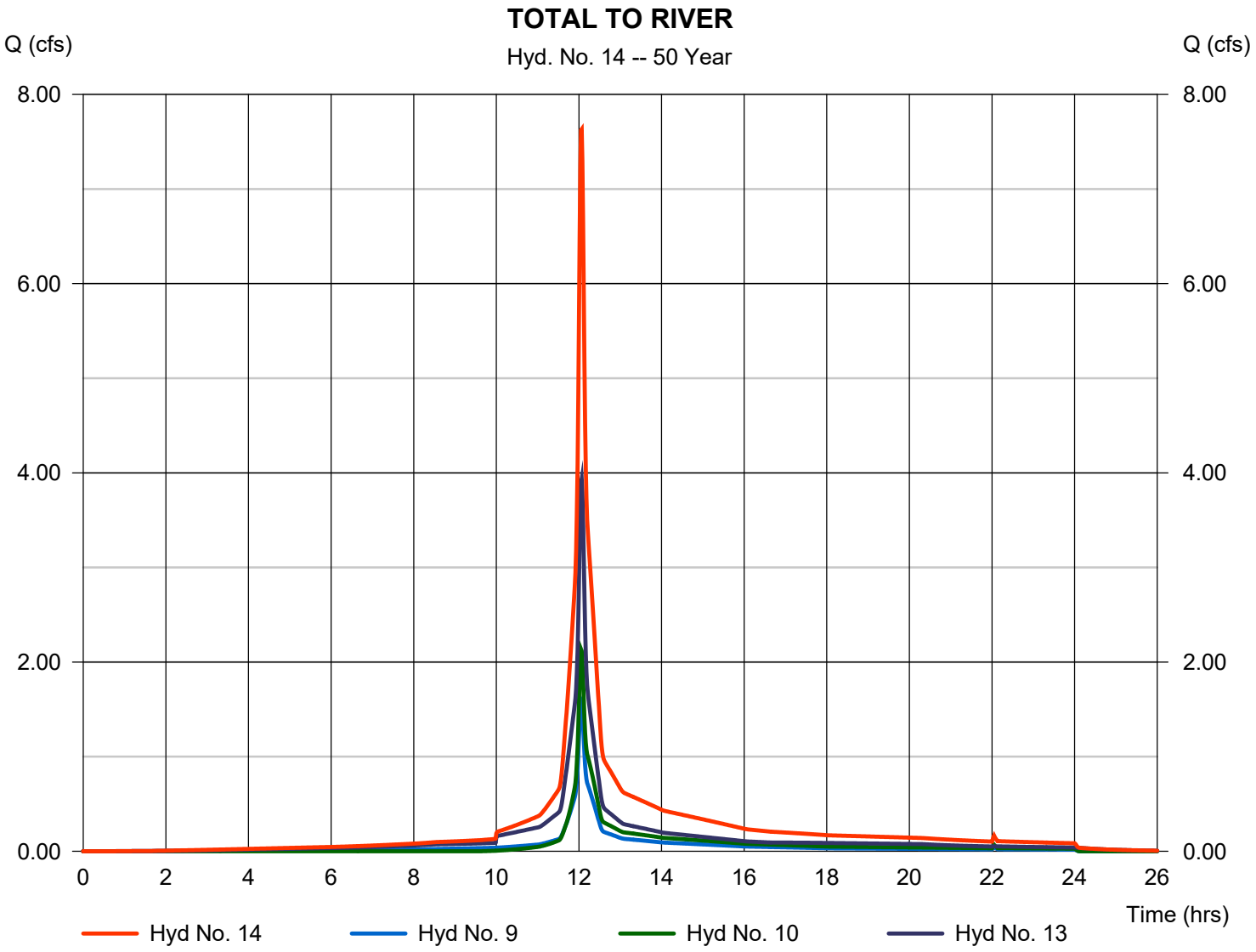


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	= Combine	Peak discharge	= 7.632 cfs
Storm frequency	= 50 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 24,234 cuft
Inflow hyds.	= 9, 10, 13	Contrib. drain. area	= 0.000 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v12

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	4.450	1	723	14,588	------	------	------	TO FOREBAY
2	SCS Runoff	0.277	1	722	760	------	------	------	TO BIORETENTION DIRECT
3	SCS Runoff	0.139	1	722	380	------	------	------	TO END OF SWALE
4	SCS Runoff	1.108	1	723	3,242	------	------	------	TO MILL BROOK WEST
5	SCS Runoff	0.966	1	723	3,242	------	------	------	TO MILL BROOK WEST-OFFSITE
6	SCS Runoff	1.775	1	723	5,167	------	------	------	TO MILL BROOK CENTER
7	SCS Runoff	0.462	1	722	1,266	------	------	------	TO MILL BROOK - RESTORATION
8	SCS Runoff	0.739	1	723	2,161	------	------	------	TO MILL BROOK EAST
9	Combine	2.074	1	723	6,484	4, 5,	------	------	WEST TO RIVER
10	Combine	2.963	1	723	8,595	6, 7, 8,	------	------	EAST TO RIVER
11	Combine	4.720	1	723	15,348	1, 2,	------	------	TO POND
12	Reservoir	4.642	1	724	15,344	11	64.52	757	OUT OF BR
13	Combine	4.766	1	724	15,724	3, 12	------	------	TO SWALE OUTLET
14	Combine	9.755	1	723	30,803	9, 10, 13	------	------	TOTAL TO RIVER

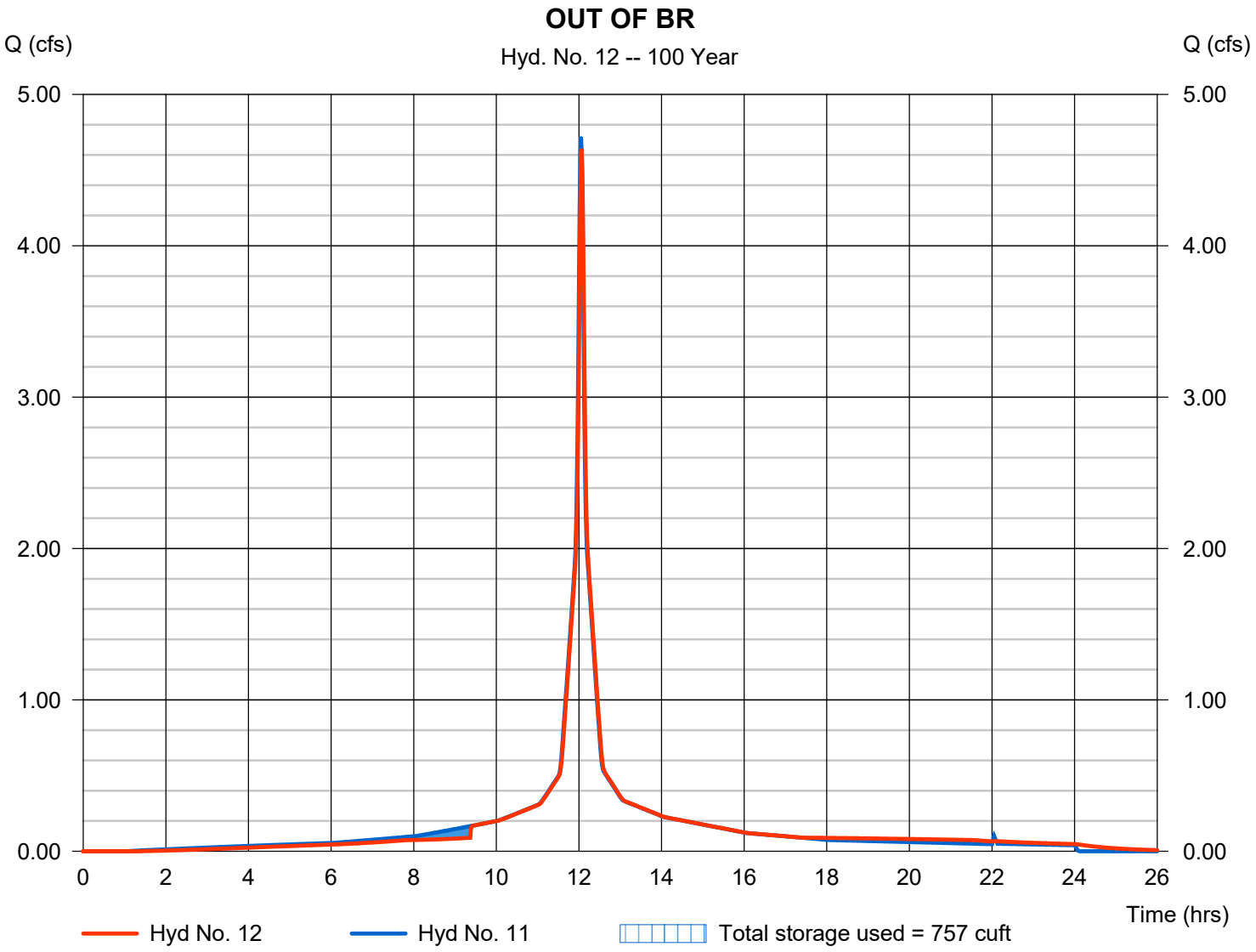
Hydrograph Report

Hyd. No. 12

OUT OF BR

Hydrograph type	=	Reservoir	Peak discharge	=	4.642 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.07 hrs
Time interval	=	1 min	Hyd. volume	=	15,344 cuft
Inflow hyd. No.	=	11 - TO POND	Max. Elevation	=	64.52 ft
Reservoir name	=	BIORET	Max. Storage	=	757 cuft

Storage Indication method used. Outflow includes exfiltration.

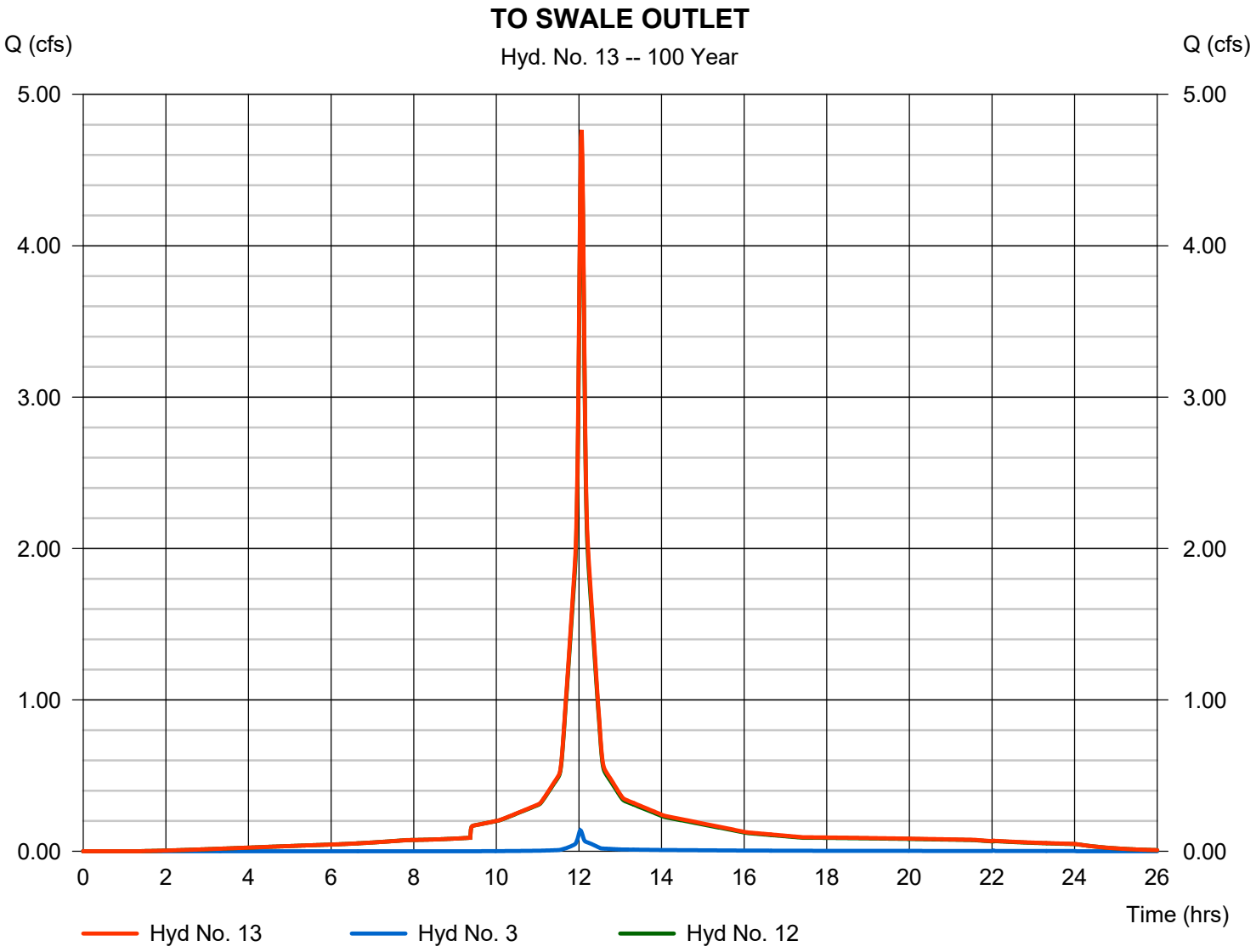


Hydrograph Report

Hyd. No. 13

TO SWALE OUTLET

Hydrograph type	= Combine	Peak discharge	= 4.766 cfs
Storm frequency	= 100 yrs	Time to peak	= 12.07 hrs
Time interval	= 1 min	Hyd. volume	= 15,724 cuft
Inflow hyds.	= 3, 12	Contrib. drain. area	= 0.030 ac

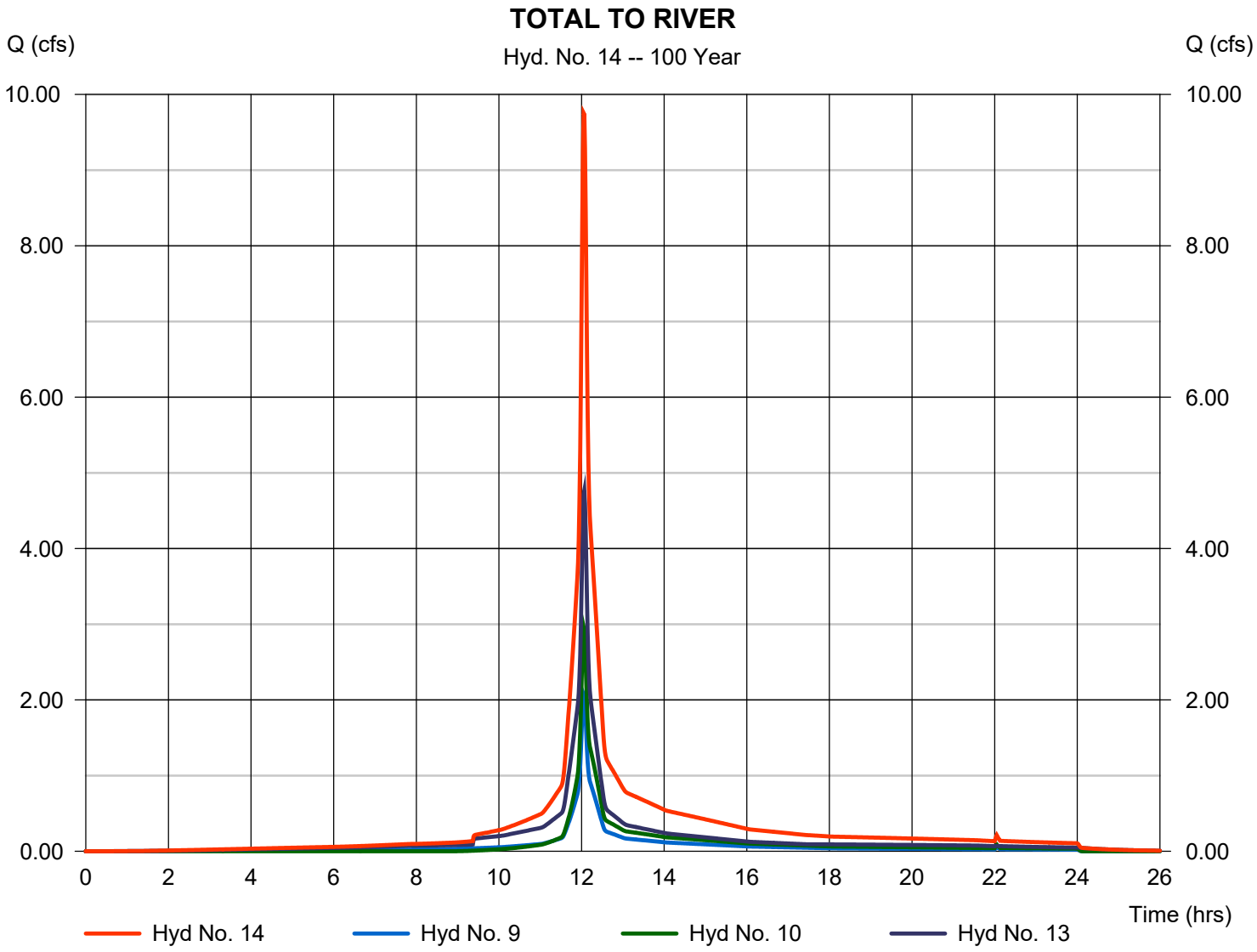


Hydrograph Report

Hyd. No. 14

TOTAL TO RIVER

Hydrograph type	=	Combine	Peak discharge	=	9.755 cfs
Storm frequency	=	100 yrs	Time to peak	=	12.05 hrs
Time interval	=	1 min	Hyd. volume	=	30,803 cuft
Inflow hyds.	=	9, 10, 13	Contrib. drain. area	=	0.000 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	--------
2	69.8703	13.1000	0.8658	--------
3	0.0000	0.0000	0.0000	--------
5	79.2597	14.6000	0.8369	--------
10	88.2351	15.5000	0.8279	--------
25	102.6072	16.5000	0.8217	--------
50	114.8193	17.2000	0.8199	--------
100	127.1596	17.8000	0.8186	--------

File name: SampleFHA.idf

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.79	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.46
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.58	3.09	0.00	3.90	4.65	5.87	7.00	8.36
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Table of Contents

Appendix D – Soil Borings

Weston & Sampson

BORING NUMBER: **B-1**

CLIENT: Town of Arlington
PROJECT NUMBER: 2180078
PROJECT NAME: Wellington Park Revitalization
PROJECT LOCATION: Arlington, MA

DRILLER: Gary Caouette - Technical Drilling Services
LOGGED / CHECKED BY: NP / RJV
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See site plan.
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 9/10/2018 **END DATE:** 9/10/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
9/10/2018	8 ft. +/-	Based on wet samples.

DEPTH (ft.) *Elevation*	SAMPLE INFORMATION: TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)	GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION	COMMENTS
0	S1	0.0	4/24	2 4 7 11	11				TOPSOIL	Medium dense, brown, organic silty SAND, some fine gravel, wood and roots; moist. [TOPSOIL]	
	S2	2.0	7/24	4 4 4 4	8				FILL	Loose, brown, fine to coarse SAND, little fine to coarse gravel, some silt, trace debris (glass, wood), trace roots; moist. [FILL]	
5	S3	4.0	11/24	15 49 20 19	69				GRAVEL	Very dense, brown, sandy GRAVEL, little silt, occasional mottling; moist.	Occasional drill rig chatter on possible cobbles below 4 feet.
	S4	6.0	12/24	12 12 15 17	27					Medium dense, brown, sandy GRAVEL, little silt, trace clay; moist. ▼	
10	S5	8.0	7/24	5 10 9 11	19				SAND	Medium dense, brown, gravelly SAND, some silt, trace clay; wet.	
15	S6	15.0	13/24	11 7 9 15	16					Medium dense, brown and gray, fine to coarse SAND, little fine to coarse gravel, trace silt; wet.	
20	S7	20.0	5/6	120						Very dense, brown and gray, fine to coarse SAND, some fine to medium gravel, trace silt; wet.	
										Split spoon refusal at 20.5 ft. End of boring at 20.5 ft.	

MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)

Mineral Soil	Organic Soil
GRAVEL, SAND, SILT, CLAY: >50%	PEAT: 50-100%
gravelly, sandy, silty, clayey: 35-50%	organic (soil): 15-50%
some: 20-35%	with some organics: 5-15%
little: 10-20%	
trace: 0-10%	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS	
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY
S	Split spoon	0-4	Very Loose	< 2	Very Soft
ST	Shelby tube	4-10	Loose	2-4	Soft
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff
NX	Rock core	30-50	Dense	8-15	Stiff
GP	Direct push	> 50	Very Dense	15-30	Very Stiff
				> 30	Hard

GENERAL NOTES:

1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.

2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.

Weston & Sampson

BORING NUMBER: **B-2**

CLIENT: Town of Arlington
PROJECT NUMBER: 2180078
PROJECT NAME: Wellington Park Revitalization
PROJECT LOCATION: Arlington, MA

DRILLER: Gary Caouette - Technical Drilling Services
LOGGED / CHECKED BY: NP / RJV
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER:

BORING LOCATION: See site plan.
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 9/10/2018 **END DATE:** 9/10/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
	Not observed	

DEPTH (ft.) / Elevation	SAMPLE INFORMATION: TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)	GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION	COMMENTS
0	S1	0.0	11/24	3 5 7 5	12				TOPSOIL	Medium dense, brown, organic silty SAND, little gravel, with fine roots; moist. [TOPSOIL]	
	S2	2.0	4/24	2 5 14 12	19				SAND	Medium dense, brown and gray, fine to coarse SAND, little gravel, little silt, with trace organics and occasional fine roots; moist.	
5	S3	4.0	11/24	8 5 5 3	10					Medium dense, brown, gravelly fine to coarse SAND, trace silt, mottling present, with occasional fine roots; moist.	Occasional drill rig chatter on possible cobbles below 4 feet.
	S4	6.0	12/24	18 14 18 25	32				GRAVEL	Dense, brown and gray, sandy fine to coarse GRAVEL, little silt, trace clay, mottling present, with occasional fine roots; moist.	
10										Auger refusal on possible boulder at 10 ft. End of boring at 10 ft.	

MATERIAL DESCRIPTION
(see guide below for soil classification based on constituent percentage)

Mineral Soil	Organic Soil
GRAVEL, SAND, SILT, CLAY: >50%	PEAT: 50-100%
gravelly, sandy, silty, clayey: 35-50%	organic (soil): 15-50%
some: 20-35%	with some organics: 5-15%
little: 10-20%	
trace: 0-10%	

SAMPLE		GRANULAR SOILS		COHESIVE SOILS	
SYMBOL	TYPE	N-Value	Density	N-VALUE	CONSISTENCY
S	Split spoon	0-4	Very Loose	< 2	Very Soft
ST	Shelby tube	4-10	Loose	2-4	Soft
AG	Auger grab	10-30	Med. Dense	4-8	Med. Stiff
NX	Rock core	30-50	Dense	8-15	Stiff
GP	Direct push	> 50	Very Dense	15-30	Very Stiff
				> 30	Hard

GENERAL NOTES:

1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.

2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.

Weston & Sampson

BORING NUMBER: **B-3**

CLIENT: Town of Arlington
PROJECT NUMBER: 2180078
PROJECT NAME: Wellington Park Revitalization
PROJECT LOCATION: Arlington, MA

DRILLER: Gary Caouette - Technical Drilling Services
LOGGED / CHECKED BY: NP / RJV
RIG TYPE / DRILLING METHODS: Truck / hollow-stem auger (HSA)
CASING DIAMETER: 4.25" ID
SAMPLING METHODS: Standard penetration test (SPT)
SAMPLER TYPE: Standard 24" long x 2" OD (1-3/8" ID) split-spoon
SAMPLER HAMMER: 140-lb. automatic hammer
OTHER: Grounwater monitoring well installed following completion.

BORING LOCATION: See site plan.
GROUND ELEVATION: Not available **DATUM:**
DRILLING START DATE: 9/10/2018 **END DATE:** 9/10/2018

GROUNDWATER OBSERVATIONS

DATE	DEPTH	COMMENTS
9/10/2018	12.5 ft. +/-	Approximate depth based on wet samples.

DEPTH (ft.) *Elevation*	SAMPLE INFORMATION: TYPE - NO.	DEPTH (ft.)	REC./PEN. (in.)	SPT BLOWS/6"	SPT N-VALUE	% MOISTURE	% FINES (P200)	GRAPHIC LOG	STRATA NAME	MATERIAL DESCRIPTION (see guide below for soil classification based on constituent percentage)	COMMENTS
0	S1	0.0	11/24	5 7 7 7	14				TOPSOIL	Medium dense, brown, organic silty SAND, little gravel, trace fine roots; moist. [TOPSOIL]	
	S2	2.0	10/24	6 7 7 20	14				SAND	Medium dense, brown, fine to medium SAND, some silt, little gravel, trace clay, with trace fine roots; moist.	
5	S3	4.0	11/24	63 43 28 30	71					Very dense, pale brown, gravelly fine to coarse SAND, little silt, trace clay; moist.	Occasional drill rig chatter on possible cobbles below 4 feet.
	S4	6.0	18/24	35 33 57 33	90					Very dense, pale brown, gravelly fine to coarse SAND, little silt, trace clay; moist.	
10	S5	8.0	15/24	24 24 29 33	53					Very dense, pale brown, gravelly fine to coarse SAND, little silt, trace clay; moist. ▼	
15									GRAVEL	Assumed lithology change	
	S6	15.0	17/24	28 21 32 33	53					Very dense, brown, sandy fine to coarse GRAVEL, little silt; wet.	
20	S7	20.0	/24	25 25 29 31	54					Very dense, brown, sandy GRAVEL, little silt; wet.	
										End of Boring at 22 feet. Groundwater monitoring well installed to 20 feet following completion.	

Mineral Soil
GRAVEL, SAND, SILT, CLAY: >50%
gravelly, sandy, silty, clayey: 35-50%
some: 20-35%
little: 10-20%
trace: 0-10%

Organic Soil
PEAT: 50-100%
organic (soil): 15-50%
with some organics: 5-15%

SAMPLE SYMBOL	SAMPLE TYPE
S	Split spoon
ST	Shelby tube
AG	Auger grab
NX	Rock core
GP	Direct push

GRANULAR SOILS N-Value	Density
0-4	Very Loose
4-10	Loose
10-30	Med. Dense
30-50	Dense
> 50	Very Dense

COHESIVE SOILS N-VALUE	CONSISTENCY
< 2	Very Soft
2-4	Soft
4-8	Med. Stiff
8-15	Stiff
15-30	Very Stiff
> 30	Hard

GENERAL NOTES:

1. The stratification lines represent the approximate boundary between soil types; actual transitions may be gradual.

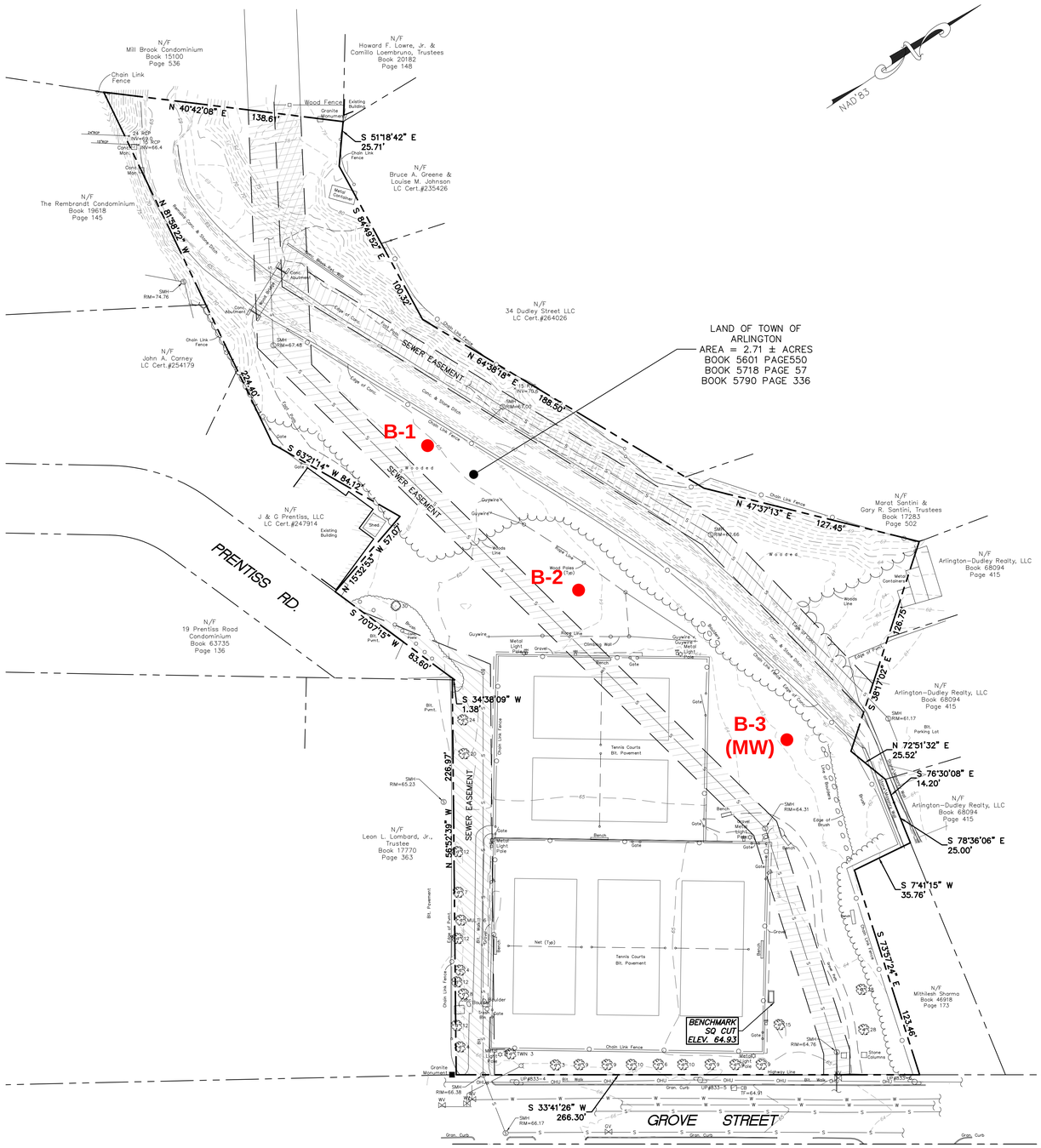
2. Water level readings have been made in the drill holes at the times and conditions stated on the boring log. Fluctuations in the level of groundwater may occur due to other factors than those presented at the time measurements are made.

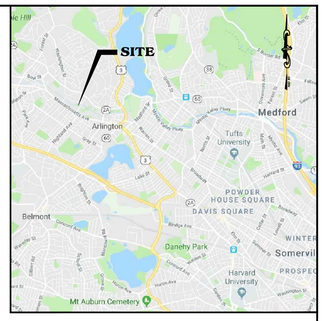
LEGEND

EDGE OF WOODS	ST — STORM SEWER LINE
DECIDUOUS TREE	SS — SANITARY SEWER LINE
CONIFEROUS TREE	W — WATER LINE
SHRUB/BUSH	G — GAS LINE
SIGN	S — SIGNAL WIRE LINE
UTILITY POLE	C — CABLE LINE
LIGHT POLE	FO — FIBER OPTIC LINE
HYDRANT	LPS — LOW PRESSURE SEWER LINE
WATER SHUTOFF	E — ELECTRIC LINE
GAS VALVE	OHU — OVERHEAD UTILITIES
WATER VALVE	T — TELEPHONE LINE
MONUMENT	SANITARY MANHOLE (SMH)
IRON PIN / IRON ROD	DRAINAGE MANHOLE (DMH)
HANDICAP SPACE	CATCHBASIN (CB)
HAND HOLE	METAL POST/BOLLARD (BOL)
PROPERTY LINE	ELECTRIC MANHOLE (MHE)
EASEMENT	UNKNOWN MANHOLE
MAJOR CONTOUR LINE	TELEPHONE MANHOLE (MHT)
MINOR CONTOUR LINE	VENT PIPE
GUY WIRE	COULD NOT OPEN
BOULDER	FLOW DIRECTION

NOTES:

1. BEARINGS REFER TO THE MASSACHUSETTS NAD 83 STATE PLANE COORDINATE SYSTEM (MAINLAND ZONE).
2. ELEVATIONS REFER TO THE 1988 NORTH AMERICAN DATUM (NAVD 88).
3. REFERENCE IS MADE TO THE FOLLOWING MAPS:
   - A. "PLAN OF BUILDING LOTS IN ARLINGTON MASS. BELONGING TO W.M. RICHARDSON", BY JOSIAH HOVEY, SCALE 1" =50', DATED JUNE 1869, RECORDED IN PLAN BOOK 86, PLAN 2 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - B. "PLAN OF LOTS BELONGING TO GEORGIANNA HOBBS ARLINGTON, MASS.", BY JAMES ADAM, SCALE 1"=40', DATED FEBRUARY 1906, RECORDED IN PLAN BOOK 200, PLAN 37 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - C. "SECTION 80 MILL BROOK VALLEY SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED JULY 1926.
   - D. "PLAN OF LAND IN ARLINGTON MASS.", BY C.H. GANNETT CO., SCALE 1" =30', DATED AUGUST 1927, RECORDED AS PLAN 979 OF 1931 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - E. "PLAN OF LAND IN ARLINGTON MASS. TO BE TAKEN FOR PARK PURPOSES", BY JAMES M. KEANE, SCALE 1" =30', DATED FEB. 14, 1933, RECORDED AS PLAN 182 OF 1933 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - F. "PLAN SHOWING LAND TO BE TRANSFERRED IN ARLINGTON MASS.", BY JAMES M. KEANE, SCALE 1" =30', DATED FEB. 14, 1933, RECORDED AS PLAN 38 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - G. "DENNIS HURLEY PLAN OF LAND GROVE STREET ARLINGTON", BY RALPH ADAMS, SCALE 1" =20', DATED DEC. 9, 1933, RECORDED AS PLAN 20 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - H. "SUBDIVISION OF LAND IN ARLINGTON MASS.", BY JOS. J. SULLIVAN, SCALE 1"=20', DATED MAY 1976, RECORDED AS PLAN 761 OF 1946 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - I. "SUBDIVISION OF LAND IN ARLINGTON MASS", BY T.F. GEARY, SCALE 1" =20', DATED OCT. 30, 1947, RECORDED AS PLAN 449 OF 1949 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - J. LAND COURT PLAN 20878A DATED OCTOBER 1947.
   - K. LAND COURT PLAN 22019A DATED SEPTEMBER 1949.
   - L. "PLAN OF THE RELOCATION OF GROVE STREET ARLINGTON AS ORDERED BY THE COUNTY COMMISSIONERS", SCALE 1" =40', DATED 1964, RECORDED AS PLAN 133 OF 1964 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - M. "SECTION 92 MILL BROOK VALLEY RELIEF SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED MAY 1966.
   - N. "THE COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION SEWERAGE DIVISION PLAN OF LAND IN ARLINGTON", SCALE 1"=40', DATED MAY 1966, RECORDED AS PLAN 281 OF 1967 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - O. "PLAN OF LAND IN ARLINGTON MASS.", BY CURLEY & HANSEN, SCALE 1" =20', DATED MAY 29, 1971, RECORDED AS PLAN 657 OF 1971 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - P. LAND COURT PLAN 4481B DATED APRIL 26, 1969.
   - Q. "PLAN OF LAND IN ARLINGTON MASS. SHOWING SEWER & WATER EASEMENT", BY R.L. HIGGINS, SCALE 1" =40', DATED JAN. 1973, RECORDED AS PLAN 65 OF 1973 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - R. "PLAN OF LAND IN ARLINGTON MASS.", BY HAYES ENGINEERING INC., SCALE 1"=30', DATED JANUARY 31, 1983, RECORDED AS PLAN 144 OF 1983 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - S. "PLAN OF LAND IN ARLINGTON MA. PREPARED FOR ROSE-MAL HERITAGE REALTY TRUST", BY DAVID D. LANATA & ASSOC., INC., SCALE 1" =20', DATED JUNE 24, 1987, RECORDED AS PLAN 1185 OF 1987 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - T. LAND COURT PLAN 4481C DATED OCTOBER 11, 2001.
   - U. "SITE PLAN 19 PRENTIS ROAD ARLINGTON MA. 02147", BY PFS LAND SURVEYING, INC., SCALE 1" =10', DATED 12/24/2013, RECORDED AS PLAN 473 OF 2014 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
4. THE PROPERTY IS TOGETHER WITH AND SUBJECT TO SUCH EASEMENTS AND RIGHTS OF RECORD AS MAY APPEAR.
5. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG.





LOCATION MAP
NOT TO SCALE

NOTES:

1) Borings were drilled by Technical Drilling Services of Sterling, Massachusetts, and observed by Weston & Sampson on September 10, 2018.

2) Boring locations are based on field measurements relative to existing site features and are approximate.

LEGEND:

B-1 Designation and approximate location of borings

(MW) Indicates a groundwater monitoring well was installed in the boring upon completion

30 15 0 30 60 90
GRAPHIC SCALE 1" = 30

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

I CERTIFY THAT THE PROPERTY LINES SHOWN ARE THE LINES DIVIDING EXISTING OWNERSHIPS, AND THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND THAT NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

Michael G. Wilmes, L.S. 34322 *Date*

REVISIONS	
DATE	DESCRIPTION

MAP OF SURVEY
WELLINGTON PARK
TOWN OF ARLINGTON
COUNTY OF MIDDLESEX — COMMONWEALTH OF MASSACHUSETTS

Weston & Sampson
Weston & Sampson Engineers, Inc.
5 Centennial Drive, Peabody, MA 01960 Tel:(978)532-1900

CAD FILE: Wellington Park_SURV
DATE: Sept. 2018
SHEET 1 OF 1
SCALE: 1"=30'
DRAWING No. #2180067

S:\MA\Arlington, MA\XXX_xxx Wellington Park\CADD_Survey\Project Drawings\Wellington Park_SURV.dwg, 8/6/2018 2:25:07 PM

Appendix E – Site Photographs

Photograph 1: Looking back towards the main park entrance adjacent to the tennis courts, this is the proposed location for the naturalistic exploration and seating area.

Photograph 2: Far end of the existing boardwalk (constructed as part of the previous phase) with no accessible transition to adjacent surface.

Photograph 3: Low area at the base of Prentiss Road, which acts as an entry point for stormwater runoff into the park.

Photograph 4: Overgrown area that runs behind the Prentiss Road properties toward the pedestrian footbridge.

Photograph 5: Steeply sloped compacted earth pathway towards the pedestrian bridge between Prentiss Road and the flood storage area, constructed as part of the previous phase.

Photograph 6: Existing pressure-treated footbridge over Mill Brook towards Dudley Street.

Appendix F – Operation and Maintenance Plan

MEMO

Date: 9/2/2020

To: Arlington Park and Recreation Commission

From: Andrew Keel
Hatch Associates Consultants, Inc.
27 Congress Street, Suite 508
Salem, MA 01970
978-224-3110

Re: **Wellington Park and Mill Brook Corridor Revitalization Project – Phase 3 Operations and** Maintenance Plan

Attachments:
- Biobasin and Swale - Field Inspection Checklist
- Porous Paving - Field Inspection Checklist
- Operations and Maintenance Areas Diagram

General Information

1. Stormwater management system owner: Town of Arlington Park and Recreation Commission and Department and Public Works

2. Parties responsible for O&M: Town of Arlington Park and Recreation Commission and Department and Public Works. The Contractor is responsible for operations and maintenance of the system during construction.

3. The stormwater management system will be inspected and cleaned prior to the completion of construction by the Contractor. A report of the inspection/cleaning will be forwarded to the design engineer and the Town of Arlington Conservation Commission. All material removed during the cleaning operations shall be disposed of in accordance with applicable guidelines and regulations.

4. The stormwater management system shall be inspected the first year of operation after large rainfall events (all storms greater than 1-inch in 24-hour period) to verify functionality.

5. All post construction maintenance activities will be documented and kept on file and made available to the Arlington Conservation Commission upon request.

6. The drainage system shall be maintained. The repair of any component of the system shall be made as soon as possible to prevent any potential pollutants (including silt) from entering the resource areas or drainage system.

Stormwater components: (at the base of Prentiss Road)

1. **Bioretention Basin (Biobasin)**
   - Bioretention Basin and Vegetated Swale designed to slow and treat stormwater runoff coming into park from Prentiss Street.
   - The system is designed to infiltrate stormwater with no underdrain.
   - Phase 2 boring results show well-draining soils for infiltration.
   - 6" ponding depth and is designed to drain in less than 48 hours maximum.
   - The basin floor is 18" layer of engineered soil, designed to control the rate of infiltration.
   - Beneath engineered soil is a layer of crushed stone to improve infiltration capacity.
   - The Biobasin vegetation will be limited to 7 species to facilitate ease of weed/invasives control and have similar appearance to the Spy Pond Bioretention Basin.

2. **Vegetated Swale**
   - The Vegetated Swale is a broad, shallow channel designed to slow runoff, promote infiltration of stormwater, and filter pollutants/sediments while conveying runoff to Mill Brook.
   - The Vegetated Swale is approximately six feet (6') wide with a two foot (2') wide channel bottom.
   - Side slopes are graded at a 3:1 slope and the swale depth is twelve inches (12").
   - The Vegetated Swale will be planted on the side slides with a stone bottom to promote conveyance/infiltration.

Construction of the System

Sediment and erosion control during construction will prevent possible damage to the drainage systems. The following guidelines shall be adhered to during construction.

1. Keep land disturbance to a minimum. Plan the phases of development so that only the areas actively being developed are exposed. All other areas should have natural vegetation preserved, have good temporary cover, or permanent vegetation established.

2. Stabilize disturbed areas. Permanent structures, temporary or permanent vegetation, and mulch should be employed as quickly as possible after land is disturbed.

3. Protect disturbed areas from stormwater runoff. Install erosion control or stormwater management measures to prevent water from entering and running over disturbed areas, and to prevent erosion damage to downstream facilities.

4. Install perimeter control practices. Use practices that isolate the development site from surrounding areas. Straw wattles shall be utilized.

Maintenance

TABLE 1: STORMWATER GREEN INFRASTRUCTURE BEST MANAGEMENT PRACTICE (BMP) MAINTENANCE DURING CONSTRUCTION

Sediment Control	Inspection	Maintenance Thresholds	Maintenance Action
Erosion control straw wattles	Weekly and after large storm events (more than 1-inch of rainfall in 24-hr period).	When accumulated sediment reaches ½ the height of wattle; If integrity of system is compromised.	Remove and dispose of accumulated sediment; Restore the integrity of the system
Adjacent Roadways	Throughout construction.	Any sediment or debris deposited on roadways.	Remove/clean sediment or debris deposited on the roadway due to construction activities
Grassed Swale	Weekly and after large storm events (>than 1-inch of rainfall in 24-hr)	Flow to grassed swale shall be diverted until vegetation is stabilized.	Remove / dispose of accumulated sediment; restore if needed
Bioretention Basin	Weekly and after large storm events (>than 1-inch of rainfall in 24-hr)	Flow to grassed swale shall be diverted until vegetation is stabilized.	Remove and dispose of any accumulated sediment at diversion; restore if needed

GI BMP	Maintenance Activity	Frequency	Responsible Party
Grassed Swale	Inspect swale and repair areas of erosion and revegetate	As needed, but no less than annually	Parks and Recreation
	Mow	As necessary. Grass not to exceed 6 inch height	Parks and Recreation
	Remove sediment and debris manually	Monthly/as needed	DPW
Bioretention Basin	Remove sediment, trash and debris from forebay, basin floor, inlets, and outlets; remove weeds and invasive species by hand (growing season only).	Monthly	Vegetation Management – Parks and Recreation; Volunteer groups
	Inspect check dams and trench drain; remove leaves, debris, trash and sediment.	Annually	
	Apply two inch (2") layer of clean hardwood mulch.	Every 3 to 5 years	
Porous Bituminous Concrete	Remove foliage / debris	As needed, but no less than every 6 months	Parks and Recreation
	Vacuum Cleaning	Every 6 months	DPW

Maintenance Budget

Maintenance costs would be included in DPW or Parks and Recreation Departments operating budget plantings and invasive removal upkeep maintained by volunteer groups.

Other Maintenance Requirements and Responsibility

1. Porous Asphalt (see attached checklist); assume Arlington DPW responsibility.

2. Boardwalk - Replace boards/railings periodically, as needed; assume Parks and Recreation Responsibility.

3. Woodland Areas – New Plantings:
    a. Do not cut or mow.
    b. Manually remove invasive species, twice per growing season; assume Parks and Recreation and/or Wellington Park friend's group.

4. Meadow and Tall Turf Areas (assume Parks and Recreation responsibility):
    a. Cut annually in the spring to height no lower than six inches (6").
    b. Tall Turf lawn areas (pathway shoulders): Mow tall turf seasonally as need to 2.5-3" minimum height.

5. Naturalistic Exploration Area:
    a. Mowing of micro-clover lawn area and other turf areas, as needed; assume Parks and Recreation.

Wellington Park Field Inspection Checklist

Bioretention Basin and Vegetated Swale

Date of Inspection: _____ Location: _____Inspector:_____

Task	Frequency				Comments
	1M	3M	6M	12M	
Inspect Bioretention Basin for sediment and debris			X		☐ Remove any accumulated sediment, debris, or trash. ☐ Stabilize/repair any eroded areas, bare spots and slopes/banks where appropriate. ☐ Properly dispose of all materials offsite. ☐ Ensure checkdams are free of obstructions and debris.
Inspect Growing Medium (Planting Soils)				X	☐ In compacted areas or where ponding has occurred, remove top few inches of discolored material. Rake, till or amend with Town-approved Biobasin soil mix. ☐ Remove sediment as necessary. If sediment removal results in 2" or more of soil has been removed then replace with Town-approved Biobasin soil mix.
Weed (including invasives), Dead or Dying Vegetation			X		☐ Manually remove weeds and dead/dying vegetation. ☐ Basins should not appear overgrown. ☐ Plantings have distinct edges confined to planting areas. ☐ Properly dispose of all materials offsite.
Replace Vegetation				AN	☐ Replace dead plants (re-plant per original planting plan). ☐ Stabilize any eroded areas, bare spots and slopes/banks with additional approved plantings where appropriate. ☐ Do not apply fertilizers, herbicides or pesticides. ☐ Re-seed the Vegetated Swale as necessary.
Maintain Tall Turf Grasses	X			X	☐ Tall Turf Lawn areas shall be kept mowed with enough frequency to keep a maintained appearance throughout the growing season. ☐ Vegetated Swale should be mowed as necessary to ensure grass length does not exceed six (6) inches and two inch (2") minimum depth. ☐ Manually cut perennial grasses and wildflowers within the Biobasin and Grassland (Meadow) in early Spring as directed in Report. ☐ Properly dispose of all materials offsite.

M = monthly; 3M = every three months; 6M =every six months; 12M = once annually; and AN = As Needed

Vector Controls (Wildlife)				X	☐ Biobasin shall not harbor mosquito larvae or rats that pose a threat to public health or facility structure. ☐ Note holes/burrows in and around Biobasin. ☐ Record the time/date, weather and site conditions when vector activity is observed. ☐ Check for and note animal holes/burrows and any system short circuiting. Repair burrows when they occur, fill in and lightly compact holes with Town-approved biobasin soil mix.
Inspect Vegetated Swale				X	☐ Ensure vegetation is adequate. Replace as necessary. ☐ Look for signs of rilling/gullying. Repair any rills or gullies.
Inspect for Hardpan at Bottom of Biobasin				X	☐ Hardpan occurs when the coil becomes cemented, forming an impervious layer. Where this has occurred, scarify the soil to a depth of four to six inches (4”-6”).

Inspection Notes and Additional Requirements:

1. Complete inspections as noted and after a major storm event (rainfall totals greater than 0.5 inches in 24 hours).
2. All facilities should drain within 48 hours, if ponding is observed after two (2) days notify Arlington Parks and Recreation.
3. Maintain an annual inspection and maintenance log (including this form) with a summary of completed remediation efforts (ie. Date, contractor (if applicable,) replacement plant material, invasive plants removed, structural repairs and landscape maintenance activities.
4. Record photos (from consistent locations) should be taken of each facility during each inspection.
5. During first three (3) years of establishment, arrange for water with Arlington Parks and Recreation as required during extended periods without rainfall.
6. Contact Arlington Parks and Recreation for immediate assistance responding to any spills.
    a. Record the time/date, weather, and site conditions if site activities contaminate stormwater.
    b. Record the time/date and description of corrective action taken.

M = monthly; 3M = every three months; 6M =every six months; 12M = once annually; and AN = As Needed

Wellington Park Field Inspection Checklist

Porous Bituminous Concrete Paving

Date of Inspection: _____Location: _____Inspector:_____

Task	Frequency				Comments
	1M	3M	6M	12M	
Inspect Porous Paving surface for damaged areas and imperfections				**X**	☐ Check for damaged areas each spring. ☐ Repair damaged areas with porous material approved by the Arlington Department of Public Works (DPW).
Foliage Debris Removal			**X**		☐ Inspect paved surface for buildup of foliage debris such as leaves, grass clippings, or other vegetation; spring and late fall, use Blower to clear the paved surface of debris.
Vacuum Cleaning and Foliage Debris Removal			**X**		☐ Vacuum with regenerative air sweeper at least (2) times per year. Recommended cleaning times include spring cleanup after snow melt and fall cleanup to remove organic material.
Shoulder Maintenance				**X**	☐ Planted and seeded areas adjacent to pavement should be adequately maintained to prevent soil washout onto pavement surface. ☐ Should washout occur, soil and debris should immediately be cleaned off the pavement to prevent clogging of the material voids. ☐ If erosion is observed, the affected area should be replanted or stabilized.
Snow Removal				**AN**	☐ Porous surface can handle small snow accumulations but will not drain effectively if more than two inches (2”) of compacted snow/ice form on top. ☐ Snow plowing for significant snow accumulation should be done carefully. ☐ Under **NO** circumstance should the surface be treated with sand.

Key: 1M = monthly; 3M = every three months; 6M = every six months; 12M = every twelve months; AN = As Needed

Clogged Pavement			**X**		☐ Use copious amounts of water applied at low pressure to wash out loose fines through the pores. ☐ If loose fines persist after application of water at low pressure, a regenerative air sweeper may be used to dislodge material from the surface. ☐ Should the porous pavement become completely clogged, power washing can be used to clean the clogged areas (pressure not more than 500 psi at an angle of 30 degrees or less should be used).

Inspection Notes and Additional Requirements:

1. Complete inspections as noted and after major storm event (as directed by Parks and Recreation Manager).
2. All facilities should drain within 24 hours, if ponding is observed notify Arlington Parks and Recreation.
3. Maintain an annual inspection and maintenance log (including this form) with a summary of completed remediation efforts (ie. Date, contractor (if applicable), replacement plant material, invasive plants removed, structural repairs, and costs.
4. Record photos (from consistent locations) should be taken of each facility during each inspection.
5. If ponding is observed, notify Arlington Parks and Recreation. Record time, date, weather, and site conditions.
6. The Contractor shall provide the following seasonal focus to their work:
    a. Spring - Blow off surface of porous paving and vacuum in late spring. Replant exposed soil and re-seed as necessary.
    b. Summer - Make structural repairs to porous paving.
    c. Fall - Replace exposed soil and dead plants, remove leaves, sediment, and vacuum.
    d. Winter - Monitor infiltration/ flow-through rates. Plow surface as needed. Do not apply sand to paving surface.

Key: 1M = monthly; 3M = every three months; 6M = every six months; 12M = every twelve months; AN = As Needed

100 FT. RIVERFRONT AREA
50 FT. RIVERFRONT AREA
35 FT. RIVERFRONT AREA
25 FT. RIVERFRONT BUFFER
N/F
Arlington-Dudley Realty, LLC
Book 68094
Page 415
N/F
34 Dudley Street LLC
LC Cert. #254026
TREE PLANTING, TYP.
SEE SHEET L-4 FOR NATURALISTIC EXPLORATION AREA PLANTING PLAN
MWRA SEWER EASEMENT
MILL BROOK
SHRUB PLANTING, TYP.
LIMIT OF WORK
Mithilesh Sharma
Book 46518
Page 173
CONVEYANCE SWALE, TYP.
MEADOW SEED MIX, TYP.
SEED ESTABLISHMENT FENCE, TYP.
WOODLAND SEED MIX, TYP.
BIORETENTION BASIN (SEE SHEET XX FOR BIOBASIN PLANTING PLAN)
XX
N/F
J & G Prentiss, LLC
WOODLAND SEED MIX, TYP.
SHRUB PLANTING, TYP.
SEWER EASEMENT
PRENTISS RD.
STREET
BENCHMARK
SQ. CUT
WOODLAND SEED MIX
MICROCLOVER
TALL TURF
MEADOW SEEDING
BIOBASIN
SEDIMENT FOREBAY
POROUS ASPHALT PAVING
TIMBER BOARDWALK

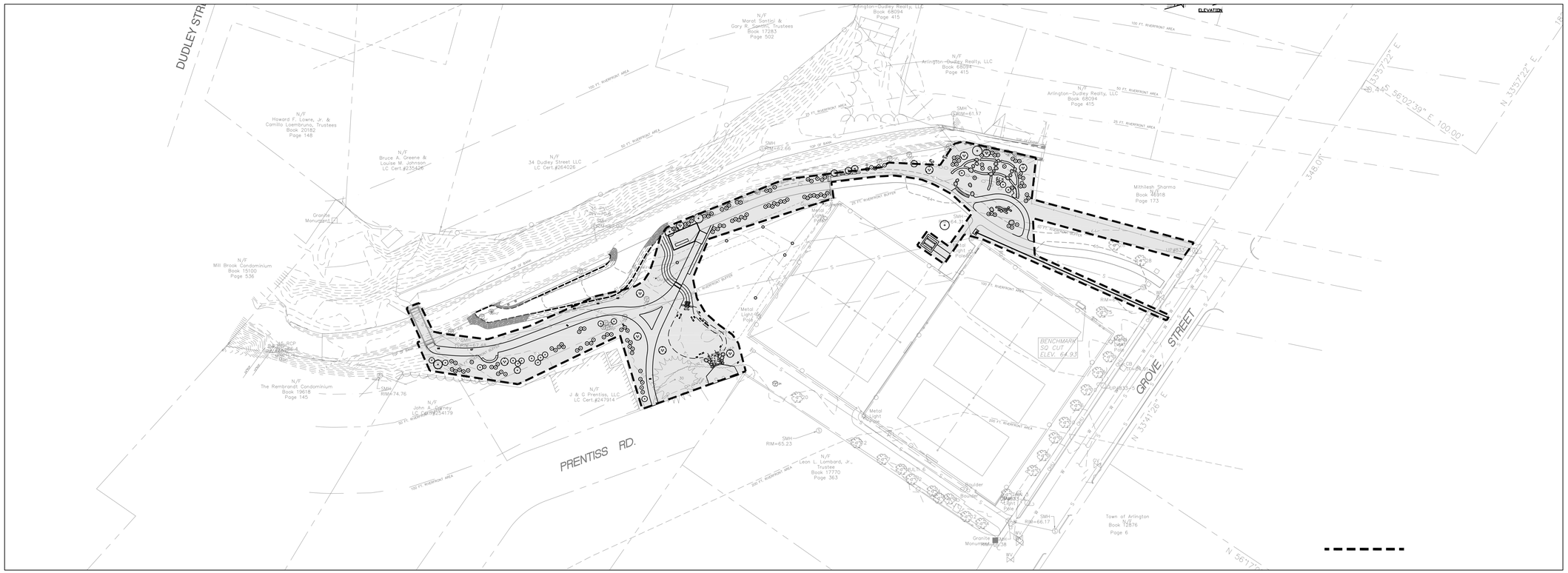
Appendix G – Drawings

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT

75% CONSTRUCTION DOCUMENTS

SEPTEMBER 17, 2020

PROJECT LOCATION PLAN

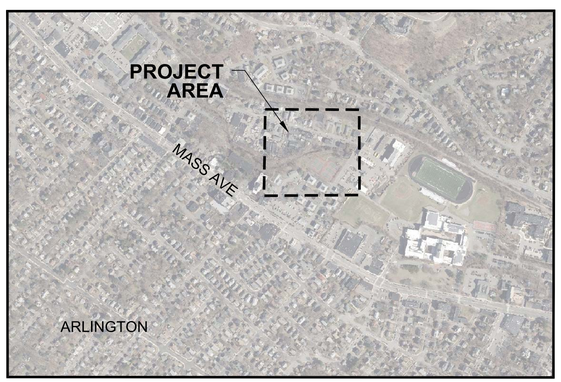


NORTH

0 40' 80' 120'

SCALE: 1"=40'

SITE LOCUS PLAN - ARLINGTON



SCALE: NTS

PROJECT DESCRIPTION

THE ARLINGTON PARK AND RECREATION COMMISSION AND ITS PARTNERS WISH TO COMPLETE A COMMUNITY-DRIVEN DESIGN THAT WILL IMPROVE PASSIVE RECREATIONAL OPPORTUNITIES AT WELLINGTON PARK IN A MANNER THAT USES ENVIRONMENTALLY SUSTAINABLE APPROACHES WHILE MEETING THE FOLLOWING GOALS:

- INCREASE ACCESS WITHIN THE PARK AND ALONG THE BROOK WITH APPROXIMATELY XX LF OF NEW POROUS PATHWAY
- INCREASE RECREATIONAL QUALITY AND OPPORTUNITY WITH NEW SITE AMENITIES INCLUDING BENCHES, PICNIC TABLE, DRINKING FOUNTAIN AND NATURALISTIC EXPLORATION AREA
- PROTECT AND ENHANCE WILDLIFE HABITAT ALONG THE BROOK WITH NATIVE PLANTINGS DERIVED FROM A PLANT COMMUNITY BASED APPROACH
- IMPROVE WATER QUALITY OF WELLINGTON BROOK BY PREVENTING DIRECT RUNOFF INTO THE BROOK AND INCREASING STORMWATER INFILTRATION

DRAWING INDEX

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
27 Congress Street, Salem, MA 01970
tel. 978-740-0096 www.hatch.com

Stamp:

COMMONWEALTH OF MASSACHUSETTS
HILARY A. HOLMES
NO. 51427
REGISTERED PROFESSIONAL ENGINEER

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00
Hatch Project Number: H-362472
Date: September 17, 2020
Drawn By: AK, AG
Designed By: AK
Reviewed By: DB
Scale: As shown

Revisions

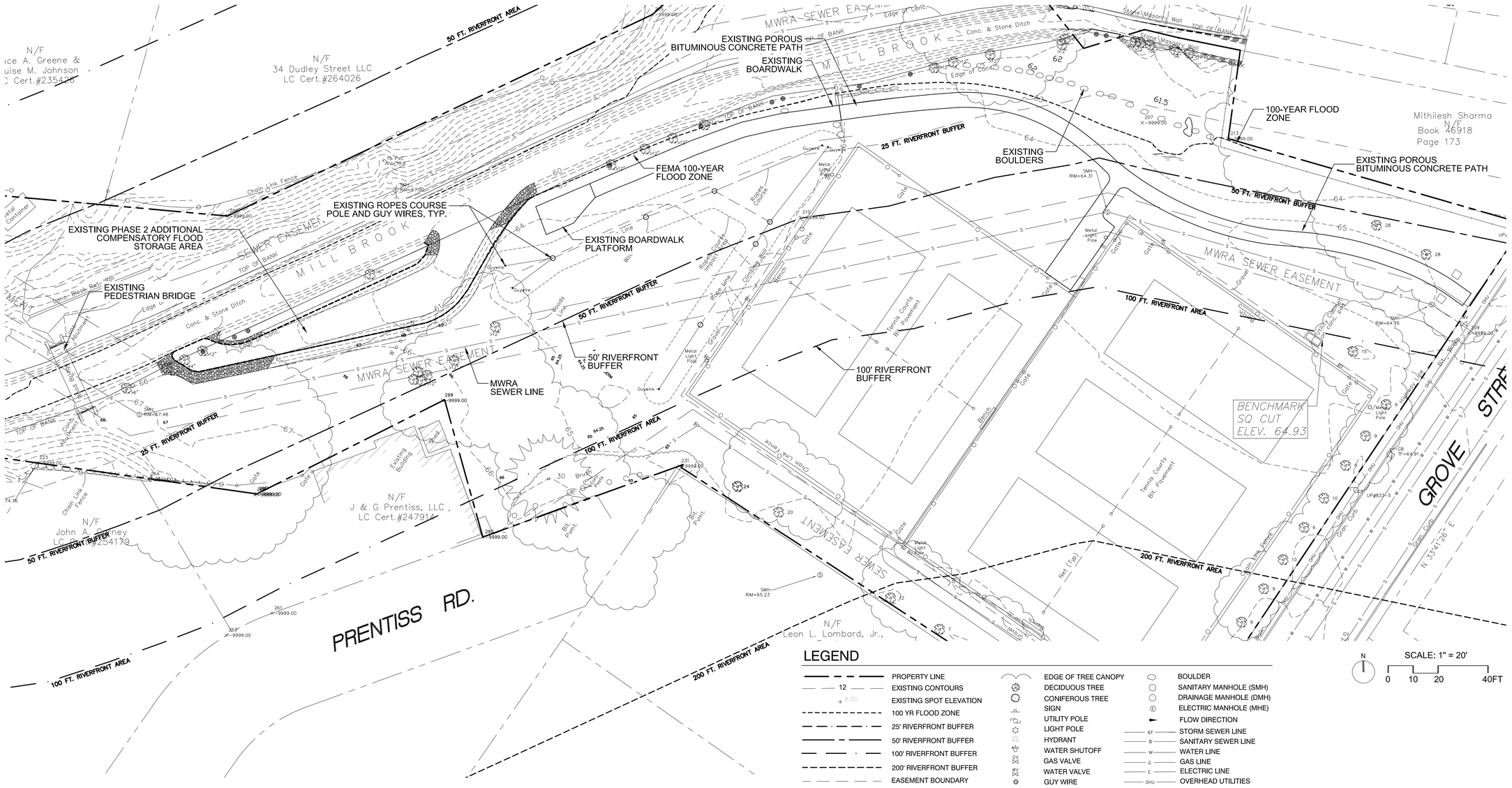
Number:	Description:	Date:

Sheet Title:

COVER SHEET

Sheet No:

L-0



SURVEY NOTES

1. TOPOGRAPHIC SURVEY INFORMATION IS A COMBINATION OF AN ON-THE-GROUND INSTRUMENT SURVEY BY WESTON AND SAMPSON LAND SURVEYORS, INC. IN SEPTEMBER 2018 (WESTON & SAMPSON ENGINEERS, INC. 5 CENTENNIAL DRIVE, PEABODY, MA 01960, TEL: 978 532 1900), AND AS-BUILT GRADES FROM THE PREVIOUS PROJECT PHASE.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE EXISTING CONDITIONS SHOWN ON THESE PLANS FROM THE AS-BUILT INFORMATION OF THE PREVIOUS PROJECT PHASE SHOULD NOT BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL THOROUGHLY REVIEW THE EXISTING CONDITIONS AS THEY RELATE TO THESE SITE PLAN DRAWINGS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
3. BEARINGS REFER TO THE MASSACHUSETTS NAD 83 STATE PLANE COORDINATE SYSTEM (MAINLAND ZONE).
4. ELEVATIONS REFER TO THE 1988 NORTH AMERICAN DATUM (NAVD 88).
5. REFERENCE IS MADE TO THE FOLLOWING MAPS:
   - A. "PLAN OF BUILDING LOTS IN ARLINGTON MASS. BELONGING TO W.M. RICHARDSON", BY JOSIAH HOVEY, SCALE 1" =50', DATED JUNE 1869, RECORDED IN PLAN BOOK 86, PLAN 2 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - B. "PLAN OF LOTS BELONGING TO GEORGIANNA HOBBS ARLINGTON, MASS.", BY JAMES ADAM, SCALE 1"=40', DATED FEBRUARY 1906, RECORDED IN PLAN BOOK 200, PLAN 37 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - C. "SECTION 80 MILL BROOK VALLEY SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED JULY 1926.
   - D. "PLAN OF LAND IN ARLINGTON MASS.", BY C.H. GANNETT CO., SCALE 1" =30', DATED AUGUST 1927, RECORDED AS PLAN 979 OF 1931 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - E. "PLAN OF LAND IN ARLINGTON MASS. TO BE TAKEN FOR PARK PURPOSES", BY JAMES M. KEANE, SCALE 1" =30', DATED FEB. 14, 1933, RECORDED AS PLAN 182 OF 1933 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - F. "PLAN SHOWING LAND TO BE TRANSFERRED IN ARLINGTON MASS.", BY JAMES M. KEANE, SCALE 1" =30', DATED FEB. 14, 1933, RECORDED AS PLAN 38 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - G. "DENNIS HURLEY PLAN OF LAND GROVE STREET ARLINGTON", BY RALPH ADAMS, SCALE 1" =20', DATED DEC. 9, 1933, RECORDED AS PLAN 20 OF 1934 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - H. "SUBDIVISION OF LAND IN ARLINGTON MASS.", BY JOS. J. SULLIVAN, SCALE 1"=20', DATED MAY 1976, RECORDED AS PLAN 761 OF 1946 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - I. "SUBDIVISION OF LAND IN ARLINGTON MASS", BY T.F. GEARY, SCALE 1" =20', DATED OCT. 30, 1947, RECORDED AS PLAN 449 OF 1949 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - J. LAND COURT PLAN 20878A DATED OCTOBER 1947.
   - K. LAND COURT PLAN 22019A DATED SEPTEMBER 1949.
   - L. "PLAN OF THE RELOCATION OF GROVE STREET ARLINGTON AS ORDERED BY THE COUNTY COMMISSIONERS", SCALE 1" =40', DATED 1964, RECORDED AS PLAN 133 OF 1964 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - M. "SECTION 92 MILL BROOK VALLEY RELIEF SEWER NORTH METROPOLITAN SYSTEM ARLINGTON", DATED MAY 1966.
   - N. "THE COMMONWEALTH OF MASSACHUSETTS METROPOLITAN DISTRICT COMMISSION SEWERAGE DIVISION PLAN OF LAND IN ARLINGTON", SCALE 1"=40', DATED MAY 1966, RECORDED AS PLAN 281 OF 1967 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - O. "PLAN OF LAND IN ARLINGTON MASS.", BY CURLEY & HANSEN, SCALE 1" =20', DATED MAY 29, 1971, RECORDED AS PLAN 657 OF 1971 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - P. LAND COURT PLAN 4481B DATED APRIL 26, 1969.
   - Q. "PLAN OF LAND IN ARLINGTON MASS. SHOWING SEWER & WATER EASEMENT", BY R.L. HIGGINS, SCALE 1" =40', DATED JAN. 1973, RECORDED AS PLAN 65 OF 1973 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - R. "PLAN OF LAND IN ARLINGTON MASS.", BY HAYES ENGINEERING INC., SCALE 1"=30', DATED JANUARY 31, 1983, RECORDED AS PLAN 144 OF 1983 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - S. "PLAN OF LAND IN ARLINGTON MA. PREPARED FOR ROSE-MAL HERITAGE REALTY TRUST", BY DAVID D. LANATA & ASSOC., INC., SCALE 1" =20', DATED JUNE 24, 1987, RECORDED AS PLAN 1185 OF 1987 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
   - T. LAND COURT PLAN 4481C DATED OCTOBER 11, 2001.
   - U. "SITE PLAN 19 PRENTIS ROAD ARLINGTON MA. 02147", BY PFS LAND SURVEYING, INC., SCALE 1" =10', DATED 12/24/2013, RECORDED AS PLAN 473 OF 2014 OF THE MIDDLESEX SOUTH REGISTRY OF DEEDS.
4. THE PROPERTY IS TOGETHER WITH AND SUBJECT TO SUCH EASEMENTS AND RIGHTS OF RECORD AS MAY APPEAR.
5. UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING AND OTHER DATA SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES, GOVERNMENTAL AGENCIES AND/OR OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO WESTON & SAMPSON. THE EXISTENCE, SIZE AND LOCATION OF ALL SUCH FEATURES MUST BE DETERMINED AND VERIFIED IN THE FIELD BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG.

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
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Stamp:

COMMONWEALTH OF MASSACHUSETTS
HILARY A. HOLMES
NO. 51427
REGISTERED PROFESSIONAL ENGINEER

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

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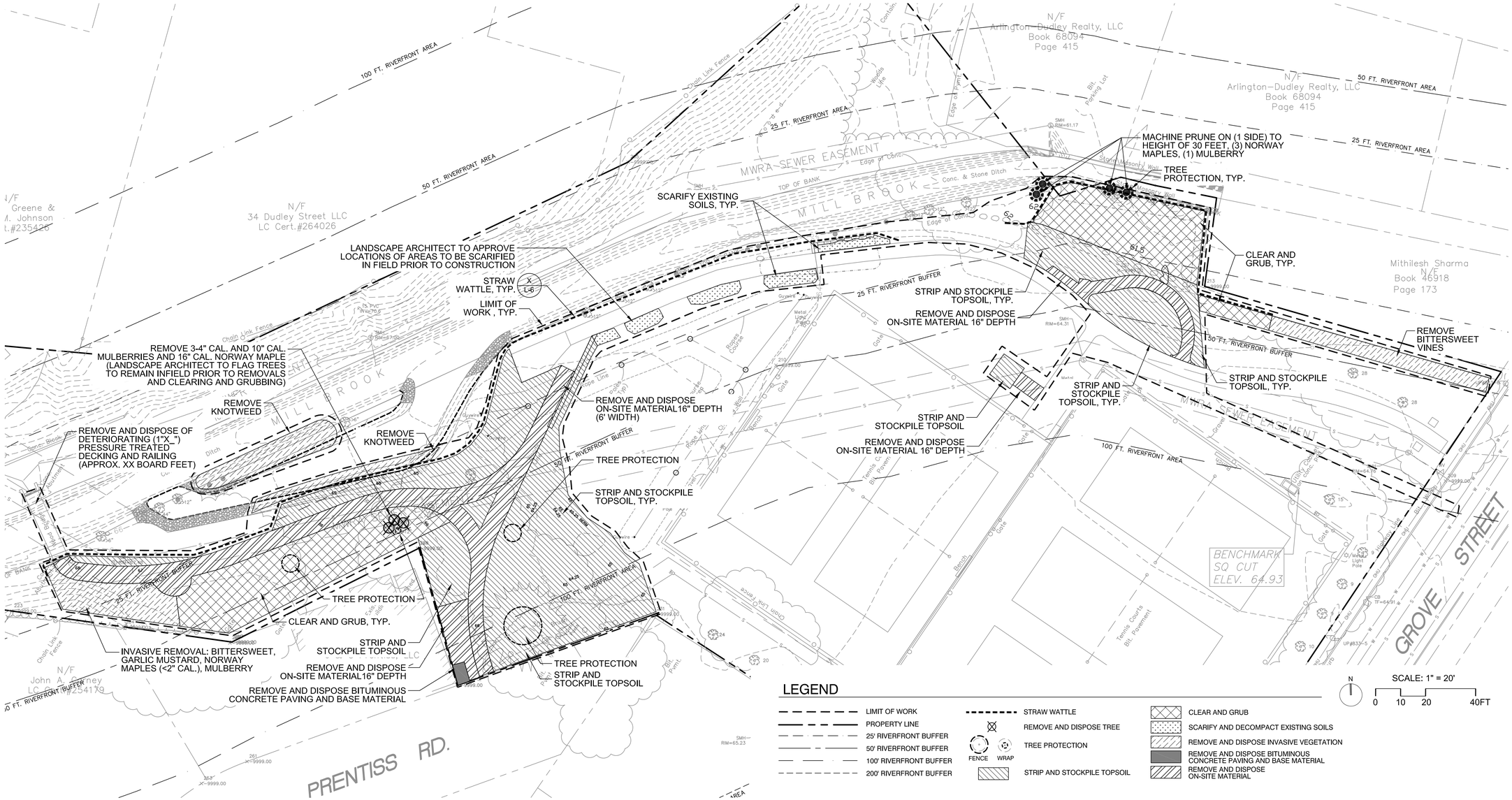
EXISTING CONDITIONS

Sheet No:

EC-1



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- 25' RIVERFRONT BUFFER
- 50' RIVERFRONT BUFFER
- 100' RIVERFRONT BUFFER
- 200' RIVERFRONT BUFFER
- STRAW WATTLE
- REMOVE AND DISPOSE TREE
- TREE PROTECTION (FENCE / WRAP)
- STRIP AND STOCKPILE TOPSOIL
- CLEAR AND GRUB
- SCARIFY AND DECOMPACT EXISTING SOILS
- REMOVE AND DISPOSE INVASIVE VEGETATION
- REMOVE AND DISPOSE BITUMINOUS CONCRETE PAVING AND BASE MATERIAL
- REMOVE AND DISPOSE ON-SITE MATERIAL

SITE PREPARATION, DEMOLITION AND EROSION CONTROL NOTES

1. THE CONTRACTOR IS CAUTIONED THAT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON SITE SURVEY AND FIELD MEASUREMENTS. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD. CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIG SAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES AND THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
2. MATERIAL RESULTING FROM THE DEMOLITION OF ANY EXISTING STRUCTURE SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE REGULATIONS. THE CONTRACTOR SHALL NOT BURY OR ALLOW TO BURY SUCH MATERIAL. THIS INCLUDES FENCING, EXISTING STRUCTURES, TREE STUMPS, ETC.
3. ALL ITEMS CALLED FOR REMOVAL SHALL BE REMOVED TO FULL DEPTH INCLUDING ALL FOOTINGS, FOUNDATIONS, AND OTHER APPURTENANCES, EXCEPT AS SPECIFICALLY NOTED OTHERWISE, OR DIRECTED BY THE LANDSCAPE ARCHITECT.
4. LANDSCAPE ARCHITECT SHALL VERIFY TREES & STUMPS TO BE REMOVED IN THE FIELD PRIOR TO REMOVAL.
5. POISON IVY AND INVASIVE PLANTS ON SITE THAT ARE TO BE REMOVED SHALL BE CONFIRMED BY THE LANDSCAPE ARCHITECT.
6. PROTECT ALL LIGHT FIXTURES AND SITE AMENITIES UNLESS NOTED OTHERWISE.

SITE PREPARATION AND EROSION CONTROL NOTES

1. PROTECT ALL EXISTING STRUCTURES TO REMAIN.
2. PROPERTY LINE, EXISTING UTILITY INFORMATION AND TOPOGRAPHY TAKEN FROM THE PLAN PREPARED BY NITSCH ENGINEERING, INC.
3. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCEMENT OF ANY SITE WORK OR EARTHWORK OPERATIONS. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT UPON INSTALLATION FOR APPROVAL. ALL MEASURES SHALL BE MAINTAINED DURING CONSTRUCTION, AND SHALL REMAIN IN PLACE UNTIL ALL SITE WORK IS COMPLETE AND GROUND COVER IS ESTABLISHED.
4. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH STAKED HAY BALES AND/OR SILTATION FENCES TO PREVENT AND/OR CONTROL SILTATION AND EROSION.
5. ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED WITH MULCH OR SEEDED FOR TEMPORARY VEGETATIVE COVER. NO AREA, SUBJECT TO EROSION, SHALL BE LEFT DISTURBED AND UNSTABILIZED FOR PERIODS LONGER THAN IS ABSOLUTELY NECESSARY TO CARRY OUT THAT PORTION OF THE CONSTRUCTION WORK.
6. INSPECTION SHALL TAKE PLACE AFTER EACH RAINFALL EVENT. ALL EROSION CONTROL MEASURES SHALL BE ROUTINELY INSPECTED, CLEANED, AND REPAIRED OR REPLACED, AS NECESSARY, THROUGHOUT CONSTRUCTION.
7. THE LOCATION OF STRAWBALE CHECK DAMS SHALL BE FIELD VERIFIED DURING SITE PREPARATION OPERATIONS BY THE LANDSCAPE ARCHITECT OR ENGINEER.
8. ALL PROPOSED SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH EROSION CONTROL MAT AND PROTECTED FROM EROSION.
9. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND PAYING FOR ANY PERMITS AND/OR CONNECTION MWRA FEES REQUIRED TO CARRY OUT THE WORK INCLUDING, BUT NOT LIMITED TO, DEMOLITION, SITE CONSTRUCTION, ELECTRICAL, STORM AND WATER UTILITIES.
10. SALVAGE ALL EXISTING SITE FURNISHINGS UNLESS NOTED OTHERWISE. IF FURNISHING IS IN CONFLICT WITH PROPOSED WORK, CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY.
11. THE AREA, OR AREAS, OF ENTRANCE AND EXIT, TO AND FROM THE SITE, SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO A PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
12. FINAL TREE PROTECTION FENCE LOCATIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO CONSTRUCTION ACTIVITY AS DIRECTED BY THE LANDSCAPE ARCHITECT AND MAY DIFFER FROM CONSTRUCTION DOCUMENTS.
13. SEE PLANS FOR TREE PROTECTION AND CLEARING LIMITS.

Client/Owner:

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HATCH
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Stamp:

COMMONWEALTH OF MASSACHUSETTS
HILARY A. HOLMES
NO. 51427
REGISTERED PROFESSIONAL ENGINEER

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00
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Date: September 17, 2020
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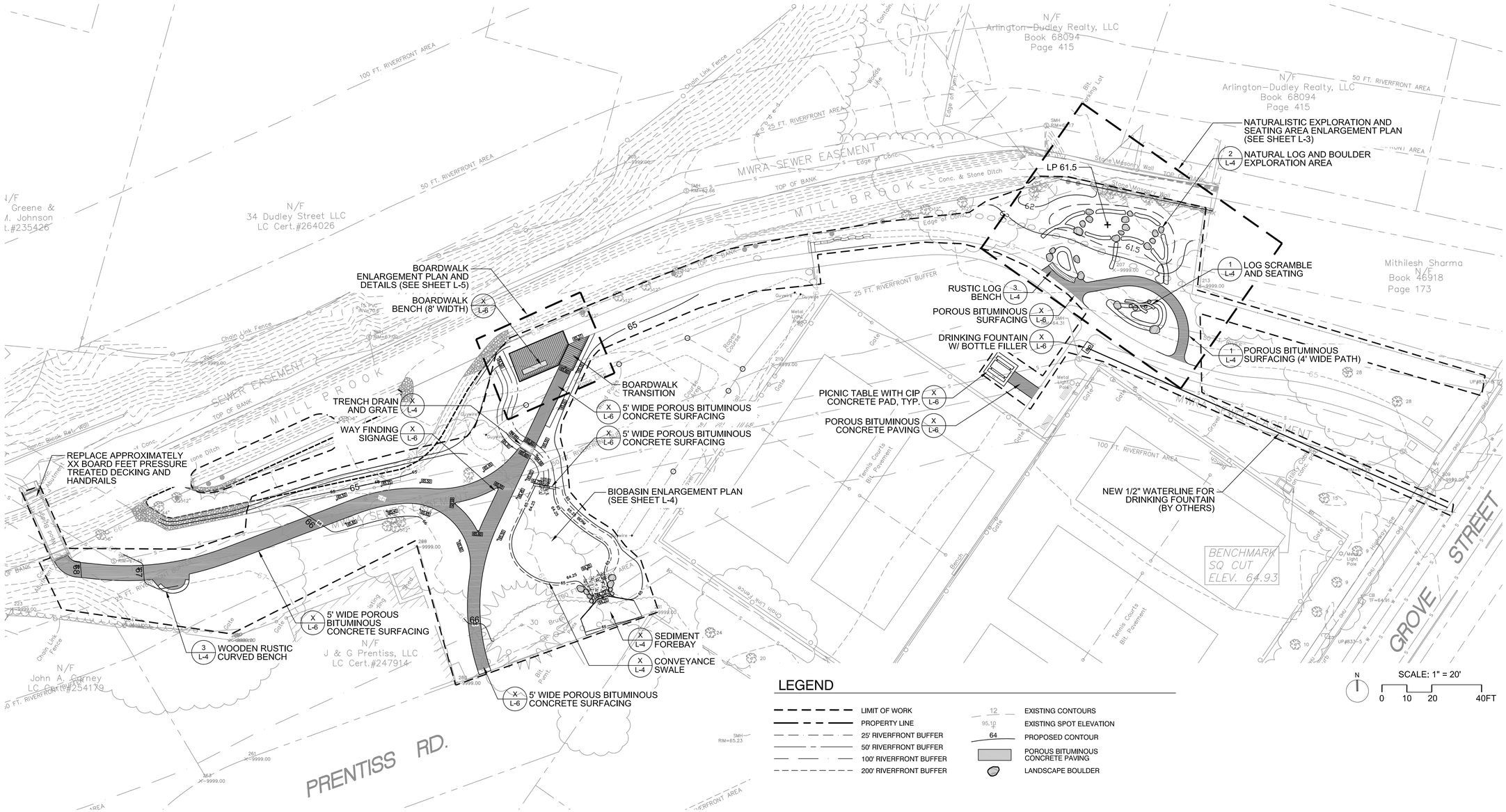
SITE PREPARATION PLAN

Sheet No:

SP-1



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- 25' RIVERFRONT BUFFER
- 50' RIVERFRONT BUFFER
- 100' RIVERFRONT BUFFER
- 200' RIVERFRONT BUFFER
- EXISTING CONTOURS
- EXISTING SPOT ELEVATION
- PROPOSED CONTOUR
- POROUS BITUMINOUS CONCRETE PAVING
- LANDSCAPE BOULDER

LAYOUT AND MATERIAL NOTES:

1. ALL LAYOUT LINES, OFFSETS OR REFERENCES TO LOCATING OBJECTS ARE EITHER PARALLEL OR PERPENDICULAR UNLESS OTHERWISE DESIGNATED WITH ANGLE OFFSETS NOTED.
2. ALL PROPOSED SITE IMPROVEMENTS SHALL BE LAID OUT AND STAKED FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION BY THE LANDSCAPE ARCHITECT. ANY REQUIRED ADJUSTMENTS SHALL BE UNDERTAKEN AT NO ADDITIONAL COST TO THE OWNER.
3. REFER TO SP-1 FOR SITE PREPARATION, DEMOLITION AND EROSION CONTROL LAYOUT.
4. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK INDICATED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL VERIFY THE PATHWAY BASELINE SHOWN IS CONSISTENT WITH THE EXISTING PATHWAY ALIGNMENT INDICATED WITHIN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES BETWEEN THE TWO.

GRADING AND DRAINAGE NOTES

1. THE CONTRACTOR SHALL VERIFY ALL GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES BETWEEN PROPOSED AND EXISTING IMMEDIATELY TO THE LANDSCAPE ARCHITECT.
2. ALL PROPOSED PAVEMENTS SHALL SMOOTHLY MEET THE LINE, GRADE AND EDGES OF EXISTING ADJACENT PAVEMENT SURFACES AS WELL THE TOP OF RAMPS AND BACK OF CURBS.
3. WHERE NEW EARTHWORK MEETS EXISTING EARTHWORK, CONTRACTOR SHALL BLEND THE GRADES SMOOTHLY, PROVIDING VERTICAL CURVES OR ROUNDS AT ALL TOP AND BOTTOM OF SLOPES, AND ELIMINATE ROUGH SPOTS AND ABRUPT GRADE CHANGES.
4. CONTRACTOR SHALL ENSURE ALL AREAS PROPERLY PITCH TO DRAIN, WITH NO SURFACE WATER PONDING OR PUDDLING UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION DRAWINGS.
5. ALL NEW WALKWAY / ACCESS PATH GRADING MUST CONFORM TO CURRENT AMERICANS WITH DISABILITIES ACT (ADA), AND MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) REGULATIONS: WALKWAYS SHALL MAINTAIN A CROSS PITCH OF NOT MORE THAN ONE AND A HALF (1.5%) PERCENT AND THE RUNNING SLOPE (PARALLEL TO THE DIRECTION OF TRAVEL) BETWEEN 1% MIN. AND 4.5% MAX. ANY DISCREPANCIES NOT ALLOWING THIS TO OCCUR SHALL BE REPORTED TO THE OWNERS REPRESENTATIVE PRIOR TO CONTINUING WORK.
6. ALL UTILITY GRATES, COVERS OR OTHER SURFACE ELEMENTS INTENDED TO BE EXPOSED AT GRADE SHALL BE FLUSH WITH THE ADJACENT FINISHED GRADE AND ADJUSTED TO PROVIDE A SMOOTH TRANSITION AT ALL EDGES.
7. EXCAVATION REQUIRED WITHIN PROXIMITY OF KNOWN EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
8. GRADES ABOVE THE SEWER EASEMENT SHALL NOT CHANGE UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION DOCUMENTS.
9. THE CONTRACTOR IS CAUTIONED THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES, AS SHOWN ON THESE PLANS, IS BASED ON THE EXISTING SURVEY. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES IN THE FIELD. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, AND ANY GOVERNING PERMITTING AUTHORITY, AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES AND THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED, IN WRITING, OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTIONS TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL CONTROL POINTS AND BENCH MARKS NECESSARY FOR THE WORK.

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WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00
Hatch Project Number: H-362472
Date: September 17, 2020
Drawn By: AK, AG
Designed By: AK
Reviewed By: DB
Scale: As shown

Revisions

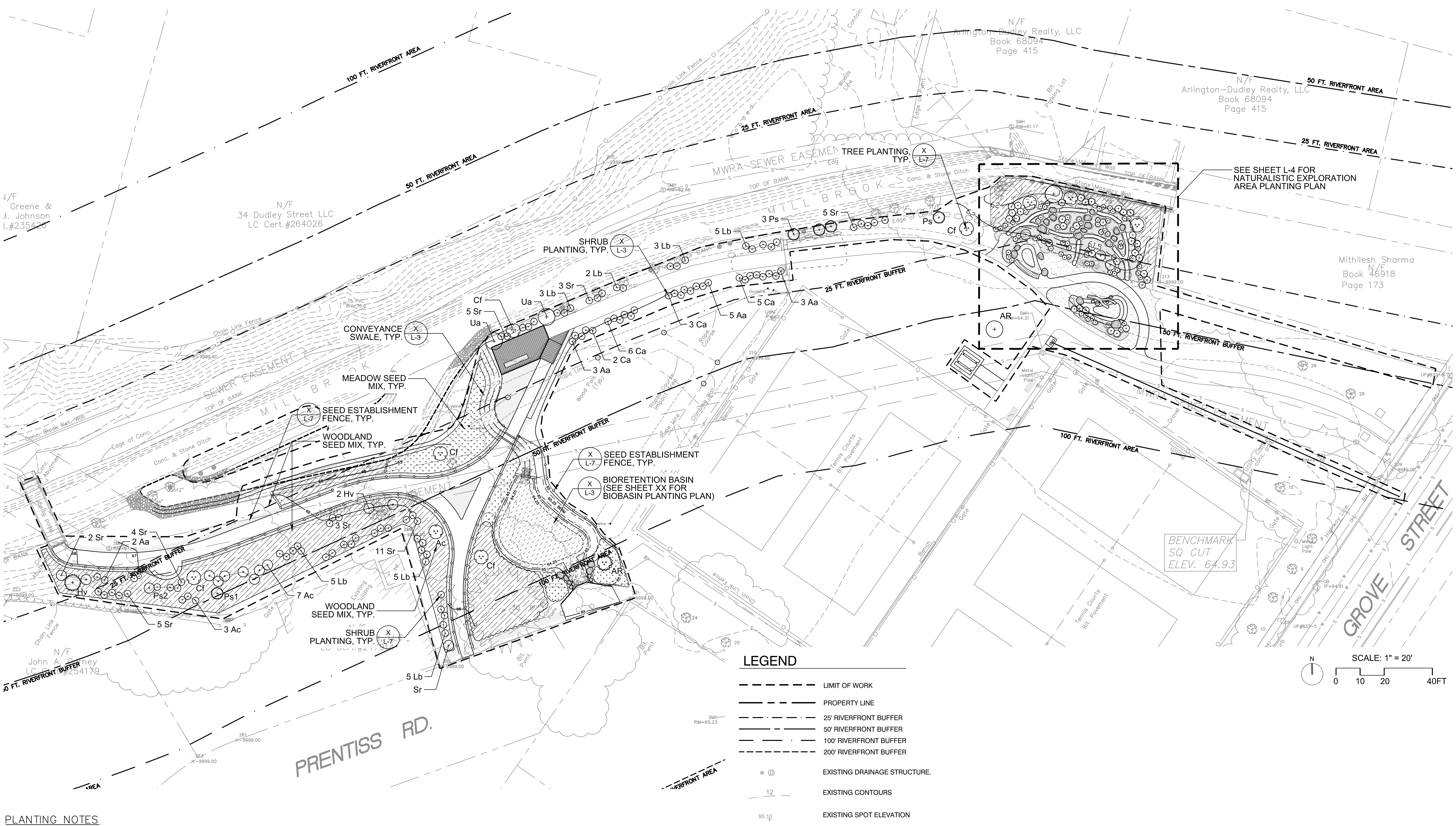
Number:	Description:	Date:

Sheet Title:

SITE PLAN

Sheet No:

L-1



PLANTING NOTES

1. SUBSTITUTIONS OF PLANT SPECIES SHALL NOT BE PERMITTED. IN CASES WHERE INDIVIDUAL SPECIES ARE NOT COMMERCIALLY AVAILABLE, QUANTITIES WILL BE MADE UP WITH ANOTHER SPECIES IN THE PLANT SCHEDULE AFTER WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.
2. ALL SPECIES SHALL BE STRAIGHT SPECIES; NO CULTIVARS.
3. ALL PLANT MATERIAL SHALL CONFORM TO THE MINIMUM GUIDELINES ESTABLISHED FOR NURSERY STOCK PUBLISHED BY THE AMERICAN HORTICULTURE INDUSTRY ASSOCIATION. IN ADDITION, ALL NEW PLANT MATERIAL FOR THE PROJECT SHALL BE OF SPECIMEN QUALITY.
4. CONTRACTOR SHALL MAKE ARRANGEMENTS WITH NURSERY(IES) AND OWNER WITHIN THIRTY (30) DAYS OF AWARD OF CONTRACT.
5. CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING PLAN AS SHOWN ON DRAWINGS.
6. NO PLANT MATERIAL SHALL BE PLANTED BEFORE ACCEPTANCE OF FINAL GRADING AND SLOPE TREATMENTS BY THE LANDSCAPE ARCHITECT.
7. WATERING OF INSTALLED PLANTS AND SEEDED AREAS, SHALL OCCUR WITHIN 24 HOURS OF THE FIRST DAY OF PLANTING OR SEEDING AND CONTINUE AS OUTLINED IN THE CONTRACT DOCUMENTS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL DAMAGED, STOLEN, DEAD, DECLINING OR LOST PLANT MATERIAL UNTIL THE COMPLETION OF THE MAINTENANCE AND GUARANTEE PERIODS.
9. ALL PLANT MATERIAL SHALL BE NURSERY GROWN. NO FIELD-COLLECTED SPECIMENS WILL BE ALLOWED.
10. ALL NEW PLANTS SHALL BE B&B TREES, CONTAINERIZED TREES AND SHRUBS, OR HERBACEOUS PERENNIALS, UNLESS OTHERWISE NOTED ON THE PLANT SCHEDULE.
11. ALL NEW PLANTS SHALL BE TAGGED AND APPROVED BY THE LANDSCAPE ARCHITECT AT THE NURSERY PRIOR TO DELIVERY TO SITE. TAGGING REPRESENTATIVE SAMPLES OF SHRUBS AND HERBACEOUS MATERIAL MAY BE ACCEPTABLE WITH PRIOR APPROVAL.
12. ALL AREAS TO BE SEEDED OR DISTURBED SHALL RECEIVE SOIL PREPARATION AS SPECIFIED PRIOR TO SEEDING.
13. CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING AND PROPOSED UTILITIES TO VERIFY PROPOSED PLANT LOCATIONS AND SHALL REPORT ANY CONFLICTS TO THE LANDSCAPE ARCHITECT.
14. CONTRACTOR SHALL STAKE ALL PROPOSED TREE LOCATIONS FOR REVIEW AND POTENTIAL ADJUSTMENT BY LANDSCAPE ARCHITECT.
15. INSTALLATION OF HERBACEOUS MATERIAL IN MIXED PLANTING BEDS SHALL OCCUR ONLY AFTER SHRUBS AND/OR TREES HAVE BEEN INSTALLED.

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
27 Congress Street, Salem, MA 01970
tel. 978-740-0096 www.hatch.com

Stamp:

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR
REVITALIZATION PROJECT: PHASE 3
WELLINGTON PARK – ARLINGTON, MA
75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00
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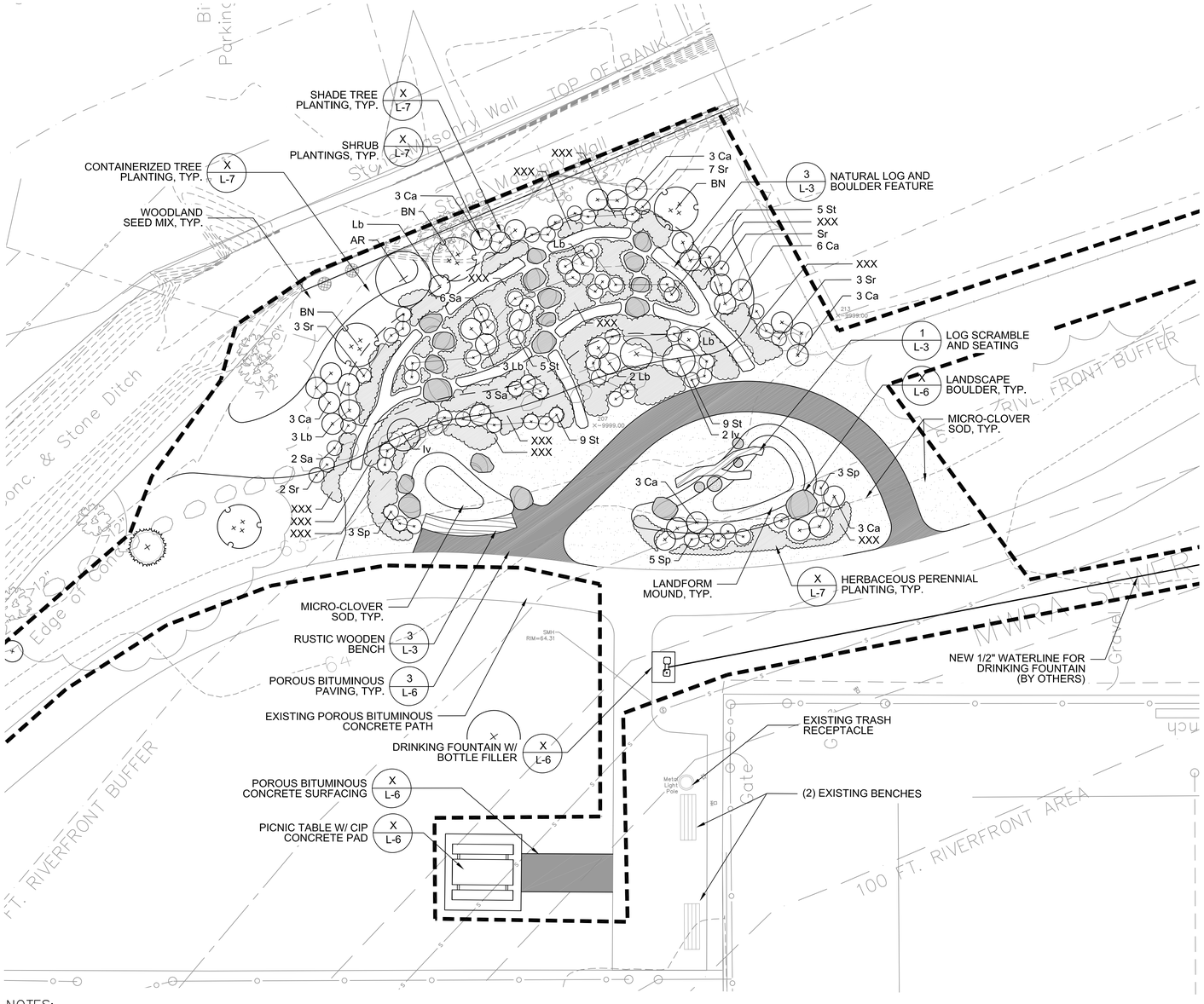
Sheet Title:

PLANTING PLAN

Sheet No:

L-2



NOTES:

1. FINAL LOCATIONS OF ALL SITE FURNISHINGS SHALL BE APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO THOROUGHLY REVIEW THESE SITE PLAN DRAWINGS AND NOTIFY THE PLAN PREPARERS OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
3. SEE SHEET L-1 FOR LAYOUT, MATERIAL, GRADING AND DRAINAGE NOTES.
4. SEE SHEET L-2 FOR PLANTING NOTES.
5. SEE SHEET L-7 FOR PLANT SCHEDULE.

LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- 25' RIVERFRONT BUFFER
- 50' RIVERFRONT BUFFER
- 100' RIVERFRONT BUFFER
- 200' RIVERFRONT BUFFER
- 12 — EXISTING CONTOURS
- 95.10 + — EXISTING SPOT ELEVATION
- + 64.50 — PROPOSED SPOT ELEVATION
- 64 — PROPOSED CONTOUR
- 1.5% — PROPOSED SLOPE

N

SCALE: 1/8" = 1'-0"

0 4 8 16FT

3 RUSTIC WOODEN BENCH

SCALE: NTS

2 NATURAL LOG AND BOULDER FEATURE

SCALE: NTS

1 LOG SCRAMBLE AND SEATING

SCALE: NTS

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
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tel. 978-740-0096 www.hatch.com

Stamp:

COMMONWEALTH OF MASSACHUSETTS RALPH A. BROOKS NO. 1958 REGISTERED LANDSCAPE ARCHITECT

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

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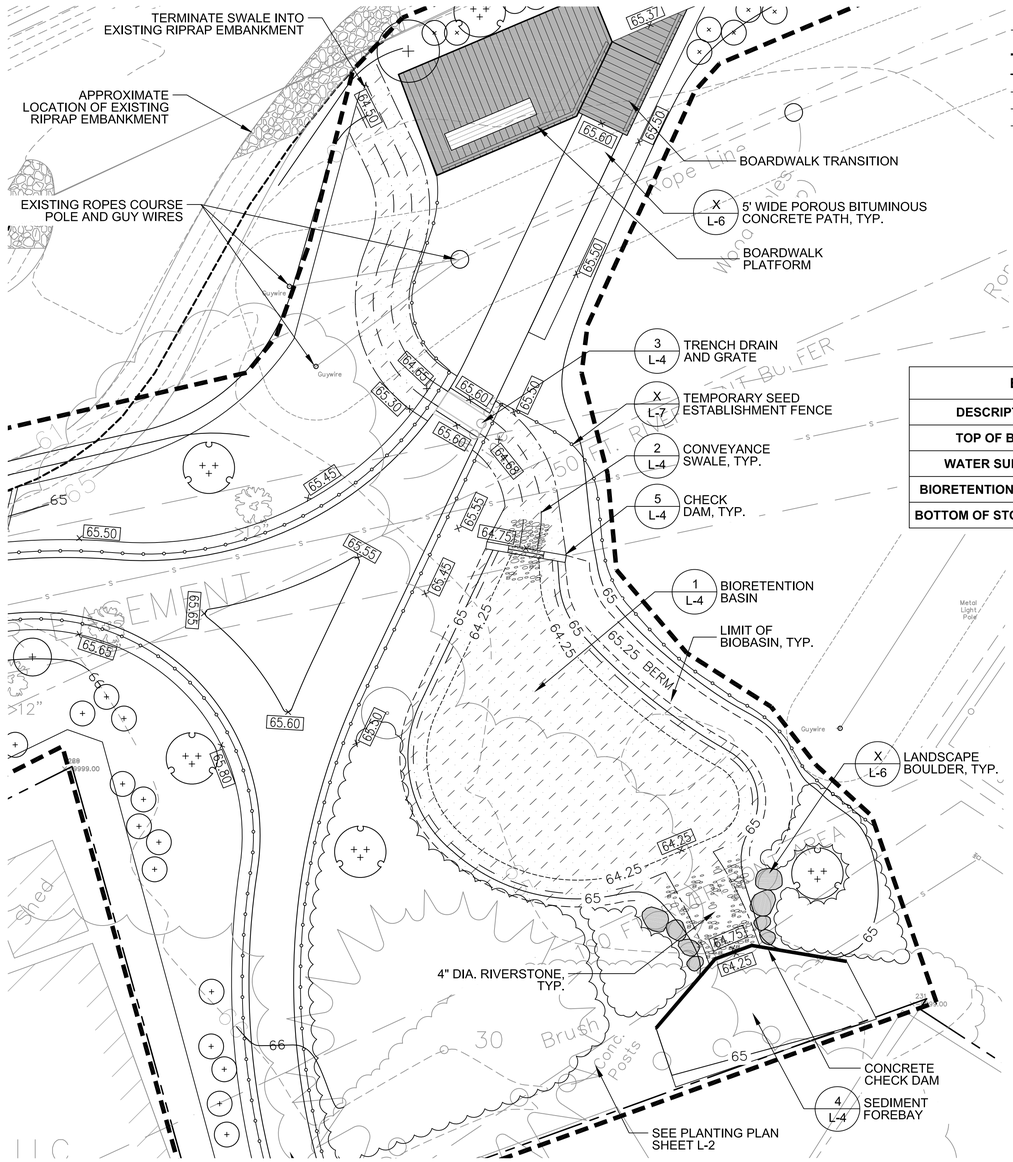
Sheet Title:

EXPLORATION AREA ENLARGEMENT PLAN

Sheet No:

L-3



LEGEND

- LIMIT OF WORK
- PROPERTY LINE
- 25' RIVERFRONT BUFFER
- 50' RIVERFRONT BUFFER
- 100' RIVERFRONT BUFFER
- 12 — EXISTING CONTOURS
- 64 — PROPOSED CONTOUR
- 95.10 + (8.25) — EXISTING SPOT ELEVATION / EXISTING INTERPOLATED SPOT GRADE. CONTRACTOR TO VERIFY IN FIELD
- 64.25 — PROPOSED SPOT GRADE
- 1.5% — PROPOSED SLOPE

BIORETENTION DATA		
DESCRIPTION	**ELEVATION**	**AREA (SF)**
TOP OF BERM	**65.25**	**1100**
WATER SURFACE	**64.75**	**910**
BIORETENTION SURFACE	**64.25**	**700**
BOTTOM OF STONE LAYER	**61.75**	**700**

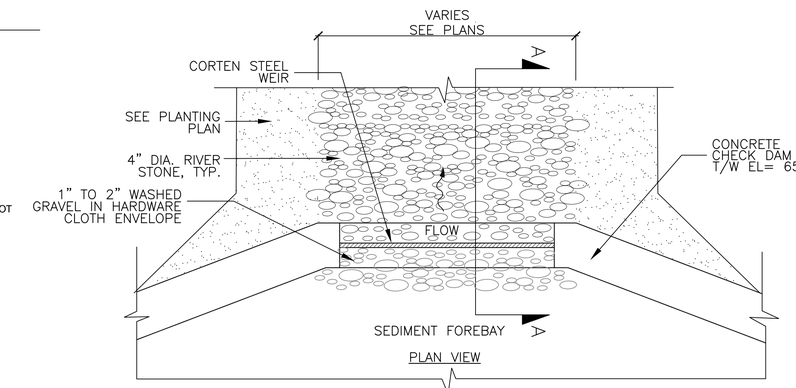
N

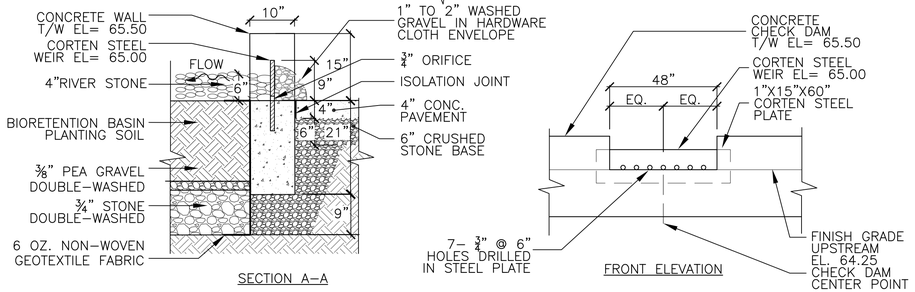
SCALE: 1/8" = 1'-0"

0 4 8 16FT

NOTES:

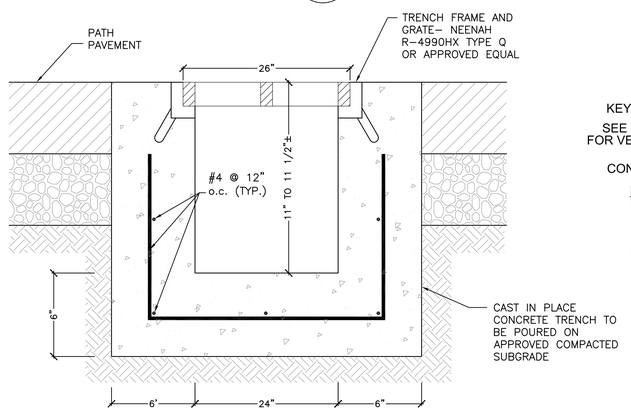
1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE EXISTING CONDITIONS SHOWN ON THESE PLANS IS BASED ON ON A SURVEY COMBINED WITH AS-BUILT INFORMATION FROM THE PREVIOUS PROJECT PHASE. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR, PRIOR TO THE START OF CONSTRUCTION, SHALL THOROUGHLY REVIEW THE EXISTING CONDITIONS AS THEY RELATE TO THESE SITE PLAN DRAWINGS AND NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
2. COORDINATE ALL GRADING AND PIPED CONNECTIONS WITH GRADING & DRAINAGE PLAN L-2.
3. CONTRACTOR SHALL STAKE LIMITS OF BIORETENTION BASIN AND SWALE IN FIELD FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO START OF CONSTRUCTION.
4. SEE SHEET L-10 FOR PLANT SCHEDULE.
5. CONTRACTOR SHALL SUPPLY ALL PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING PLAN AS SHOWN ON DRAWINGS.
6. NO PLANT MATERIAL SHALL BE PLANTED BEFORE ACCEPTANCE OF FINAL GRADING BY LANDSCAPE ARCHITECT.
7. WATERING OF INSTALLED PLANTS SHALL OCCUR WITHIN 24 HOURS OF THE FIRST DAY OF PLANTING OR SEEDING AND CONTINUE AS OUTLINED IN THE CONTRACT DOCUMENTS.





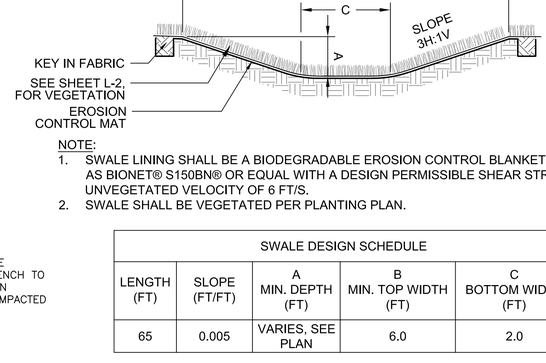
4 SEDIMENT FOREBAY

SCALE: NTS



3 TRENCH DRAIN AND GRATE

SCALE: NTS



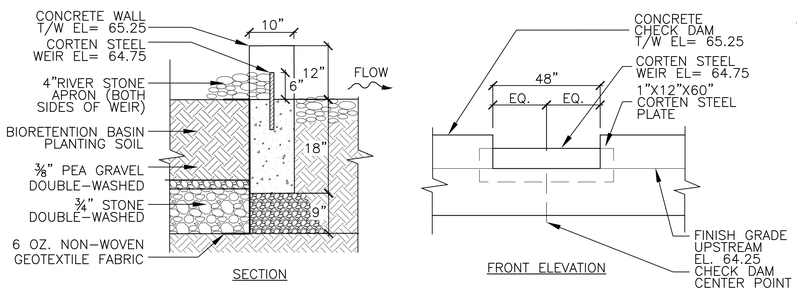
NOTE:

1. SWALE LINING SHALL BE A BIODEGRADABLE EROSION CONTROL BLANKET SUCH AS BIONET® S150BN® OR EQUAL WITH A DESIGN PERMISSIBLE SHEAR STRESS UNVEGETATED VELOCITY OF 6 FT/S.
2. SWALE SHALL BE VEGETATED PER PLANTING PLAN.

SWALE DESIGN SCHEDULE				
LENGTH (FT)	SLOPE (FT/FT)	A MIN. DEPTH (FT)	B MIN. TOP WIDTH (FT)	C BOTTOM WIDTH (FT)
65	0.005	VARIES, SEE PLAN	6.0	2.0

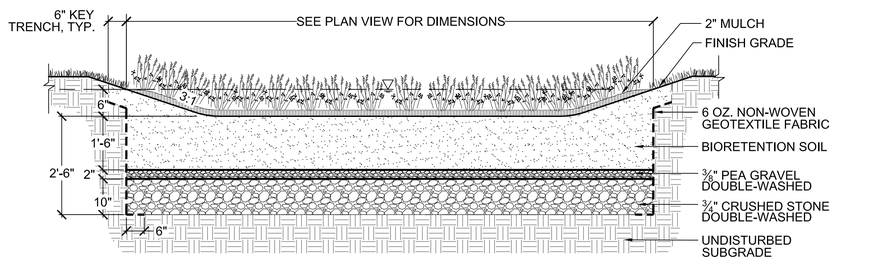
2 CONVEYANCE SWALE

SCALE: NTS



5 CHECK DAM

SCALE: NTS



NOTE:

1. LIMITS OF BASIN SHALL BE STAKES IN FIELD BY CONTRACTOR FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO COMMENCING CONSTRUCTION.

1 BIORETENTION BASIN

SCALE: NTS

Client/Owner:

Town of Arlington
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HATCH
27 Congress Street, Salem, MA 01970
tel. 978-740-0096 www.hatch.com

Stamp:

COMMONWEALTH OF MASSACHUSETTS
HILARY A. HOLMES
NO. 51427
REGISTERED PROFESSIONAL ENGINEER

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

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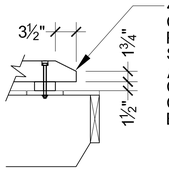
Number:	Description:	Date:

Sheet Title:

BIORETENTION BASIN AND SWALE ENLARGEMENT PLAN

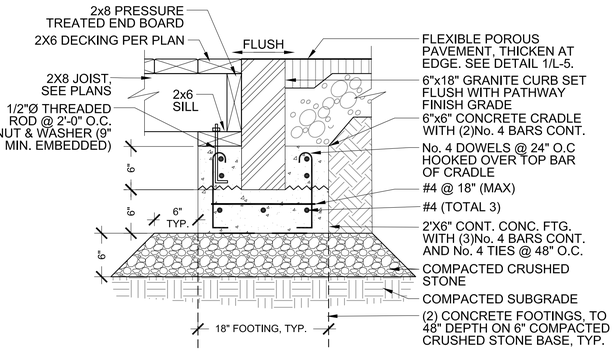
Sheet No:

L-4



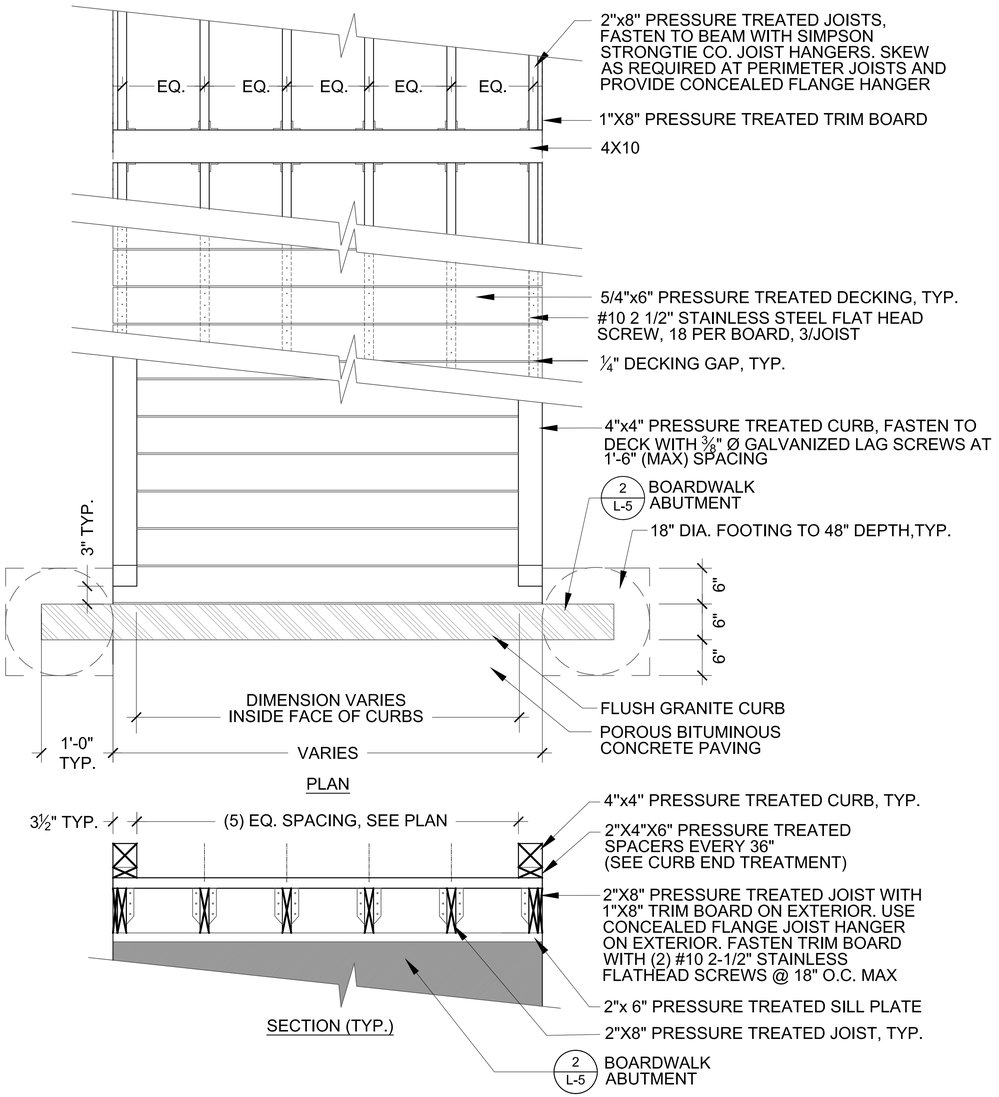
4"x4" PRESSURE TREATED CURB BOLTED TO 2"X4"X6" PRESSURE TREATED SPACER BLOCKS EVERY 36", AND DECKING WITH ⅜" Ø CARRIAGE BOLT, TYP. COUNTERSINK CARRIAGE BOLT, TYP.

CURB END TREATMENT



2 BOARDWALK ABUTMENT

SCALE: NTS

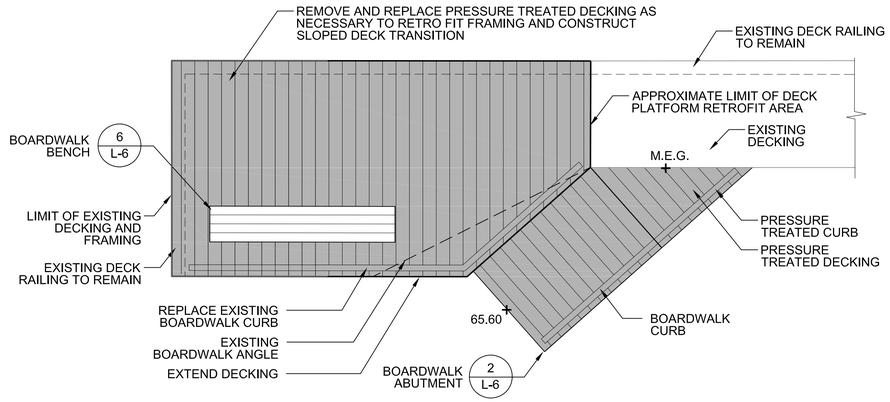


1 BOARDWALK STRUCTURE

SCALE: NTS

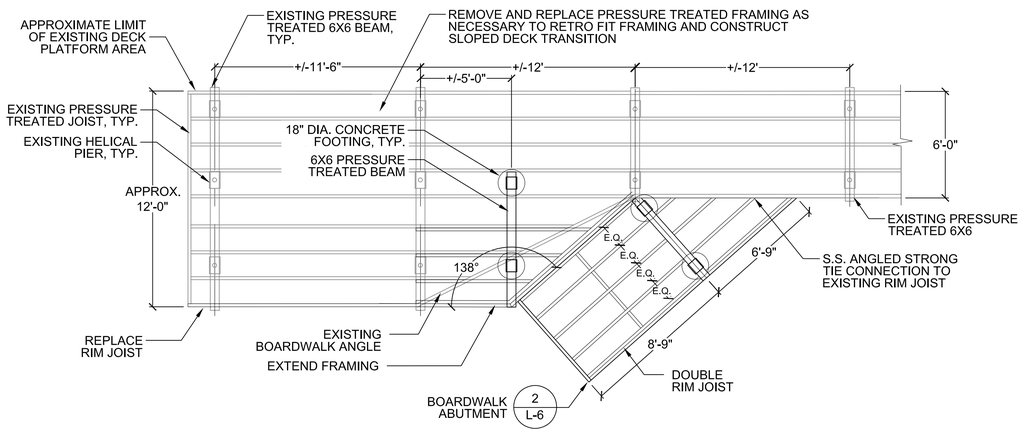
GENERAL NOTES:

1. CAST-IN-PLACE CONCRETE WORK SHALL CONFORM TO THE LATEST AMERICAN CONCRETE INSTITUTE (ACI) CODES AND STANDARDS, INCLUDING BUT NOT LIMITED TO, ACI 301, 315, AND 318. COLD WEATHER CONCRETING AS DEFINED BY ACI, SHALL BE IN ACCORDANCE WITH ACI 306R.
2. CONCRETE MIX SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT. PER ACI-318, AT A MINIMUM CONCRETE SHALL MEET THE FOLLOWING CRITERIA:
   a. MAXIMUM WATER TO CEMENT RATIO: 0.45
   b. MINIMUM COMPRESSIVE STRENGTH: 4,500 PSI
   c. AIR CONTENT PERCENT*: 5.0 %
   *ASSUMING NOMINAL MAXIMUM AGGREGATE SIZE OF 3/4". ADJUST AIR CONTENT PER ACI TABLE 4.4.1 IS VARIES
3. ALL REINFORCING STEEL SHALL BE CONTINUOUS NEW DOMESTIC DEFORMED BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. EMBEDDED ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 GR. 36.
4. GRANITE CURB SHALL CONFORM TO THE REQUIREMENTS OF MASSDOT STANDARD SPECIFICATION FOR HIGHWAYS AND BRIDGES M9.04.1 TYPE VA5. EACH CURB PIECE FOR EACH ABUTMENT SHALL BE OF SUFFICIENT LENGTH TO COVER THE ENTIRE WIDTH OF THE ELEVATED WALKWAY. ONLY 1 PIECE OF GRANITE SHALL BE USED FOR EACH ELEVATED WALKWAY ABUTMENT.
5. ALL TIMBER HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL WHERE EXPOSED. JOIST HANGERS AND HARDWARE SHALL BE GALVANIZED. PROVIDE CONCEALED FLANGE JOIST HANGERS WHERE REQUIRED.
6. PRESSURE TREATED 2X8 BLOCKING SHALL BE INSTALLED AS REQUIRED FOR INSTALLATION OF RAILING POSTS AND TYPICALLY IN A STAGGERED PATTERN AT THE MID-SPAN OF THE JOIST SPAN.
7. 4X4 RAILING POST LOCATION MAY BE ADJUSTED AS REQUIRED TO ALLOW FOR INSTALLATION OF BLOCKING AND CONNECTION. RAILING POST SPACING SHALL NOT EXCEED 5'-0" O.C.
8. DESIGN SERVICE AND STRENGTH LOADING IS PROVIDED IN TABLE 1 AND TABLE 2 OF DETAIL 1 ON THIS SHEET FOR THE DESIGN OF THE HELICAL ANCHORS.
9. AXIAL AND HORIZONTAL LOADING SHALL ACT CONCURRENTLY FOR EACH LOAD CASE WHERE APPLICABLE.
10. DECKING AND CURBS TO BE IPE AS SPECIFIED.
11. JOISTS AND BEAMS TO BE PRESSURE TREATED.
12. ALL WOOD DIMENSIONS ARE NOMINAL.
13. CONNECTORS TO BE GALVANIZED SIMPSON-TIE OR APPROVED EQUAL.



2 BOARDWALK FRAMING PLAN

SCALE: NTS



1 BOARDWALK DECKING PLAN

SCALE: NTS

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
27 Congress Street, Salem, MA 01970
tel. 978-740-0096 www.hatch.com

Stamp:

COMMONWEALTH OF MASSACHUSETTS
HILARY A. HOLMES
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Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

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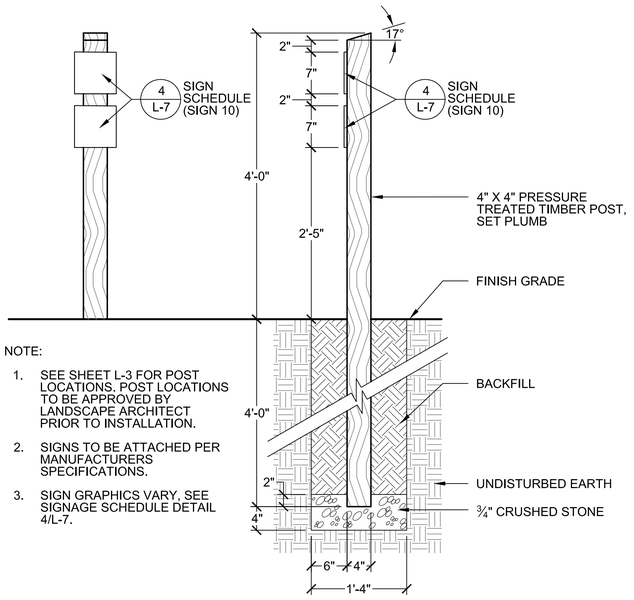
Number:	Description:	Date:

Sheet Title:

BOARDWALK ENLARGEMENT PLAN AND DETAILS

Sheet No:

L-5

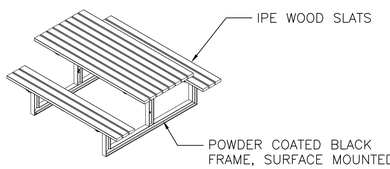


NOTE:

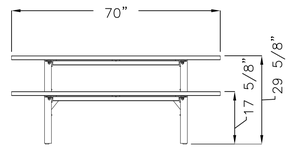
1. SEE SHEET L-3 FOR POST LOCATIONS. POST LOCATIONS TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
2. SIGNS TO BE ATTACHED PER MANUFACTURERS SPECIFICATIONS.
3. SIGN GRAPHICS VARY, SEE SIGNAGE SCHEDULE DETAIL 4/L-7.

8 WAYFINDING SIGNAGE

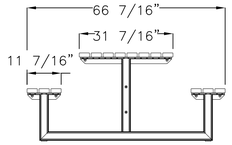
SCALE: NTS



AXON



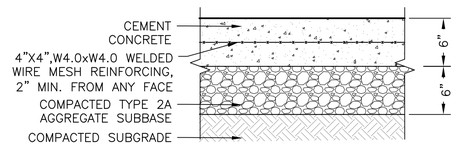
SIDE ELEVATION



FRONT ELEVATION

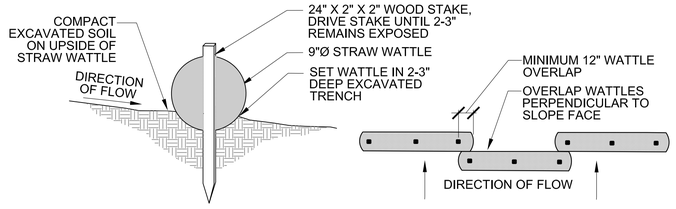
6 PICNIC TABLE WITH CONCRETE PAD

SCALE: NTS



NOTES:

1. EXPANSION JOINT SHALL BE USED WHENEVER HORIZONTAL CONCRETE AND/OR OTHER PAVING SURFACES MEET VERTICAL CONCRETE AND/OR MASONRY SURFACES.
2. PROVIDE EXPANSION JOINT AT MIN. 20 FT. O.C. U.N.O WITH PRE-FORMED JOINT FILLER.
3. CONCRETE SHALL BE CLASS A 4,000 PSI.
4. CONCRETE BROOM FINISH WITH TOOLED CONTROL JOINT ⅜" X ¼" DEPTH OF CONCRETE.



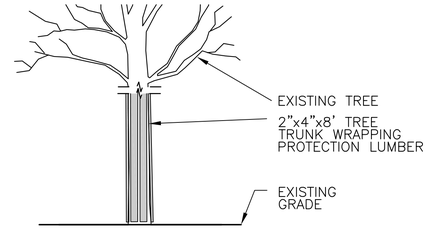
SECTION PLAN

NOTE:

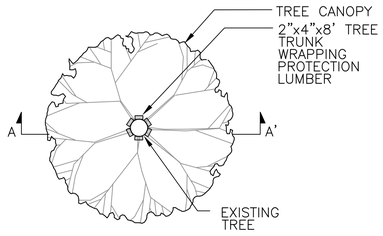
INSTALL STAKE PERPENDICULAR TO SLOPE FACE.

2 STRAW WATTLE

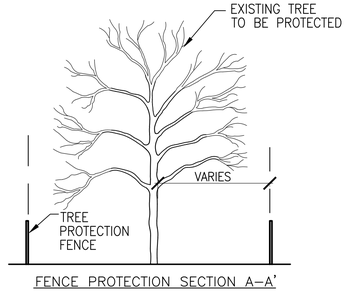
SCALE: NTS



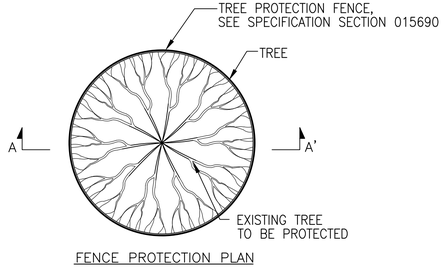
WRAP PROTECTION SECTION A–A'



WRAP PROTECTION PLAN



FENCE PROTECTION SECTION A–A'

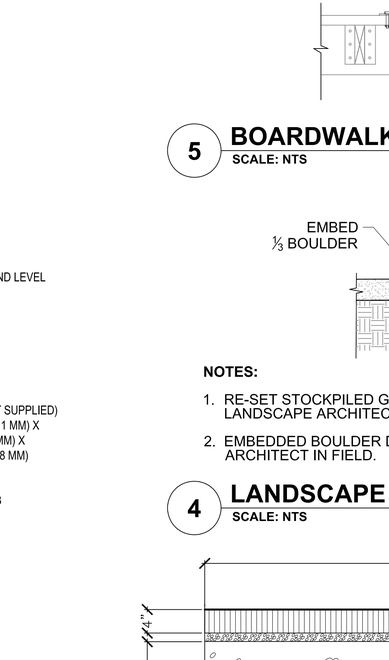


FENCE PROTECTION PLAN

NOTE:
1. ALL TREE PROTECTION SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES AND MAINTAINED IN GOOD CONDITION THROUGHOUT THE CONSTRUCTION PERIOD.

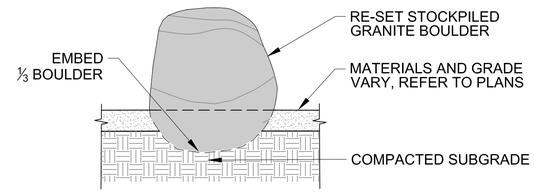
1 TREE PROTECTION

SCALE: NTS



5 BOARDWALK BENCH

SCALE: NTS

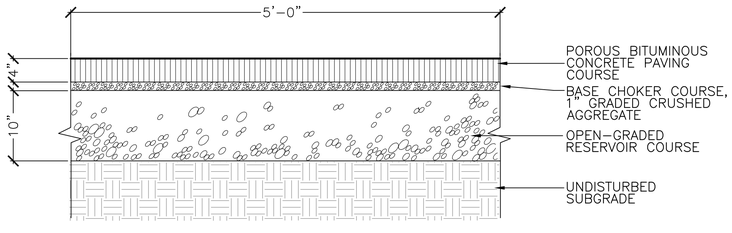


NOTES:

1. RE-SET STOCKPILED GRANITE BOULDERS TO BE PLACED AT DIRECTION OF LANDSCAPE ARCHITECT.
2. EMBEDDED BOULDER DEPTH SHALL BE DETERMINED BY LANDSCAPE ARCHITECT IN FIELD.

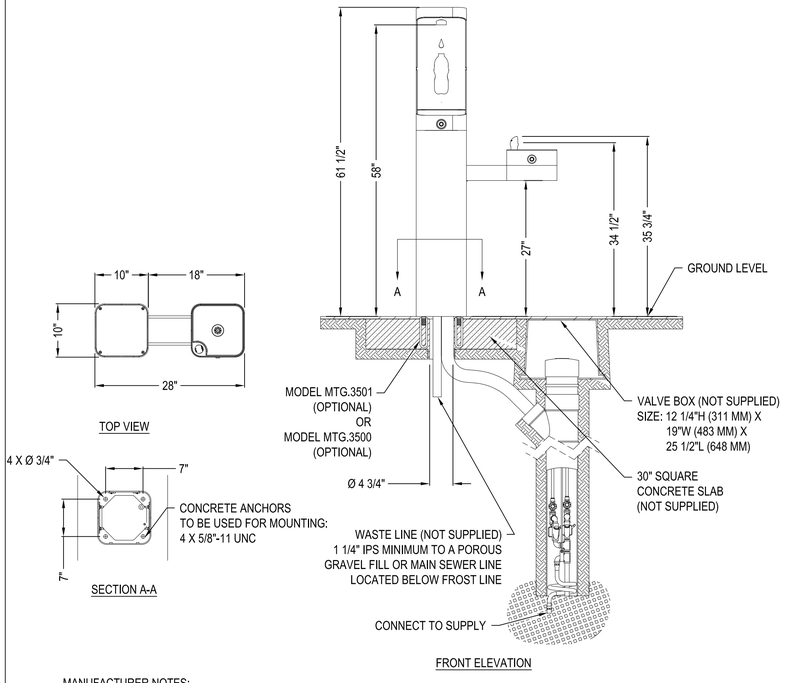
4 LANDSCAPE BOULDER

SCALE: NTS



3 POROUS BITUMINOUS CONCRETE PAVING

SCALE: NTS



FRONT ELEVATION

MANUFACTURER NOTES:
1. FREEZE RESISTANT BOTTLE FILLER DRINKING FOUNTAIN SHALL BE INSTALLED PER MANUFACTURERS INSTRUCTIONS.
2. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PROCUREMENT.

7 DRINKING FOUNTAIN WITH BOTTLE FILLER

SCALE: NTS

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
27 Congress Street, Salem, MA 01970
tel. 978-740-0096 www.hatch.com

Stamp:

COMMONWEALTH OF MASSACHUSETTS
HILARY A. HOLMES
NO. 51427
REGISTERED PROFESSIONAL ENGINEER

Project:

WELLINGTON PARK & MILL BROOK CORRIDOR REVITALIZATION PROJECT: PHASE 3

WELLINGTON PARK – ARLINGTON, MA

75% CONSTRUCTION DOCUMENTS

Project Number: 00205072-00
Hatch Project Number: H-362472
Date: September 17, 2020
Drawn By: AK, AG
Designed By:
Reviewed By: DB
Scale: As shown

Revisions

Number:	Description:	Date:

Sheet Title:

SITE DETAILS

Sheet No:

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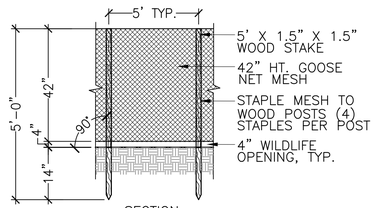
7 PLANT SCHEDULE
SCALE: NTS

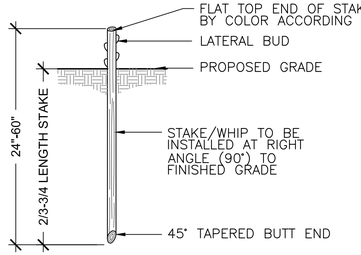
PLANT SCHEDULE - STRAIGHT NATIVE SPECIES ONLY					
CANOPY TREES					
QTY.	ID	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
3	AR	Acer rubrum	Red Maple	2" CAL.	B&B
3	BN	Betula nigra	River birch	2" CAL.	B&B, MULTI-STEM
5	PS1	Pinus strobus	White pine	4' HT.	CONT.
1	PS2	Pinus strobus	White pine	8' HT.	B&B
2	UA	Ulmus americana	American elm	1" CAL.	CONT.
UNDERSTORY TREES AND SHRUBS					
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
13	Aa	Aronia arbutifolia	Red chokeberry	24" HT.	CONT.
11	Ac	Amelanchier canadensis	Serviceberry	36" HT.	CONT.
37	Ca	Clethra alnifolia	Summersweet	36" HT.	CONT.
3	Hv	Hamamelis virginiana	Witchhazel	36" HT.	CONT.
3	Iv	Ilex verticillata	Winterberry	36" HT.	CONT.
29	Lb	Lindera benzoin	Spicebush	36" HT.	CONT.
11	Sa	Swida amomum	Silky dogwood	36" HT.	CONT.
11	Sp	Spiraea alba	Meadowsweet	36" HT.	CONT.
55	Sr	Swida racemosa	Gray dogwood	36" HT.	CONT.
5	Cf	Cornus florida	Flowering dogwood	36" HT.	CONT.
28	St	Spiraea tomentosa	Steeplebush	36" HT.	CONT.
HERBACEOUS					
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
80	ac	Asarum canadensis	Canadian wild ginger	SP 5 CONT.	12" SPACING
80	cp	Carex pensylvanica	Pennsylvania sedge	SP 5 CONT.	12" SPACING
80	dp	Dennstaedtia punctilobula	Hay-scented fern	#1 CONT.	12" SPACING
80	dm	Dryopteris marginalis	Marginal woodfern	SP 5 CONT.	12" SPACING
80	ed	Eurybia divaricata	White wood aster	SP 5 CONT.	12" SPACING
80	os	Onocea sensibilis	Sensitive fern	#1 CONT.	12" SPACING
80	pt	Pteridium aquilinum	Bracken fern	SP 5 CONT.	12" SPACING
80	tc	Tiarella cordifolia	Foamflower	SP 5 CONT.	12" SPACING
BIORETENTION BASIN AND CONVEYANCE SWALE HERBACEOUS					
QTY.	SYM.	SCIENTIFIC NAME	COMMON NAME	SIZE	COMMENTS
225	at	Asclepias tuberosa	Butterfly weed	2.5" PLUG	12" SPACING
225	ep	echinacea purpurea	Purple cone flower	2.5" PLUG	12" SPACING
225	jc	Juncus canadensis	Canada rush	2.5" PLUG	12" SPACING
225	jt	Juncus tenuis	Slender rush	2.5" PLUG	12" SPACING
225	pv	Panicum virgatum	Switchgrass	2.5" PLUG	12" SPACING
225	rf	Rudbeckia fulgida	Black-eyed Susan	2.5" PLUG	12" SPACING
225	ss	Schizachyrium scoparium	Little bluestem	2.5" PLUG	12" SPACING

NOTES:
1. SEED ESTABLISHMENT FENCE SHALL BE IN PLACE IMMEDIATELY FOLLOWING APPLICATION OF SEED.
2. SEED ESTABLISHMENT FENCE SHALL REMAIN IN PLACE UNTIL SEED GERMINATION IS COMPLETE.
3. ANY SECTIONS OF SEED ESTABLISHMENT FENCE THAT BECOME DAMAGED SHALL BE REPLACED IMMEDIATELY.



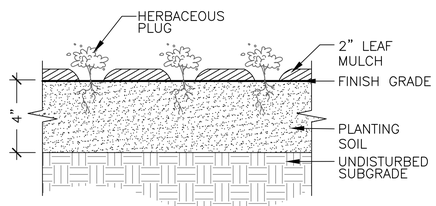
SECTION

6 SEED ESTABLISHMENT FENCE
SCALE: NTS



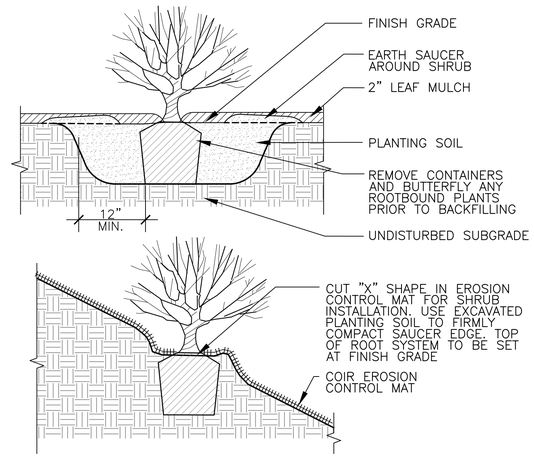
SECTION PLAN VIEW

5 LIVE STAKE/WHIP PLANTING (DORMANT)
SCALE: NTS



NOTE:
1. PLUGS TO BE LAID OUT IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.

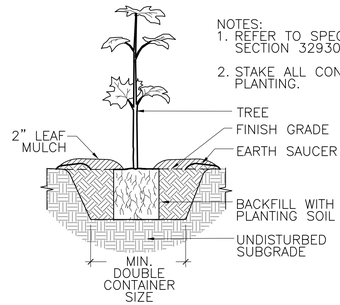
4 HERBACEOUS PERENNIAL PLANTING
SCALE: NTS



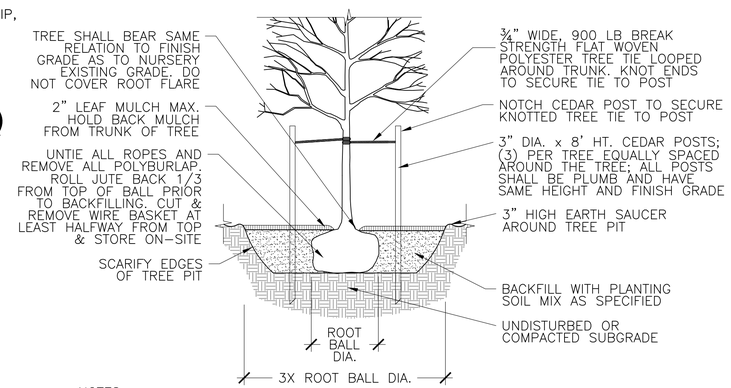
SHRUB PLANTING ON SLOPE

3 SHRUB PLANTING
SCALE: NTS

NOTES:
1. REFER TO SPECIFICATION SECTION 329300 FOR PLANTING.
2. STAKE ALL CONTAINERIZED PLANTING.



2 CONTAINERIZED TREE PLANTING
SCALE: NTS



NOTES:
1. CLEANLY PRUNE ALL DAMAGED BRANCHES.
2. TREE SHALL HAVE STRAIGHT TRUNK AND BE PLUMB AFTER SETTLEMENT. CONTRACTOR SHALL ADJUST AS REQUIRED OR AS DIRECTED BY OWNER'S REPRESENTATIVE.

1 B&B TREE PLANTING
SCALE: NTS

Client/Owner:

Town of Arlington
422 Summer Street, Arlington, MA 02474

HATCH
27 Congress Street, Salem, MA 01970
tel. 978-740-0096 www.hatch.com

Stamp:

COMMONWEALTH OF MASSACHUSETTS · RALPH A. BROOKS · NO. 1958 · REGISTERED LANDSCAPE ARCHITECT

Project:

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Sheet No:

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