



Arlington Conservation Commission

Date: Thursday, April 2, 2020

Time: 7:30 PM

Location: Conducted by Remote Participation

Agenda

1. Administrative

- a. The Arlington Conservation Commission is inviting you to a scheduled Zoom meeting.

Topic: Conservation Commission Meeting

Time: Apr 2, 2020 07:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://zoom.us/j/387028558?pwd=b05KR0pva0Z1ZkdVVtcwL3ZKOURJdz09>

Meeting ID: 387 028 558

Password: 018950

One tap mobile

Call-in: +1(646)876-9923

Meeting Number: 387028558# US (New York)

Members of the public are strongly encouraged to send written comment regarding any of the hearings listed below to Conservation Agent Emily Sullivan at esullivan@town.arlington.ma.us.

Please read Governor Baker's Executive Order Suspending Certain Provision of Open Meeting Law for more information regarding virtual public hearings and meetings: <https://www.mass.gov/doc/open-meeting-law-order-march-12-2020/download>

2. Discussion

- a. Review draft 02/27/2020 minutes
- b. Review draft 03/05/2020 minutes

3. Hearings

Notices of Intent: 47 Spy Pond Lane Lots 1/A and 2/B (continued from 3/5/2020)

MassDEP File #s 091-0318 (Lot 1/A) and 091-0317 (Lot 2/B)

These Notices of Intent (NOIs) were presented to the Commission on 3/5/2020 with the opportunity for public comment. It is likely that the public comment period for these NOIs will

close during the 4/2/2020 virtual meeting. It is strongly encouraged that members of the public submit written comment for these NOIs to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for these NOIs can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

The Superseding Orders of Conditions issued by the Massachusetts Department of Environmental Protection on 12/29/2016 for Lot 1/A and Lot 2/B expired on 12/29/2019. The project sites are therefore currently only permitted under the local Arlington Wetlands Protection Bylaw, and not the Massachusetts Wetlands Protection Act. These Notices of Intent are filed under the Wetlands Protection Act only. The Lot 1/A project proposes to remove an existing impervious driveway and construct a house, partially within the 100-ft Wetlands Buffer. The Lot 2/B project proposes to demolish an existing house and construct a new house, partially within the 100-ft Wetlands Buffer.

Notice of Intent: 93 Sunnyside Ave (continued from 2/27/2020)

MassDEP File #091-0319

This Notice of Intent (NOI) was presented to the Commission on 2/27/2020 and 3/5/2020 with the opportunity for public comment. It is likely that the public comment period for this NOI will close during the 4/2/2020 virtual meeting. It is strongly encouraged that members of the public submit written comment for this NOI to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for this NOI can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

This project proposes an addition in the backyard and expanding a mudroom in the front yard. The back addition is within the 200-ft Riverfront Area and 100-year floodplain. The back addition is proposed to be built on footings, above the floodplain. The front addition is within the 200-ft Riverfront Area. The project also proposes installing a deck and porous paver driveway in the back yard. As mitigation, this project proposes a native vegetated buffer and three drywells that capture all roof runoff.

Notice of Intent: 77 Sunnyside Ave

MassDEP File #unassigned

This Notice of Intent (NOI) has not yet been presented to the Conservation Commission, and this meeting is the first opportunity for public comment. It is likely that the public comment period for this NOI will be continued to the Commission's 4/16/2020 meeting. It is strongly encouraged that members of the public submit written comment for this NOI to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for this NOI can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

This project proposes building an elevated addition in the backyard and an entranceway in the front yard. The back addition and front addition are both within the 100-ft Wetland Buffer and 200-ft Riverfront Area. No work is proposed within the floodplain. The project also proposes replacing an existing bituminous concrete walkway and driveway with pervious pavers.

Notice of Intent: 1267 Massachusetts Ave

Request continuance to the 4/16/2020 Commission meeting

MassDEP File #unassigned

This Notice of Intent (NOI) has not yet been presented to the Conservation Commission, and this meeting is the first opportunity for public comment. It is likely that the public comment period for

this NOI will be continued to the Commission's 4/16/2020 meeting. It is strongly encouraged that members of the public submit written comment for this NOI to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for this NOI can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

This project proposes the excavation and remediation of soil contaminated by commercial kitchen soy bean oil grease within the 100-ft Wetlands Buffer.



Town of Arlington, Massachusetts

Remote Participation Information

Summary:

The Arlington Conservation Commission is inviting you to a scheduled Zoom meeting.

Topic: Conservation Commission Meeting

Time: Apr 2, 2020 07:30 PM Eastern Time (US and Canada)

Join Zoom Meeting

<https://zoom.us/j/387028558?pwd=b05KR0pva0Z1ZkdVVtcwL3ZKOURJdz09>

Meeting ID: 387 028 558

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Meeting Number: 387028558# US (New York)

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Town of Arlington, Massachusetts

Review draft 02/27/2020 minutes

Summary:

Review draft 02/27/2020 minutes

ATTACHMENTS:

Type	File Name	Description
Minutes	DRAFT_02272020_Minutes_Conservation_Commission.docx	Draft 02/27/2020 Minutes



Arlington Conservation Commission

Date: February 27, 2020

Time: 7:30pm

Location: Second floor conference room, Town Hall Annex
730 Massachusetts Ave, Arlington, MA

Minutes

Attendance: Commission Members Pam Heidell, Dave Kaplan, Nathaniel Stevens, Chuck Tirone (Vice Chair), and David White; and Conservation Agent Emily Sullivan. Members of the public included Christopher Manley, Lynne Cooney, Mike Greenblatt, and Tim Blanchard. Commissioner Susan Chapnick (Chair) and Associate Commissioners Cathy Garnett and Mike Gildesgame were not in attendance.

02/06/2020 Meeting Minutes

The Commission discussed edits to the draft 02/06/2020 minutes. N. Stevens motioned to approve the minutes as edited, D. Kaplan seconded, all were in favor, motion approved.

Project Updates

E. Sullivan updated the Commission that the Superseding Orders of Conditions for 47 Spy Pond Lane Lot 1 and Lot 2 expired on 12/29/2019. As such, the projects are currently only permitted under the Arlington Bylaw for Wetlands Protection. The Applicant must file Notices of Intent again under the Wetlands Protection Act only in order to proceed with the projects. The Applicant has filed the Notices of Intent and the hearings are scheduled for the Commission's 03/05/2020 meeting.

E. Sullivan informed the Commission that a Notice of Non-Compliance had been issued earlier in the week for unapproved gravel fill along the bank of Spy Pond and suspected retaining wall work at 16 Spy Pond Parkway. The property owner has been invited to a future meeting (date to be determined) to resolve the non-compliance.

E. Sullivan announced that Arlington's annual EcoFest, coordinated by Sustainable Arlington, is scheduled for Saturday, 03/21/2020. This year's EcoFest theme is community resilience. E. Sullivan also announced that Arlington's annual EcoWeek is scheduled for 04/26/2020-05/03/2020. E. Sullivan encouraged the Commission to brainstorm an engagement event, possibly during the regularly scheduled Commission meeting, to sponsor during EcoWeek.

Committee and Working Group Updates

P. Heidell updated the Commission on the Community Preservation Act Committee (CPC). The CPC presented its recommendations to the Select Board on 02/24/2020. Applications for Community Preservation Act (CPA) funding that relate to open space and recreation include: Wellington Park, the Arlington Reservoir, Minuteman Bikeway Planning, and the Open Space and Recreation Plan update.

P. Heidell updated the Commission on the Zoning Bylaw Working Group (ZBWG). The ZBWG contracted consultant RKG Associates to conduct an economic analysis of the Town's industrial zoning districts. As part of this analysis, RKG will be reaching out to potential businesses.

D. White updated the Commission on the Water Bodies Working Group (WBWG). The WBWG had a hearing with the Finance Committee on 02/19/2020 to request \$55,000 in funding appropriation for Fiscal Year 2021. The WBWG is going to publicly advertise a Request for Quotes for a Reservoir Pond Management Plan in March, similar to the management plan developed for Spy Pond this past year. The WBWG is also considering a public outreach campaign to inform more residents of Arlington's water bodies and ways to improve water body quality.

Request for Certificate of Compliance: 88-90 Varnum Street MassDEP File #091-0307

Documents Reviewed:

- 1) *Notice of Intent Packet, dated 04/11/2019*
- 2) *Order of Conditions, dated 04/30/2019*
- 3) *Request for Certificate of Compliance Letter and Form, dated 01/23/2020*
- 4) *Certificate of Compliance As-Built Plan, stamped by Alberto M. Gala PE, dated 1/23/2020*
- 5) *Certificate of Compliance General Notes, stamped by Alberto M. Gala PE, dated 1/23/2020*

Resource Areas:

- 1) *Land Subject to Flooding*
- 2) *FEMA 100 year floodplain*

Christopher Manley presented the Request for Certificate of Compliance. This approved project renovated and constructed a dormer addition to a two-family home within the 100 year floodplain. The approved project also removed a garage and installed two porous patios. The project regraded the floodplain so that the house is no longer located in the floodplain. The project added an additional 548 cubic feet of flood storage to the site.

C. Tirone asked if the site was discharging stormwater runoff directly into a neighbor's property due to the design of the downspouts. C. Manley confirmed that the site was not discharging directly into a neighboring property and that a sump pump had been installed.

E. Sullivan summarized her 02/20/2020 site inspection and recommended that the Commission issue a Certificate of Compliance. N. Stevens motioned to issue the complete Certificate of Compliance with two ongoing conditions: condition #37 and condition #38, D. White seconded, all were in favor, motion approved.

37. To avoid adding excess nitrogen runoff, the Applicant shall only treat the lawn area with slow release nitrogen fertilizer. Application of this fertilizer cannot occur in the summer, or after storm events. Lawn fertilizer shall only be applied twice a year, in spring and fall. New plantings shall only be fertilized once, during the initial planting year. No herbicides, pesticides, or rodenticides shall be used to treat invasive species or pest management issues. This shall be a continuing condition that survives the expiration of the permit and shall be included in any Certificate of Compliance as a continuing condition.

38. Pervious surfaces shown on the approved project plans shall be maintained and not be replaced by impervious surfaces. This shall be a continuing condition that survives the expiration of the permit and shall be included in any Certificate of Compliance as a continuing condition.

Notice of Intent: 93 Sunnyside Ave
MassDEP File# unassigned

Documents Reviewed:

- 1) *Notice of Intent Packet, dated 02/13/2020*

Resource Areas:

- 1) *Land Subject to Flooding*
- 2) *FEMA 100 year floodplain*
- 3) *200ft Riverfront Area*

Lynne Cooney and Tim Blanchard presented the Notice of Intent. This project proposes building an addition in the backyard and expanding a mudroom in the front yard. The back addition is within the 200ft Riverfront Area and 100-year floodplain. The back addition is proposed to be built on footings, above the floodplain. The front addition is within the 200ft Riverfront Area. The project also proposes installing a deck and porous paver driveway in the back yard. As mitigation, this project proposes a native vegetated buffer and three dry wells that capture all roof runoff.

P. Heidell asked how large the proposed driveway is because the narrative and plan say different sizes. T. Blanchard stated the driveway is proposed to be 530 square feet. P. Heidell recommended shrinking the driveway size to allow more room for vegetated area.

L. Cooney elaborated that the proposed 400 square foot native vegetated buffer will be planted with native plants from the Commission's list of recommended plants and with pollinator plants to enhance the habitat in the 200ft Riverfront Area. P. Heidell requested that the NOI narrative be updated to include more specific information about the native vegetated buffer.

D. Kaplan asked how the environmental resource areas were delineated. T. Blanchard stated that a surveyor from Medford Survey surveyed the property. The Applicant did not hire a wetlands specialist to delineate the resource areas.

C. Tirone asked the Applicant to clarify the proposed compensatory flood storage. T. Blanchard stated that the compensatory flood storage is proposed to be on the site yard of the property, at approximately the same elevations of encroachment. C. Tirone requested that the elevations at which the flood storage is being proposed be clarified.

D. Kaplan asked whether the water table was high. T. Blanchard stated that the water table was likely high, though he had not conducted testing to determine where exactly the water table is. D. Kaplan asked whether the proposed three dry wells would be above the water table. T. Blanchard stated that the two dry wells proposed in the front yard of the property would be above the water table. The third dry well in the backyard is more questionably above the water table. C. Tirone requested that an alternative to the third dry well be proposed in the event that the water table is too high for the third dry well currently proposed.

The Commission requested the following additional items for the permit application:

- 1) A new driveway design with a smaller footprint
- 2) A clarified compensatory flood storage design at the same elevations as encroachment
- 3) A more specific planting plan narrative
- 4) An alternative for the backyard dry well in the event that the water table is too high

N. Stevens motioned to continue the hearing to the Commission's 03/05/2020 meeting, D. White seconded, all were in favor, motioned approved.

**Request for Determination of Applicability: Bikeway Tree Maintenance
Arlington File #A20.2**

Documents Reviewed:

- 1) *Bikeway Tree Maintenance RDA, dated 02/14/2020*
- 2) *Bikeway Tree Maintenance RDA Map, dated 02/11/2020*
- 3) *Bikeway Tree Maintenance RDA Photos, dated 02/11/2020*

Resource Areas:

- 1) *Land Subject to Flooding*
- 2) *FEMA 100 year floodplain*
- 3) *100ft Wetlands Buffer*
- 4) *Adjacent Upland Resource Area*
- 5) *200ft Riverfront Area*

E. Sullivan presented the Request for Determination of Applicability on behalf of the Arlington Tree Warden. The project proposes to conduct tree maintenance work to ensure that the bikeway is safe for users and is clear from hazardous debris. The

proposed work includes pruning the tree canopy to lighten the canopy and remove all hazardous dead wood. The proposed work also includes removing and cutting back dead trees along the bikeway. Any dead trees within conservation jurisdiction that require maintenance will be left with at least 8-10ft of stump. No trees in conservation jurisdiction will be flush cut. Trees and debris that have fallen directly into the brook along the bikeway are also proposed to be removed. No trees or debris laying along the brook banks or across the brook with roots in the bank will be removed.

D. Kaplan asked whether the Commission considered trees and debris in brooks habitat or unintentional dams.

C. Tirone stated that all fallen trees and debris in the brook should be left alone if the roots are in the bank. C. Tirone stated that areas where trees and debris are removed should be inspected for erosion issues in the future.

D. White motioned to issue a negative determination that although the work is within jurisdiction it does not require a Notice of Intent (Negative Determination #3), N. Stevens seconded, all were in favor, motion approved.

Arlington Wetlands Protection Regulations Revision Discussion

The Commission reviewed and discussed draft language for a new section, Administrative Review Permit.

Meeting adjourned at 9:41pm.



Town of Arlington, Massachusetts

Review draft 03/05/2020 minutes

Summary:

Review draft 03/05/2020 minutes

ATTACHMENTS:

Type	File Name	Description
Minutes	DRAFT_03052020_Minutes_Conservation_Commission.docx	Draft 03/05/2020 Minutes



Arlington Conservation Commission

Date: March 5, 2020

Time: 7:30pm

Location: Second floor conference room, Town Hall Annex
730 Massachusetts Ave, Arlington, MA

Minutes

Attendance: Commission Members Susan Chapnick (Chair), Pam Heidell, Dave Kaplan, Nathaniel Stevens, Chuck Tirone (Vice Chair), and David White; Associate Commissioners Cathy Garnett and Mike Gildesgame; and Conservation Agent Emily Sullivan. Members of the public included Mary Trudeau, Lynne Cooney, and Mike Greenblatt.

Vote of Conservation Offset

The Commission discussed the annual offset allocated to the Conservation Agent's salary from the Commission's fees account. N. Stevens moved to contribute an offset of \$6,932.00 from account #528-5299 for fiscal year 2021, P. Heidell seconded, all were in favor, motion approved. The Commission agreed that going forward, it would like to be involved in the offset determination process earlier in the budgeting season, such as in October or November as recommended by the Director of Planning and Community Development. The Commission will review all of its accounts during one of its April 2020 meetings.

Project Updates

E. Sullivan informed the Commission that a Notice of Non-Compliance had been issued earlier in the week for unapproved gravel fill along the bank of Spy Pond and suspected retaining wall work at 16 Spy Pond Parkway. The property owner has responded and been invited to a future meeting (04/02/2020) to resolve the non-compliance. The Commission determined that the gravel should be removed in advance of the water level of Spy Pond being restored, and that the gravel should be removed by hand under the supervision of a qualified environmental professional by 03/20/2020. The gravel shall be taken offsite, or at least beyond the 100ft Wetlands Buffer.

S. Chapnick summarized a recent report submitted to the Commission regarding 1389 Mass Ave, the MBTA Bus Depot, prepared by ATC Group Services LLC. The Commission approved excavation and remediation work on the site on 11/21/2019. The approved project involves the excavation of up to 150 cubic yards of petroleum-contaminated soil within the 100ft Wetlands Buffer, 200ft Riverfront Area, and Land Subject to Flooding (Bordering) of Mill Brook. An additional RTN #3-36040 was issued

by MassDEP for lead concentrations greater than reportable concentrations in soil observed at the site in August 2019. These will be mitigated during excavation and removal of the contaminated soil. S. Chapnick also summarized that from the monitoring wells analysis dated 02/25/2020, most contamination levels are going down, but that there are a few wells along the groundwater flow towards Mill Brook that were not displaying lower levels of contamination. S. Chapnick stated that monitoring will occur again in March, so more data will be available then. S. Chapnick stated that the overall conditions of contamination are stable, but that the three concerning wells will have to be monitored as they are not currently an issue, but could become an issue.

Notice of Intent: 93 Sunnyside Ave (continued from 02/27/2020 meeting)

MassDEP File# unassigned

Documents Reviewed:

- 1) *Notice of Intent Packet, dated 02/13/2020*
- 2) *93 Sunnyside Ave Revised Plans, dated 03/02/2020*
- 3) *93 Sunnyside Ave Revised Narrative, dated 03/02/2020*

Resource Areas:

- 1) *Land Subject to Flooding*
- 2) *FEMA 100 Year Floodplain*
- 3) *200ft Riverfront Area*

C.Tirone lead this NOI discussion. S. Chapnick excused herself from this NOI since she missed the first public meeting. Lynne Cooney presented revisions to the project since the Commission's 02/27/2020 hearing. This project proposes building an addition in the backyard and expanding a mudroom in the front yard. The back addition is within the 200ft Riverfront Area and 100 Year Floodplain. The back addition is proposed to be built on footings, above the floodplain. The front addition is within the 200ft Riverfront Area. The project also proposes installing a deck and porous paver driveway in the back yard. As mitigation, this project proposes a native vegetated buffer and three dry wells that capture all roof runoff.

The Commission requested the following additional items for the permit application during its 02/27/2020 hearing:

- 1) A new driveway design with a smaller footprint
- 2) A clarified compensatory flood storage design at the same elevations as encroachment
- 3) A more specific planting plan narrative
- 4) An alternative for the backyard dry well in the event that the water table is too high

L. Cooney stated that the proposed pervious driveway size has been reduced from 530 square feet to 466 square feet. L. Cooney also stated that the proposed vegetated buffer area would be planted with plants including Swamp Milkweed, Beebalm, Joe-pye Weed, Star Flower, and native ferns.

N. Stevens and C. Tirone stated that the information about the proposed changes to the compensatory flood storage were sufficient.

E. Sullivan stated that MassDEP had not yet issued a file number for this application. E. Sullivan stated that MassDEP indicated that a file number would likely be issued soon, after the filing fee has been cleared.

D. White motioned to continue the hearing to the Commission's 03/19/2020 meeting, N. Stevens seconded, all were in favor, motioned approved.

Notice of Intent: 47 Spy Pond Lane Lot 1/A

MassDEP File #unassigned

Documents Reviewed:

- 1) *Notice of Intent and Description of Work for work at 47 Spy Pond Lane (Lot 1/Lot A), Arlington, MA, prepared by Mary Trudeau for Applicant Scott Seaver of Seaver Construction, submitted 02/21/2020*
- 2) *"Proposed Site Plan in Arlington, Mass." showing Lot 1 by Keenan Survey of Winchester, MA, scale 1:10, stamped by James Richard Keenan PLS #30751, dated November 7, 2018, revised June 11, 2019*
- 3) *"Planting Plan in Arlington, Mass." showing Lot 1 by Keenan Survey of Winchester, MA, scale 1:10, stamped by James Richard Keenan PLS #30751, dated November 7, 2018, revised June 11, 2019*
- 4) *Drainage analysis for 47 Spy Pond Lane Lot 1/A, prepared by Alan Engineering, signed by Mark A. Sleger PE #34407, dated June 28, 2016*

Resource Areas:

- 1) *Spy Pond*
- 2) *100-Foot Wetlands Buffer Zone*
- 3) *Adjacent Upland Resource Area*
- 4) *Bordering Land Subject to Flooding*
- 5) *Bank*

Mary Trudeau presented the proposed project to the Commission. The project proposes to remove an impervious driveway onsite and build a single family home. The proposed project was approved by the Commission under the Arlington Wetlands Protection Bylaw and a permit for the project was issued on 09/20/2019. This applicant proposed the same project approved on 09/20/2019, and requests approval under the Massachusetts Wetlands Protection Act. The Commission discussed possible special conditions for the project including the following:

1. Require that the dock be moved or removed by the time of sale
2. Require that an environmental monitor be on-site during construction and provide a report twice per month and after significant rainfall to the Agent
3. Require that a vegetation monitor be on-site during vegetation buffer planting
4. Require that an environmental monitor or engineer be on-site during storm water infiltration and permeable driveway installations
5. Require a pre-activity meeting with the ACC Agent and contractor before work
6. Require a power-broom be used to keep site clean

7. Require a metal sign on the buffer planting wall to demarcate the conservation area

Because no DEP file number had been assigned, and with the Applicant's consent, N. Stevens motioned to continue the hearing to the Commission's 03/19/2020 meeting, D. White seconded, all were in favor, motioned approved.

Notice of Intent: 47 Spy Pond Lane Lot 2/B

MassDEP File #unassigned

Documents Reviewed:

- 1) *Notice of Intent and Description of Work for work at 47 Spy Pond Lane (Lot 2/Lot B), Arlington, MA, prepared by Mary Trudeau for Applicant Scott Seaver of Seaver Construction, submitted 02/21/2020:*
- 2) *"Proposed Site Plan in Arlington, Mass." showing Lot 1 by Keenan Survey of Winchester, MA, scale 1:10, stamped by James Richard Keenan PLS #30751, dated September 18, 2018*
- 3) *"Planting Plan in Arlington, Mass." showing Lot 1 by Keenan Survey of Winchester, MA, scale 1:10, stamped by James Richard Keenan PLS #30751, dated November 7, 2018*
- 4) *Drainage analysis for 47 Spy Pond Lane Lot 1/A, prepared by Alan Engineering, signed by Mark A. Sleger PE #34407, dated June 28, 2016*

Resource Areas:

- 1) *Spy Pond*
- 2) *100-Foot Wetlands Buffer Zone*
- 3) *Adjacent Upland Resource Area*
- 4) *Bordering Land Subject to Flooding*
- 5) *Bank*

Mary Trudeau presented the proposed project to the Commission. The project proposes to demolish a single family house and build a new single family home. The proposed project was approved by the Commission under the Arlington Wetlands Protection Bylaw and a permit for the project was issued on 12/20/2018. Work had begun when it was discovered that the Superseding Order of Conditions under the Wetlands Protection Act had expired in December 2019. This applicant proposed the same project approved under the Bylaw on 12/20/2018, and requests approval under the Massachusetts Wetlands Protection Act. The Commission discussed possible special conditions for the project including the following:

8. Make the Water Quality System a requirement of both Order of Conditions since currently it is only required as a Special Condition for Lot 1
9. Require that the dock be moved or removed by the time of sale
10. Require that an environmental monitor be on-site during construction and provide a report twice per month and after significant rainfall to the Agent
11. Require that a vegetation monitor be on-site during vegetation buffer planting
12. Require that an environmental monitor or engineer be on-site during storm water infiltration and permeable driveway installations

13. Require a pre-activity meeting with the ACC Agent and contractor before work
14. Require a power-broom be used to keep site clean
15. Require a metal sign on the buffer planting wall to demarcate the conservation area
16. Before work continues on Lot 2, require an “as built” of foundation be submitted to the ACC to ensure that set-backs are consistent with those in the NOI and Order of Conditions

Because no DEP file number had been assigned, and with the Applicant's consent, N. Stevens motioned to continue the hearing to the Commission's 03/19/2020 meeting, D. White seconded, all were in favor, motioned approved.

Prioritize Commission Goals Established at the 1/2/2020 Meeting

The Commission agreed to move this agenda item to its 03/19/2020 meeting.

Meeting adjourned at 9:31pm.



Town of Arlington, Massachusetts

Notices of Intent: 47 Spy Pond Lane Lots 1/A and 2/B (continued from 3/5/2020)

Summary:

MassDEP File #s 091-0318 (Lot 1/A) and 091-0317 (Lot 2/B)

These Notices of Intent (NOIs) were presented to the Commission on 3/5/2020 with the opportunity for public comment. It is likely that the public comment period for these NOIs will close during the 4/2/2020 virtual meeting. It is strongly encouraged that members of the public submit written comment for these NOIs to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for these NOIs can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

The Superseding Orders of Conditions issued by the Massachusetts Department of Environmental Protection on 12/29/2016 for Lot 1/A and Lot 2/B expired on 12/29/2019. The project sites are therefore currently only permitted under the local Arlington Wetlands Protection Bylaw, and not the Massachusetts Wetlands Protection Act. These Notices of Intent are filed under the Wetlands Protection Act only. The Lot 1/A project proposes to remove an existing impervious driveway and construct a house, partially within the 100-ft Wetlands Buffer. The Lot 2/B project proposes to demolish an existing house and construct a new house, partially within the 100-ft Wetlands Buffer.

ATTACHMENTS:

Type	File Name	Description
☐	Notice of Intent 47SPL_Lot_1_NOI_unsigned_redacted.pdf	47SPL Lot 1 NOI Form
☐	Notice of Intent 47SPL_Lot_1_Work_Description.pdf	47SPL Lot 1 Work Description
☐	Notice of Intent 47SPL_Lot_1_Proposed_Plan.pdf	47SPL Lot 1 Plan
☐	Notice of Intent 47SPL_Lot_1_Planting_Plan.pdf	47SPL Lot 1 Planting Plan
☐	Notice of Intent 47SPL_Lot_1_Drainage_Analysis.pdf	47SPL Lot 1 Drainage Analysis
☐	Notice of Intent 47SPL_Lot_1_Construction_O_M_Plan.pdf	47SPL Lot 1 Construction O&M Plan
☐	Notice of Intent 47SPL_Lot_2_NOI_unsigned_redacted.pdf	47SPL Lot 2 NOI Form
☐	Notice of Intent 47SPL_Lot_2_Work_Description.pdf	47SPL Lot 2 Work Description
☐	Notice of Intent 47SPL_Lot_2_Proposed_Plan.pdf	47SPL Lot 2 Plan
☐	Notice of Intent 47SPL_Lot_2_Planting_Plan.pdf	47SPL Lot 2 Planting Plan
☐	Notice of Intent 47SPL_Lot_2_Drainage_Analysis.pdf	47SPL Lot 2 Drainage Analysis
☐	Notice of Intent 47SPL_Lot_2_Vortechs_Design.pdf	47SPL Lot 2 Vortechs Design
☐	Notice of Intent 47SPL_Lot_2_Vortechs_Details.pdf	47SPL Lot 2 Vortechs Details
☐	Notice of Intent 47SPL_Lot_2_Vortechs_TSS_Calculations.pdf	47SPL Lot 2 Vortechs TSS Calculations
☐	Notice of Intent 47_SPL_Lot_2_Construction_O_M_Plan.pdf	47SPL Lot 2 Construction O&M Plan



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):

47 Spy Pond Lane (Lot 1/Lot A)

a. Street Address

Arlington

b. City/Town

02474

c. Zip Code

Latitude and Longitude:

12-4-2

f. Assessors Map/Plat Number

d. Latitude

e. Longitude

g. Parcel /Lot Number

2. Applicant:

Scott

a. First Name

Seaver

b. Last Name

Seaver Construction

c. Organization

215 Lexington Street

d. Street Address

Woburn

e. City/Town

MA

f. State

01801

g. Zip Code

h. Phone Number

i. Fax Number

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):

Mary

a. First Name

Trudeau

b. Last Name

d. Street Address

e. City/Town

02420

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

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

\$500.00

a. Total Fee Paid

\$ 237.50

b. State Fee Paid

\$ 262.50

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

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A. General Information (continued)

6. General Project Description:

Construction of a single family dwelling. Work is within one hundred feet of the statutory Bank of Spy Pond and adjacent Bordering Vegetated Wetlands.

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

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input type="checkbox"/> Other | |

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

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

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex

a. County

73606

c. Book

b. Certificate # (if registered land)

227

d. Page Number

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

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

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



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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

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

4. Proposed alteration of the Riverfront Area:

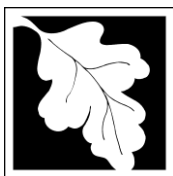
a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

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

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

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

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



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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet	
h. <input type="checkbox"/> Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet	

4. ☐ Restoration/Enhancement

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

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings



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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 Notice of Intent – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

a. ☒ Yes ☐ No

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

2008

b. Date of map

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

- c. Submit Supplemental Information for Endangered Species Review*

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

(a) within wetland Resource Area 0 percent
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
1213 Purchase Street – 3rd Floor
New Bedford, MA 02740-6694
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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Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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Online Users:

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

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

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
- a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
- a. ☐ Yes ☒ No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
- a. ☐ Yes ☒ No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
- a. ☐ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
 2. ☐ A portion of the site constitutes redevelopment
 3. ☐ Proprietary BMPs are included in the Stormwater Management System.
- b. ☒ No. Check why the project is exempt:
1. ☒ Single-family house
 2. ☐ Emergency road repair
 3. ☒ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

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

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

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

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



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D. Additional Information (cont'd)

3. ☒ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. ☐ List the titles and dates for all plans and other materials submitted with this NOI.
- Proposed Plan in Arlington, Mass (Lot 1)
- | | | |
|--------------------------------------|----------------------|--------------------------|
| a. Plan Title | Keenan Survey | James R Keenan |
| b. Prepared By | | c. Signed and Stamped by |
| | | 1"=20' |
| d. Final Revision Date | See Notice of Intent | 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



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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

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

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

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



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

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



A. Applicant Information

1. Location of Project:

47 Spy Pond Lane (Lot A)

a. Street Address

Arlington

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Scott

a. First Name

Seaver

b. Last Name

Seaver Construction

c. Organization

215 Lexington Street

d. Mailing Address

Woburn

e. City/Town

MA

f. State

01801

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

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

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

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

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

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

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

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

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



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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
Single Family Dwelling	(1)	\$500.00	\$500.00
Step 5/Total Project Fee:			\$500.00

Step 6/Fee Payments:

Total Project Fee:	<u>\$500.00</u>
	a. Total Fee from Step 5
State share of filing Fee:	<u>\$237.50</u>
	b. 1/2 Total Fee less \$12.50
City/Town share of filling Fee:	<u>\$262.50</u>
	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.)

Description of Work

Notice of Intent Filing 47 Spy Pond Lane (Lot 1/Lot A) Arlington, MA

EXISTING CONDITIONS

The lot consists of vacant land located within one hundred feet of Spy Pond. To date, an erosion control barrier has been installed above the Bank of Spy Pond, as well as along the 25 foot no disturb zone. Currently, the site is inactive, but has a dumpster and several stockpiles of earth situated approximately 75 feet from the Bank of the Pond. The following photos characterized this lot on February 17, 2020:





As can be seen in the photos, above, the stockpiles are loosely covered by a tarp, and located well above the future limit of work line. As shown below, the port-o-let for the site, as well as the aforementioned dumpster, are set on this site.



This Notice of Intent is filed under the Massachusetts Wetlands Protection Act, as the Superseding Order of Conditions issued by the Department of Environmental Protection for this project, lapsed in December of 2019. As a result of this permitting issue, work on the site has been at a standstill for several weeks.

WETLANDS DELINEATION

Wetland Resource Areas on the Lot

The wetlands on the property were delineated by Mary Trudeau in the early spring of 2016. Statutory wetlands on, or adjacent to, the property include Bank; Land Under Waterbody; and Bordering Land Subject to Flooding. There is no wetlands vegetation above the Bank of the waterbody on Lot 1, thus there are no Bordering Vegetated Wetlands on the lot. Jurisdictional buffer zones (and the Adjacent Upland Resource Area) have been calculated from the Bank of the waterbody. The wetlands delineation was affirmed in the Superseding Orders of Conditions issued for Lots 1/2 (A/B) in 2016, and through the issuance of Orders of Conditions issued by the Arlington Conservation Commission in 2019.

For the purposes of this filing, the mean annual high water level has been estimated at between elevations (3 and 4). This corresponds to the first discernable break in slope observed at this site. FEMA has determined the 100 year flood elevation to fall along the Bank of the Pond, but does not give a specific elevation on the maps for this site (attached). This delineation was also affirmed in the Superseding Order of Conditions previously issued for the property by DEP, under the Massachusetts Wetlands Protection Act, as well as the subsequent Orders of Conditions issued under the local Arlington wetlands protection bylaw.

WORK INCLUDED IN THE NOTICE OF INTENT

Demolition and Reconstruction of a Paved Surface Associated With A Single Family Dwelling

This work appears to have been substantially completed during the life of the Superseding Order of Conditions that had been issued for this lot in 2016, and expired in late December of 2019.

Construction of a new Single Family Home

The proposed footprint is the same house footprint approved in the Orders of Conditions issued for this project, under the local wetlands bylaw, in 2019. Siting of the proposed house footprint was done with consideration of the existing zoning setbacks, as well as the Arlington Conservation Commissions local wetlands regulations. Extensive offsite and onsite mitigation was approved for this proposal in the Order of Conditions issued by the Conservation Commission under the local bylaw.

The proposed dwelling will be located more than seventy four (74') feet from the waterline, with the closest portion of the proposed deck set at a 71.4 feet from the pond.

MITIGATING MEASURES

Restoration of the 0 to 25 foot Adjacent Upland Resource Area to a naturalized condition:

With the exception of plantings to restore naturalized conditions within the lowest sections of the jurisdictional buffer zone, the application does not include any changes within twenty five feet of the Bank resource area, and proposes no intrusion of the dwelling, or infiltration system, into the 25 to 50 foot buffer zone/Adjacent Upland Resource Area. The application includes a restoration plan designed to remove lawn areas, and restore a woody, thicket type vegetation to the 0 to 25 foot Adjacent Upland Resource Area. This plan includes the planting of a variety of native, woody shrubs within the 0 to 25 foot buffer zone, leaving only an 8 foot wide foot path open between the 25 foot buffer zone line and the waterbody.

Shrubs will be planted at 6'-10' foot centers, and will consist of the following varieties of woody plants:

- (10) Arrowwood(*Viburnum recognitum*) (3' - 4' height)(6' foot on center)
- (10) Sweet Pepperbush (*Clethra alnifolia*) (3' – 4'height) (6' on center)
- (10) Silky Dogwood (*Cornus amomum*) (3' – 4' height) (8' on center)
- (3) Shadbush (*Aronia intermedia*) (3' - 5' height) (6' – 8' on center)

- (5) Witch Hazel (*Hamamelis virginiana*) (4-6' height) (10-12' on center)
- (30) Lowbush Blueberry (*Vaccinium angustifolia*) (1-2' height) (2-3 foot on center)

Shrubs will be planted in groups of like plants, with the Lowbush Blueberry set just above the Bank of the Pond. The area will not be mowed, and will be allowed to regenerate as a thicket type buffer above the Bank of Spy Pond. This planting plan has been reviewed by the NHESP program and a letter issued stating that the plan as proposed will not result in a taking of a protected species.

Construction of a Free Standing, Un-Mortared Stone Wall 25 Feet from the Bank of Spy Pond:

The applicant will construct a free standing, field stone wall, with a height of at least 2.5 feet along the 25 foot buffer zone. The wall will begin 2 feet to the south of the northern property line, and run southerly to the edge of the 8 ' foot wide pedestrian walkway straddling the property line between Lots 1 and 2. The wall will function primarily as a demarcation of the newly restored 0-25 foot Adjacent Upland Area, but will be constructed with small voids and openings to enhance wildlife habitat.

Use of Retaining Walls to Minimize Grading and Filling on Site:

Retaining walls are proposed perpendicular to the proposed dwelling to minimize grading changes on the property. The retaining walls will be engineered block walls, designed to allow for grade changes without adding fill materials to the lot.

Relocation of Existing Dock

The project locus currently has a small wooden dock, currently located on the northern bank of the pond on Lot 1. The applicant agrees to pursue a waterways license modification to relocate the dock to run perpendicular to the property line between lots 1 and 2. The dock will be aligned with the proposed walking path, proposed as straddling the lot line between the lots.

Storm Water Management Mitigation

On-Site:

The proposed site plan includes full mitigation for the increased surface water flows and impervious surfaces on the site. The proposal includes a subsurface infiltration system designed to capture and infiltrate roof runoff, via a closed gutter system. This mitigation is proposed to be located outside of the 0 to 50 foot buffer zone, and provides both infiltration through the inherent recharge capacity, as well as a reduction in both peak flows and volume of overland storm water flows resulting from the proposed development. The infiltration system, has been conservatively over sized, and will result in reduced rates and volumes of stormwater runoff, when compared to the existing conditions on site as well as the proposed conditions. (The oversized system was designed and sized to accommodate the original foot print of the home proposed for this lot, and has not been reduced in size for the currently proposed footprint. This results in approximately 28 percent excess capacity within the system for each of the design storm events.) The oversizing of this system also fully mitigates for the proposed additional impervious surfaces proposed in this Notice of Intent filing.

Off-Site

While traditional mitigation relates directly to the proposed impact of a project, Seaver Construction is proposing to retrofit a Vortechincs 2000 water quality treatment unit into the Town of Arlington's storm water drainage system. This improvement will benefit the resource area, ie Spy Pond, and will mitigate for the sediment generated by 1.55 acres of impervious surface located in the Spy Pond watershed. This decision to proposed off site mitigation reflected the extensive on site mitigation currently proposed, and the inability to provide additional meaningful on site mitigation for the proposed redevelopment. The Vortechincs unit is a proprietary storm water treatment device with a proven, superior record of sediment removal from storm water flows. This unit is proposed as a "holistic" mitigation for the increased impervious surface proposed through the development of Lot 1. While it does not directly mitigate for work on Lot 1, it provides mitigation to the waterbody below Lot 1, improving the quality of the resource area.

Through discussions with the Town Engineer, the project Engineer, the Conservation Commission as well as representatives from Vortechincs, this system was determined to be capable of treating road runoff discharged from a 1.55 acre watershed of impervious surfaces located within Pond View and Princeton Roads. The structure will provide removal of suspended solids, improving the result discharges to Spy Pond.

The estimate cost of the storm water unit is \$16,338 delivered to the site. The cost of installation is estimated to bring the value of the mitigation to \$25,000 to \$30,000 dollars. Seaver Construction is requesting that the Commission allow the previously offered gift of \$5000 dollars be applied to expenditures over \$25,000, with any residual funds donated back to the Commission for use in environmental protection.

Construction of a Permeable Driveway:

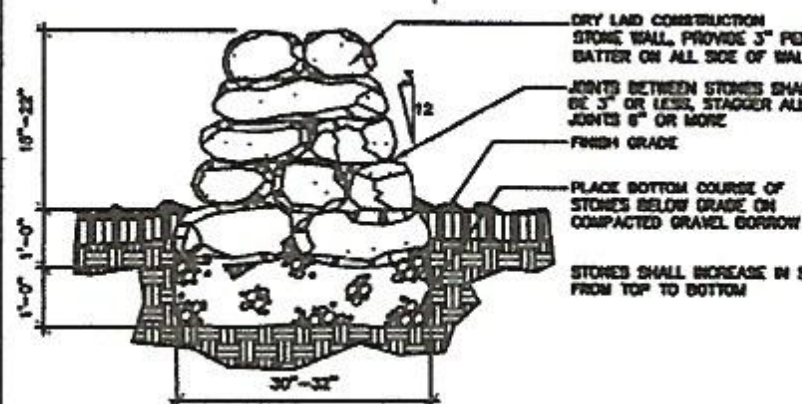
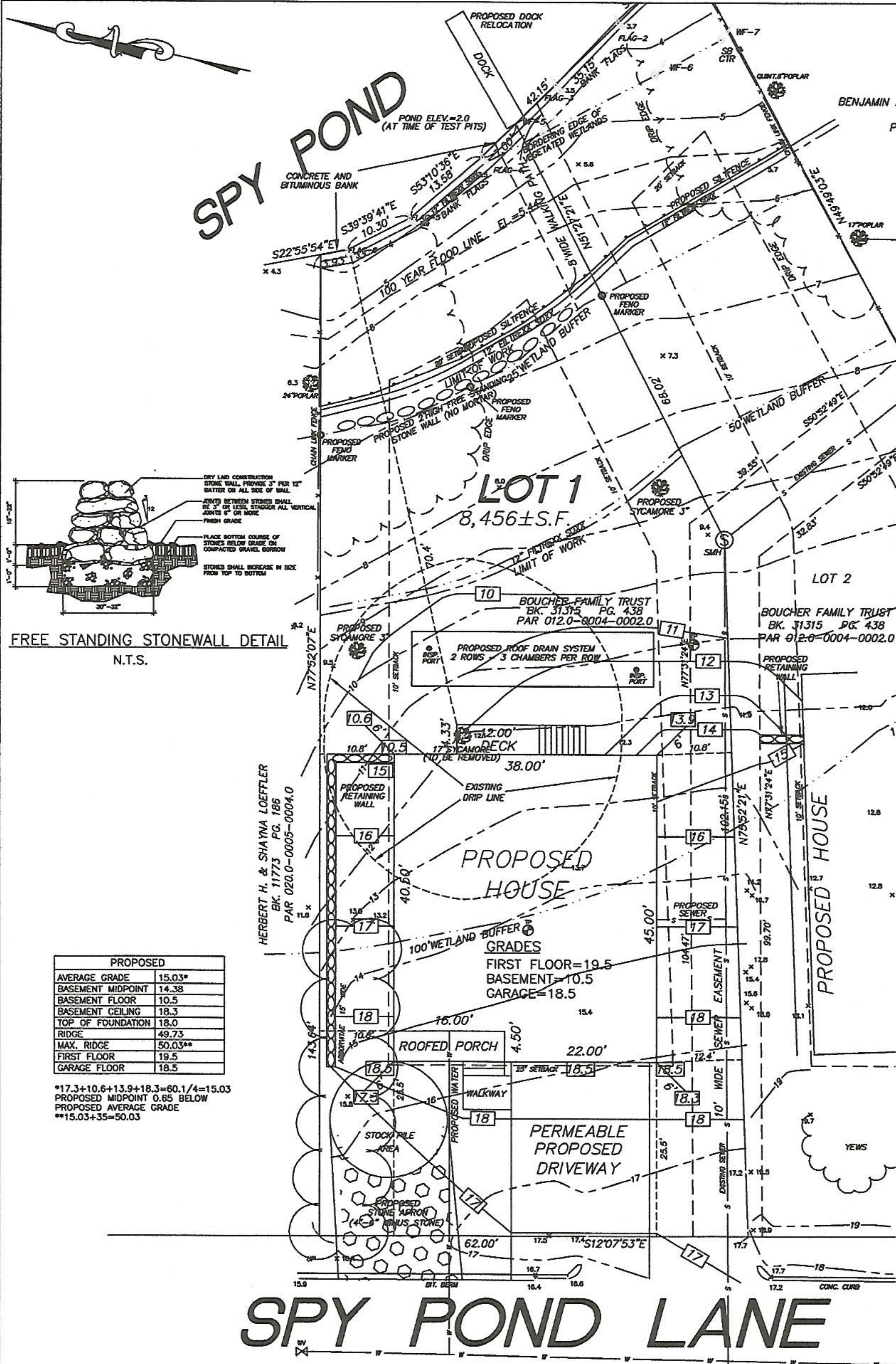
Seaver Construction has agreed to install a permable driveway surface between Spy Pond Lane and the new garage entrance. While this work is non jurisdictional as the driveway is located more than one hundred feet from Spy Pond, the driveway is within the watershed of Spy Pond. The infiltration and recharge area associated with this type of surface is generally considered an environmental benefit.

Installation and Maintenance of Erosion and Sedimentation Controls

Prior to any construction on the site, the limit of work line will be created through the use of a staked line of siltation control fencing set with a row of 12 inch diameter filter soxx filled with composted wood mulch. The controls will be used to insulate the various work areas from the down gradient wetlands, and will be maintained throughout the construction process. It is expected that a filter soxx will be set along the 25 foot buffer zone. As work areas vary during the construction, additional check dams and barriers may need to be added to protect recently graded areas. A detail of the installation has been included in the site plans for the project.

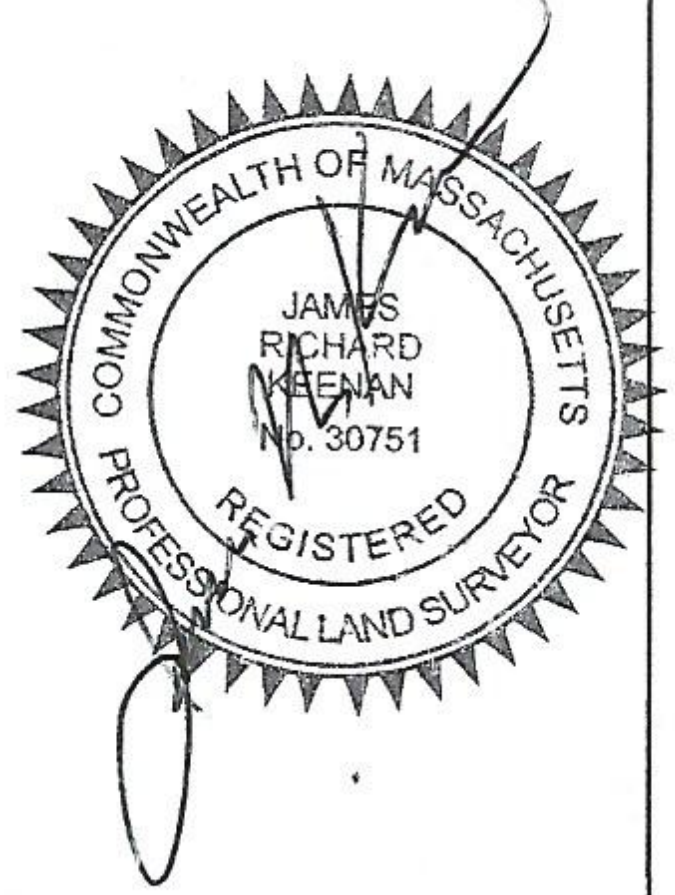
Stockpile areas will be established above the jurisdictional buffer zone. While the proposed foundation work will result in temporary or short term stockpiles of earth materials, the applicant will have erosion controls between stockpiles and the remnants of the existing grassed lawn area between the work area and the vegetated wetlands. Stockpiles will be bounded by staked straw bales or wattles, and excess soil materials will be hauled from the site. The surface of the work

area will be loamed, planted and/or hydro seeded at the completion of the construction, and erosion controls maintained throughout the winter months.



PROPOSED	
AVERAGE GRADE	15.03*
BASEMENT MIDPOINT	14.38
BASEMENT FLOOR	10.5
BASEMENT CEILING	18.3
TOP OF FOUNDATION	18.0
RIDGE	49.73
MAX. RIDGE	50.03**
FIRST FLOOR	19.5
GARAGE FLOOR	18.5

* $17.3+10.6+13.9+18.3=60.1/4=15.03$
 PROPOSED MIDPOINT 0.65 BELOW
 PROPOSED AVERAGE GRADE
 ** $15.03+35=50.03$



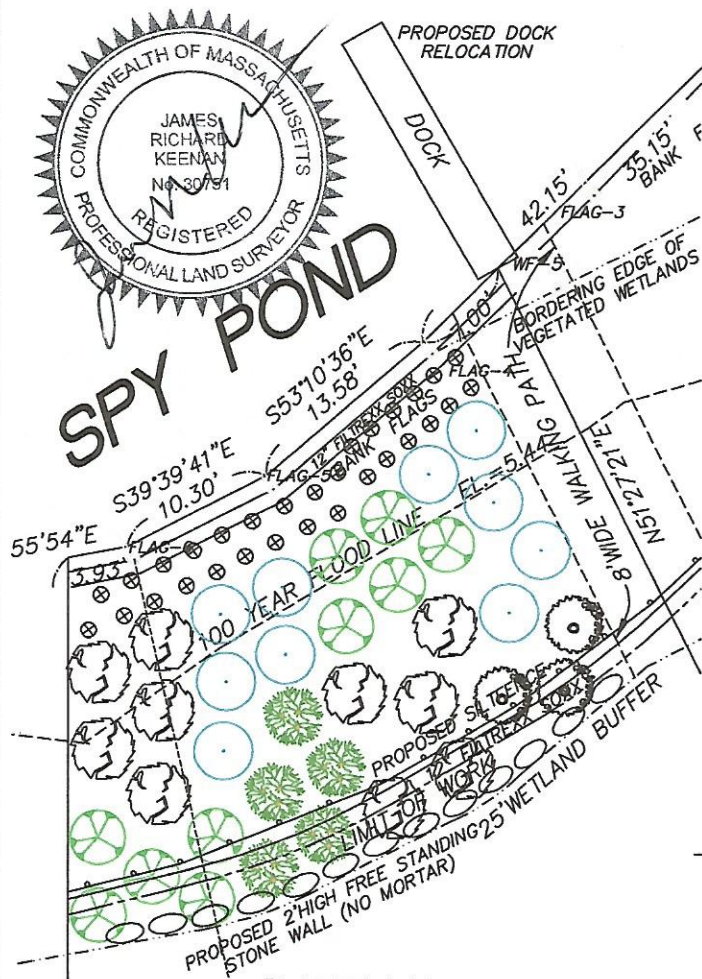
PROPOSED SITE PLAN
 IN
 ARLINGTON, MASS.
 SCALE: 1 IN. = 10 FT. NOVEMBER 7, 2018
 KEENAN SURVEY
 8 WINCHESTER PLACE, SUITE 208
 WINCHESTER, MASS. 01890
 781-729-4213

I CERTIFY THAT THE BUILDINGS ARE
 LOCATED AS SHOWN AND THAT THIS
 PLOT PLAN IS THE RESULT OF AN
 INSTRUMENT SURVEY.

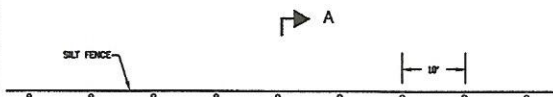
REVISED: DECEMBER 10, 2019
 REVISED: OCTOBER 25, 2019
 REVISED: JUNE 27, 2019
 REVISED: JUNE 11, 2019

NO.	SYMBOL	SPECIES	HEIGHT	SIZE
(10)	⑦	SWEET PEPPERBUSH (CLETHRA ALNIFOLIA)	3'-4' HIGH	80C
(10)	⑧	ARROWWOOD (VIBURNUM REDONTUM)	3'-4' HIGH	80C
(10)	⑨	SILKY DOGWOOD (CORNUS AMOMUM)	3'-4' HIGH	80C
(10)	⑩	BITCH HAZEL (PANEULES VIRGINIANA)	6'-8' HIGH	80C
(10)	⑪	SHADBLOW (AMELANCHIER CANADENSIS)	4'-6' HIGH	80C
(30)	⑫	LOWBUSH BLUEBERRY (VACCINIUM ANGLUSTRIUM)	12" HIGH	80C
(20)	⑬	SYCAMORE (PLATANUS OCCIDENTALIS)	2.5" CALIPER @ 20' TALL	80C

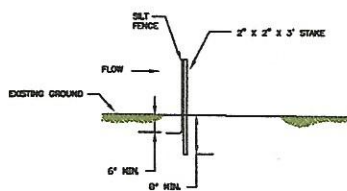
SEE DETAIL



DETAIL
1"=4'

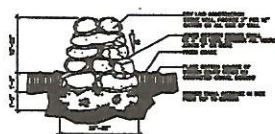


PLAN VIEW



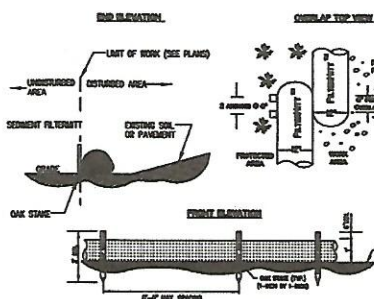
SECTION A-A

SILT FENCE PLAN



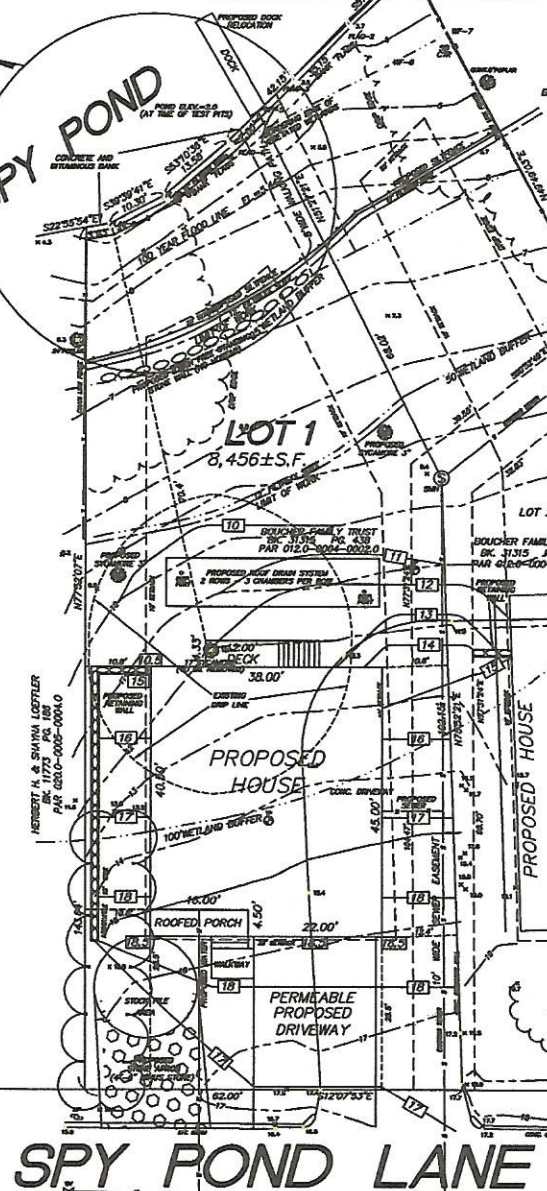
FREE STANDING STONEWALL DETAIL

N.T.S.

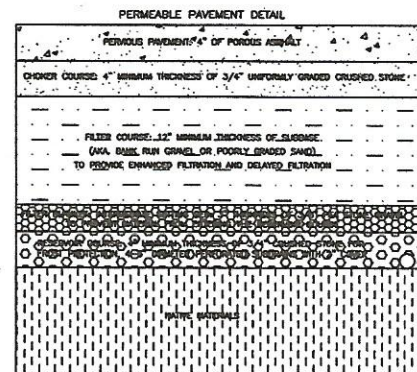


EROSION CONTROL DETAIL

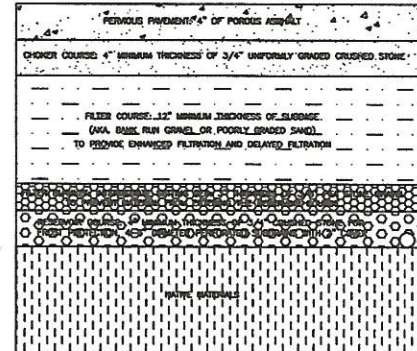
N.T.S.



SPY POND LANE



PERMEABLE PAVEMENT DETAIL



PROPOSED GROUND FLOOR=10.5
PROPOSED FIRST FLOOR=10.5
EXISTING AVERAGE GRADE TOP CURB=10.5
PROPOSED ROOF HEIGHT = 33.1'
PROPOSED PEAK = 50.0
MAX. PEAK = 51.5
PROPOSED GARAGE FLOOR=10.5
EXISTING BUILDING COVER= 0.5
PROPOSED BUILDING COVER= 21.35
EXISTING IMPERVIOUS = 1775 S.F.
PROPOSED IMPERVIOUS = 1727 S.F.
EXISTING IMPERVIOUS (100% IMPERVIOUS) = 481 S.F.
PROPOSED IMPERVIOUS (100% IMPERVIOUS) = 578 S.F.
AREA WITHIN 20' BUFFER ZONE=1000S.F.

NOTES:
1) WATER SERVICE TO BE 1" TYPE "C" COPPER.
2) SEWER SERVICE TO BE 6" PVC.
3) WATER AND SEWER LATERALS SHALL BE 10' APART (MIN).
4) PROPOSED WATER TO BE CONNECTED TO NEW SERVICES.
5) PROPOSED SEWER TO BE CONNECTED TO NEW SERVICES.
6) LOT LOCATED IN FLOOD ZONE C. MAP 2201700415E.
7) LAWN GRASS TO BE REMOVED FROM THE 0 TO 25 FOOT BUFFER ZONE AND THE AREA TOP DRESSED WITH A COMPOSTED LEAF LITTER MATERIAL, APPLIED TO A DEPTH OF 3-4 INCHES ACROSS THE RESTORATION AREA.

REVISED: OCTOBER 25, 2019
REVISED: JUNE 27, 2019
REVISED: JUNE 11, 2019

PLANNING PLAN
IN
ARLINGTON, MASS.
SCALE: 1 IN. = 10 FT. NOVEMBER 18, 2019
KEENAN SURVEY
8 WINCHESTER PLACE, SUITE 208
WINCHESTER, MASS. 01890
781-729-4213

ALAN ENGINEERING, L.L.C.

288 Littleton Road, Suite 31
Westford, MA 01886
(978) 577-6444
alan.eng@verizon.net

June 28, 2016

Scott Seaver
Seaver Construction, Inc.
215 Lexington Street
Woburn, MA 01801

Ref: Drainage Analysis
47 Spy Pond Lane – Lot 1
Arlington, MA

Dear Mr. Seaver:

Alan Engineering has prepared the following drainage analysis of the proposed house on Lot 1 at 47 Spy Pond Lane in Arlington, MA.

This analysis compares runoff generated from the existing site to the runoff that will be generated from the site after the construction of the new house. In accordance with the requirements of the Arlington Conservation Commission the 10-year, 25-year, and 100-year storm events were analyzed. The storm events were 24-hour rainfalls with a Type III rainfall distribution. The rainfall amounts were based on the "Cornell Study".

The proposed lot will contain 8,456 square feet of land. Under the existing conditions the lot contains 1,775 square feet of impervious area. The proposed site will contain a total of 2,659 square feet of impervious area.

The increase in impervious area will result in an increase in the rate and volume of runoff. In order to mitigate the increase a subsurface roof drain infiltration system is proposed. A roof gutter and downspout system will collect all roof runoff and discharge it into a subsurface system located at the rear of the proposed house. The system will collect and recharge a portion of the roof runoff that is slightly greater than the increase in runoff volume generated by the proposed site development. The result is a decrease in both the peak rate and total volume of runoff from the site. The results of the analysis are summarized in the table below.

Test pits were excavated on the lot on June 28, 2016 to determine the permeability of the soil and the depth to groundwater. All test pits had approximately 5 feet of fill above the original ground. The underlying native soil is fine sand. A percolation test yielded a rate of 1 minute per inch. This is indicative of hydrologic soil group (HSG) A. The estimated seasonal high groundwater ranged from 54 inches to 66 inches below the ground surface in 3 of the 4 test holes, and 90 inches below the ground surface in the higher of the 4 test holes.

Comparative Hydrologic Summary
47 Spy Pond Lane - Lot 1
Arlington, MA
June 28, 2016

10 Year Storm - 4.80 inches

Point of Analysis	Pre-Development		Post Development	
	Peak Rate (c.f.s.)	Volume (ac-ft)	Peak Rate (c.f.s.)	Volume (ac-ft)
Total Runoff	0.03	0.006	0.01	0.003

50 Year Storm - 7.06 inches

Point of Analysis	Pre-Development		Post Development	
	Peak Rate (c.f.s.)	Volume (ac-ft)	Peak Rate (c.f.s.)	Volume (ac-ft)
Total Runoff	0.23	0.020	0.12	0.013

100 Year Storm - 8.48 inches

Point of Analysis	Pre-Development		Post Development	
	Peak Rate (c.f.s.)	Volume (ac-ft)	Peak Rate (c.f.s.)	Volume (ac-ft)
Total Runoff	0.41	0.032	0.24	0.022

Please feel free to contact me with any questions or comments.

Very truly yours,

ALAN ENGINEERING, L.L.C.



Mark A. Sleger, P.E.
Manager

ALAN ENGINEERING, L.L.C.

SOIL EVALUATION REPORT

Job Number 1140

Client SEAUER CONSTRUCTION

Site Address 47 SPY POND LANE

Town ARLINGTON

Current Use RESIDENTIAL

Site Description SINGLE FAMILY RESIDENCE

Land Form GROUND MORRAINE

Vegetation LAWN

Water Supply TOWN

Deep Hole No AE-1

Date 6/28/2016

Soil Evaluator M. SLEGER

Temperature 65°

Local Official N/A

Weather CLOUDY - LIGHT RAIN

Horizon	Depth	Classification	Color	Comments		
FILL	0-54"	SANDY LOAM	—	SOME GRAVEL		
C	54-126	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
108"	—	60"	2.5Y 6/3	60"	72"	—

Deep Hole No AE-2

Horizon	Depth	Classification	Color	Comments		
FILL	0-60"	SANDY FILL	—	MOTTLING IN SAND FILL		
A	60-69"	SANDY LOAM	10YR 2/2			
B	69-78"	FINE SAND	10YR 4/6			
C	78-120	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
108"	108"	54"		54"	78"	—

Deep Hole No AE-3

Horizon	Depth	Classification	Color	Comments		
FILL	0-60"	SANDY FILL	—			
C ₁	60-138"	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
—	—	90"	2.5Y 6/3	90"	96"	—

Deep Hole No AE-4

Horizon	Depth	Classification	Color	Comments		
FILL	0-66"	SANDY FILL				
C ₁	66-114"	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
—	—	66"	2.5Y 6/3	66"		

ALAN ENGINEERING, L.L.C.

SOIL EVALUATION REPORT

Job Number 1140
Site Address 47 SPY POND LANE

Client SCAVER CONST.
Town ARLINGTON

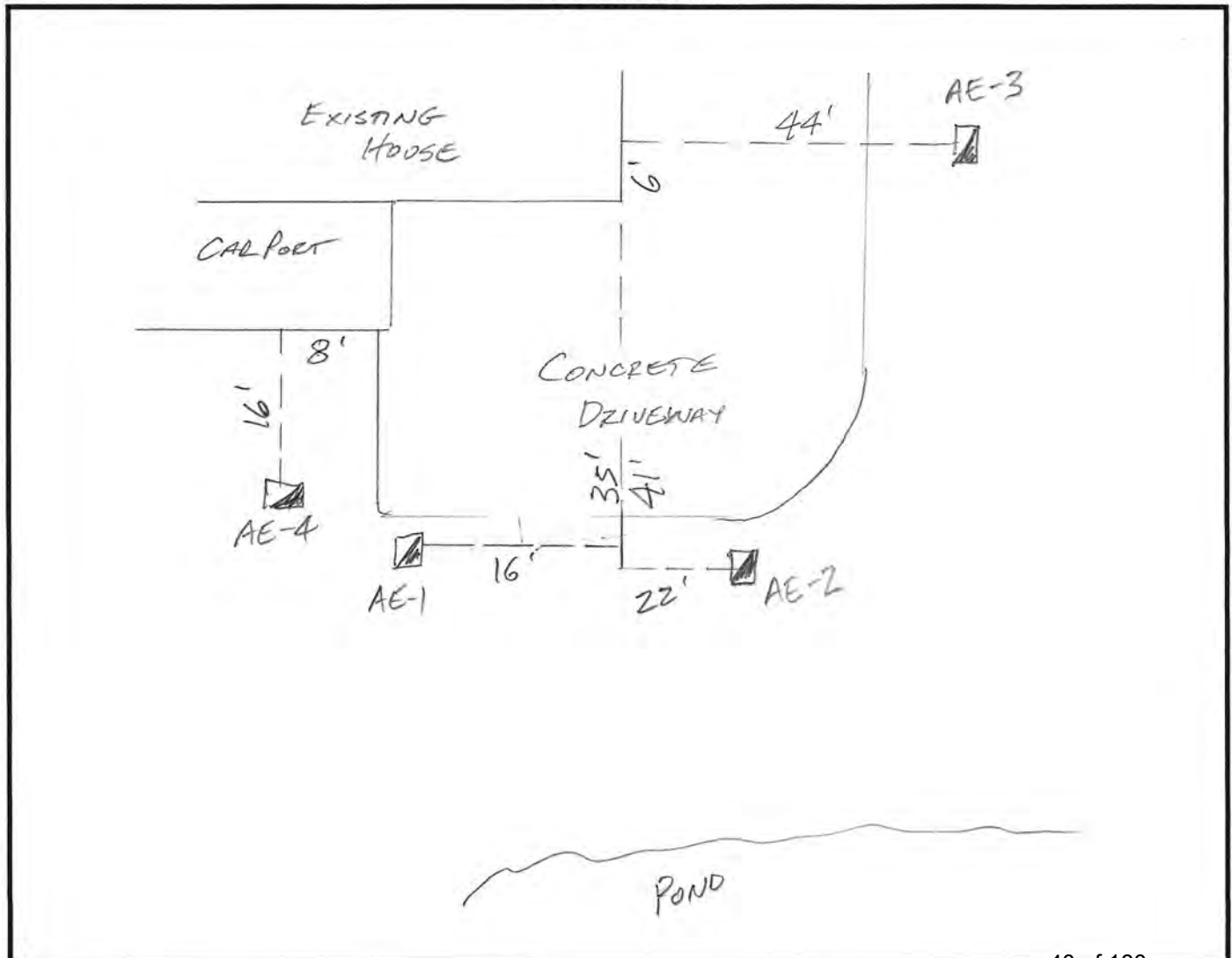
PERCOLATION TESTS

Soil Evaluator M. SLEGER
Local Official N/A

Date 6/28/2016 Temperature 65°
Weather LIGHT RAIN

Deep Hole No	AE-1				
Depth to Bottom	84"				
Soil Classification	FINE SAND				
Start Pre Soak	9:02				
Start of Test - 12"	9:17				
Time at 9"	9:21				
Time at 6"	9:24				
Time from 9" to 6"	3 MIN				
Percolation Rate	1 MIN/INCH				

SITE SKETCH



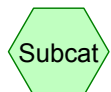
E
Existing Runoff

P2
Roof Runoff

P
Total Proposed Runoff

RD1
Roof Drain System

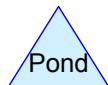
P1
Proposed Yard Runoff



Subcat



Reach



Pond



Link

Routing Diagram for Lot 1 Drainage Analysis
Prepared by ALAN Engineering, L.L.C.
HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1

Type III 24-hr 10-Year Storm Rainfall=4.80"

Page 2

Summary for Subcatchment E: Existing Runoff

Runoff = 0.03 cfs @ 12.31 hrs, Volume= 0.006 af, Depth> 0.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.80"

Area (sf)	CN	Adj	Description
1,775	98		Unconnected pavement, HSG A
6,681	39		>75% Grass cover, Good, HSG A
8,456	51	45	Weighted Average, UI Adjusted
6,681			79.01% Pervious Area
1,775			20.99% Impervious Area
1,775			100.00% Unconnected

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

Summary for Subcatchment P1: Proposed Yard Runoff

Runoff = 0.01 cfs @ 12.39 hrs, Volume= 0.003 af, Depth> 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.80"

Area (sf)	CN	Adj	Description
692	98		Unconnected pavement, HSG A
5,797	39		>75% Grass cover, Good, HSG A
6,489	45	42	Weighted Average, UI Adjusted
5,797			89.34% Pervious Area
692			10.66% Impervious Area
692			100.00% Unconnected

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

Summary for Subcatchment P2: Roof Runoff

Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.80"

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1

Type III 24-hr 10-Year Storm Rainfall=4.80"

Page 3

Area (sf)	CN	Description
1,967	98	Roofs, HSG A
1,967		100.00% Impervious Area

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

Summary for Reach P: Total Proposed Runoff

Inflow Area = 0.194 ac, 31.45% Impervious, Inflow Depth > 0.20" for 10-Year Storm event
Inflow = 0.01 cfs @ 12.39 hrs, Volume= 0.003 af
Outflow = 0.01 cfs @ 12.39 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond RD1: Roof Drain System

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth > 4.56" for 10-Year Storm event
Inflow = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af
Outflow = 0.05 cfs @ 11.73 hrs, Volume= 0.017 af, Atten= 77%, Lag= 0.0 min
Discarded = 0.05 cfs @ 11.73 hrs, Volume= 0.017 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 7.49' @ 12.45 hrs Surf.Area= 262 sf Storage= 148 cf

Plug-Flow detention time= 13.8 min calculated for 0.017 af (100% of inflow)
Center-of-Mass det. time= 13.7 min (761.0 - 747.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	6.50'	198 cf	11.25'W x 23.25'L x 2.54'H Field A 665 cf Overall - 169 cf Embedded = 496 cf x 40.0% Voids
#2A	7.00'	169 cf	Cultec R-150XLHD x 6 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 3 rows
		367 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	6.50'	8.270 in/hr Exfiltration over Horizontal area
#2	Primary	8.50'	4.0" Round Culvert X 2.00 L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.50' / 8.40' S= 0.0200 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1
Type III 24-hr 10-Year Storm Rainfall=4.80"

Page 4

Discarded OutFlow Max=0.05 cfs @ 11.73 hrs HW=6.53' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=6.50' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1

Type III 24-hr 50-Year Storm Rainfall=7.06"

Page 5

Summary for Subcatchment E: Existing Runoff

Runoff = 0.23 cfs @ 12.10 hrs, Volume= 0.020 af, Depth> 1.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Storm Rainfall=7.06"

Area (sf)	CN	Adj	Description
1,775	98		Unconnected pavement, HSG A
6,681	39		>75% Grass cover, Good, HSG A
8,456	51	45	Weighted Average, UI Adjusted
6,681			79.01% Pervious Area
1,775			20.99% Impervious Area
1,775			100.00% Unconnected

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

Summary for Subcatchment P1: Proposed Yard Runoff

Runoff = 0.12 cfs @ 12.11 hrs, Volume= 0.013 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Storm Rainfall=7.06"

Area (sf)	CN	Adj	Description
692	98		Unconnected pavement, HSG A
5,797	39		>75% Grass cover, Good, HSG A
6,489	45	42	Weighted Average, UI Adjusted
5,797			89.34% Pervious Area
692			10.66% Impervious Area
692			100.00% Unconnected

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

Summary for Subcatchment P2: Roof Runoff

Runoff = 0.32 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 6.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Storm Rainfall=7.06"

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1

Type III 24-hr 50-Year Storm Rainfall=7.06"

Page 6

Area (sf)	CN	Description
1,967	98	Roofs, HSG A
1,967		100.00% Impervious Area

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

Summary for Reach P: Total Proposed Runoff

Inflow Area = 0.194 ac, 31.45% Impervious, Inflow Depth > 0.78" for 50-Year Storm event
Inflow = 0.12 cfs @ 12.11 hrs, Volume= 0.013 af
Outflow = 0.12 cfs @ 12.11 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond RD1: Roof Drain System

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth > 6.82" for 50-Year Storm event
Inflow = 0.32 cfs @ 12.07 hrs, Volume= 0.026 af
Outflow = 0.05 cfs @ 11.64 hrs, Volume= 0.026 af, Atten= 85%, Lag= 0.0 min
Discarded = 0.05 cfs @ 11.64 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 8.32' @ 12.54 hrs Surf.Area= 262 sf Storage= 289 cf

Plug-Flow detention time= 30.7 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 30.6 min (772.0 - 741.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	6.50'	198 cf	11.25'W x 23.25'L x 2.54'H Field A 665 cf Overall - 169 cf Embedded = 496 cf x 40.0% Voids
#2A	7.00'	169 cf	Cultec R-150XLHD x 6 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 3 rows
		367 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	6.50'	8.270 in/hr Exfiltration over Horizontal area
#2	Primary	8.50'	4.0" Round Culvert X 2.00 L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 8.50' / 8.40' S= 0.0200 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1

Type III 24-hr 50-Year Storm Rainfall=7.06"

Page 7

Discarded OutFlow Max=0.05 cfs @ 11.64 hrs HW=6.53' (Free Discharge)

↳ **1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=6.50' (Free Discharge)

↳ **2=Culvert** (Controls 0.00 cfs)

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

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Runoff Comparison - Lot 1

Type III 24-hr 100-Year Storm Rainfall=8.48"

Page 8

Summary for Subcatchment E: Existing Runoff

Runoff = 0.41 cfs @ 12.09 hrs, Volume= 0.032 af, Depth> 1.99"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Storm Rainfall=8.48"

Area (sf)	CN	Adj	Description
1,775	98		Unconnected pavement, HSG A
6,681	39		>75% Grass cover, Good, HSG A
8,456	51	45	Weighted Average, UI Adjusted
6,681			79.01% Pervious Area
1,775			20.99% Impervious Area
1,775			100.00% Unconnected

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

Summary for Subcatchment P1: Proposed Yard Runoff

Runoff = 0.24 cfs @ 12.09 hrs, Volume= 0.021 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Storm Rainfall=8.48"

Area (sf)	CN	Adj	Description
692	98		Unconnected pavement, HSG A
5,797	39		>75% Grass cover, Good, HSG A
6,489	45	42	Weighted Average, UI Adjusted
5,797			89.34% Pervious Area
692			10.66% Impervious Area
692			100.00% Unconnected

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

Summary for Subcatchment P2: Roof Runoff

Runoff = 0.39 cfs @ 12.07 hrs, Volume= 0.031 af, Depth> 8.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Storm Rainfall=8.48"

Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

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Runoff Comparison - Lot 1

Type III 24-hr 100-Year Storm Rainfall=8.48"

Page 9

Area (sf)	CN	Description
1,967	98	Roofs, HSG A
1,967		100.00% Impervious Area

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

Summary for Reach P: Total Proposed Runoff

Inflow Area = 0.194 ac, 31.45% Impervious, Inflow Depth > 1.38" for 100-Year Storm event
Inflow = 0.24 cfs @ 12.09 hrs, Volume= 0.022 af
Outflow = 0.24 cfs @ 12.09 hrs, Volume= 0.022 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond RD1: Roof Drain System

Inflow Area = 0.045 ac, 100.00% Impervious, Inflow Depth > 8.23" for 100-Year Storm event
Inflow = 0.39 cfs @ 12.07 hrs, Volume= 0.031 af
Outflow = 0.13 cfs @ 12.32 hrs, Volume= 0.031 af, Atten= 66%, Lag= 15.0 min
Discarded = 0.05 cfs @ 11.60 hrs, Volume= 0.029 af
Primary = 0.08 cfs @ 12.32 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 8.65' @ 12.32 hrs Surf.Area= 262 sf Storage= 327 cf

Plug-Flow detention time= 33.1 min calculated for 0.031 af (100% of inflow)
Center-of-Mass det. time= 33.0 min (772.2 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	6.50'	198 cf	11.25'W x 23.25'L x 2.54'H Field A 665 cf Overall - 169 cf Embedded = 496 cf x 40.0% Voids
#2A	7.00'	169 cf	Cultec R-150XLHD x 6 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 3 rows
		367 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
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Lot 1 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

HydroCAD® 10.00-16 s/n 04219 © 2015 HydroCAD Software Solutions LLC

Runoff Comparison - Lot 1

Type III 24-hr 100-Year Storm Rainfall=8.48"

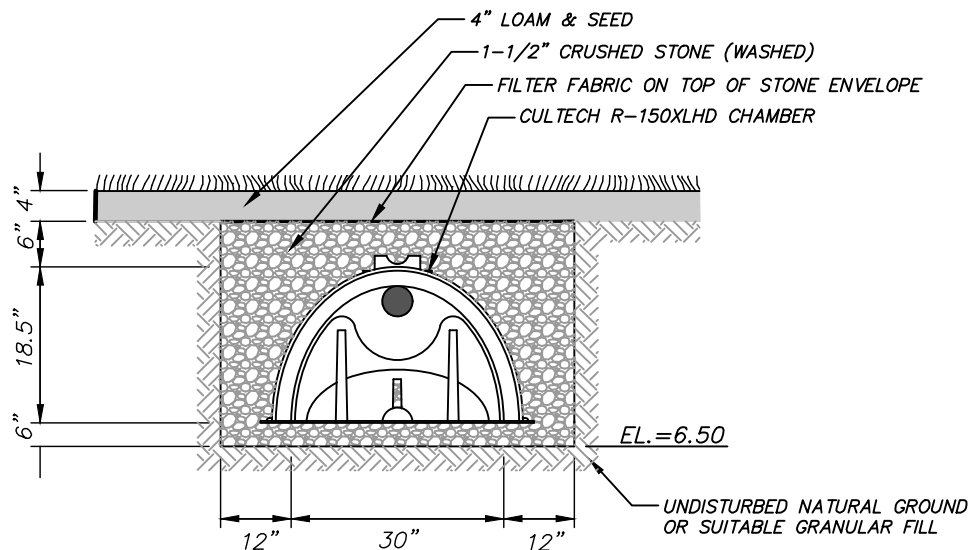
Page 10

Discarded OutFlow Max=0.05 cfs @ 11.60 hrs HW=6.53' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.08 cfs @ 12.32 hrs HW=8.65' (Free Discharge)

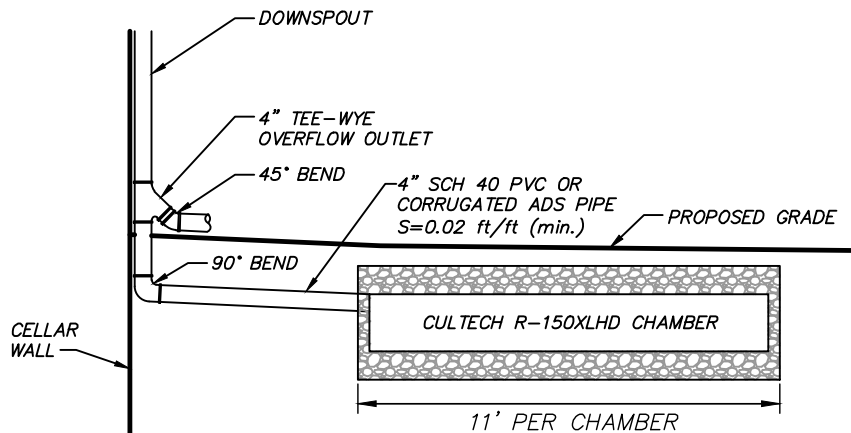
↑**2=Culvert** (Inlet Controls 0.08 cfs @ 1.06 fps)



NOTES:
REMOVE ALL TOP AND SUBSOIL AND ANY
ORGANIC OR OTHERWISE UNSUITABLE MATERIAL TO
A DEPTH OF 2 FEET BENEATH STONE.

ROOF DRAIN LEACHING CHAMBER

NOT TO SCALE



ROOF DRAIN DETAIL

NOT TO SCALE

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ROOF DRAIN DETAIL
47 SPY POND LANE
LOT 1
ARLINGTON, MA

**ALAN
ENGINEERING, L.L.C.**
288 LITTLETON ROAD, SUITE 31
WESTFORD, MA 01886

JOB NO. 1140

DWG NO

JUNE 28, 2016

SHEET

SCALE: AS SHOWN 1 of 2



DWG NO

SHEET
180 of 2

Construction Period Operation & Maintenance Plan

Construction Period Stormwater
Operation & Maintenance Plan

Site Redevelopment
47 Spy Pond Lane (Lot 1/A), Arlington, MA

Erosion and Sedimentation will be controlled at the site by utilizing Structural Practices, Stabilization Practices, and Dust Control. These practices correspond with site plans submitted for the 47 Spy Pond Lane (Lot 1/A) project.

Responsible Party

Seaver Construction, Inc.
215 Lexington Street
Woburn, MA 01801

City of Arlington Emergency Contact Information

Conservation Administrator

Town Hall
730 Massachusetts Avenue
Arlington, MA
(781) 316 3012

Project Summary

The project involves the construction of a new home, driveway, landscaping and utilities. Additionally, mitigation is provided through the installation of a Vortech unit within the Town roadway. A wetland resource area, ie Spy Pond, at the rear of the property requires diligence in ensuring that disturbance to the site does not cause erosion or detriment to the resource area. At the outset of the project, erosion controls shall be installed and maintained throughout the duration of the proposed work as follows.

Erosion & Sedimentation Control Practices

- 1) **Silt Sock Erosion Control Barrier** – A Filter Mitt erosion control barrier, backed by an entrenched row of siltation control fencing, will be installed along downward slopes at the limit of work shown on the site plans. This control will be installed prior to soil disturbance on the site. The sediment fence should be installed as shown on the Site Plans.

Filter Mitt Inspection/Maintenance *

- a) Erosion control should be inspected immediately after each rainfall event of 1-inch or greater, and at least daily during prolonged rainfall. Inspect the depth of sediment, fabric tears, if the silt sock is securely attached to the ground, and to see that the stakes are firmly in the ground. Repair or replace as necessary.
- b) Remove sediment deposits promptly after storm events to provide adequate storage volume for the next rain and to reduce pressure on the sock. Sediment will be removed from behind the sock when it becomes about 3 inches deep at the fence. Take care to avoid undermining sock during cleanout.

- c) Remove all materials after the contributing drainage area has been properly stabilized. Sediment deposits remaining after the fabric has been removed should be graded to conform with the existing topography and vegetated.
- 2) **Stabilized Construction Entrance** – A stabilized construction entrance shall be placed at the location of the proposed driveway, or at the location specified on the site plans. The stabilized entrance shall be installed immediately following the removal of the existing bituminous concrete driveway. The entrance will keep mud and sediment from being tracked onto Spy Pond Lane by vehicles leaving the site. This stabilized entrance shall be 15 feet long and as wide as the proposed drive.

Construction Entrance Design/Construction Requirements *

- a) Stone for a stabilized construction entrance shall consist of 1 to 3-inch stone placed on a stable foundation.
- b) Pad dimensions: The minimum length of the gravel pad should be 15 feet. The pad should extend the full width of the proposed driveway, or wide enough so that the largest construction vehicle will fit in the entrance with room to spare; whichever is greater. If a large amount of traffic is expected at the entrance, then the stabilized construction entrance should be wide enough to fit two vehicles across with room to spare.
- c) A geotextile filter fabric shall be placed between the stone fill and the earth surface below the pad to reduce the migration of soil particles from the underlying soil into the stone and vice versa. The filter fabric should be Amoco woven polypropylene 1198 or equivalent.

Construction Entrance Inspection/Maintenance *

- a) The entrance should be maintained in a condition that will prevent tracking or flowing of sediment onto Spy Pond Lane. This may require periodic topdressing with additional stone.
- b) The construction entrance and sediment disposal area shall be inspected weekly and after heavy rains or heavy use.
- c) Mud and sediment tracked or washed onto public road shall be immediately removed by sweeping.
- d) If washing facilities are used, the sediment traps should be cleaned out as often as necessary to assure that adequate trapping efficiency and storage volume is available.
- e) The pad shall be reshaped as needed for drainage and runoff control.
- f) All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary practices are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

- 3) **Temporary Seeding** – Temporary seeding will allow a short-term vegetative cover on disturbed site areas that may be in danger of erosion. Temporary seeding will be done at stock piles and disturbed portions of the site where construction activity will temporarily cease for at least 21 days. The temporary seedings will stabilize cleared and unvegetated areas that will not be brought into final grade for several weeks or months.

Temporary Seeding Planting Procedures *

- a) Planting should preferably be done between April 1st and June 30th, and September 1st through September 31st. If planting is done in the months of July and August, irrigation may be required. If planting is done between October 1st and March 31st, mulching should be applied immediately after planting. If seeding is done during the summer months, irrigation of some sort will probably be necessary.
- b) Before seeding, install structural practice controls. Utilize Amoco supergro or equivalent.
- c) The seedbed should be firm with a fairly fine surface. Perform all cultural operations across or at right angles to the slope. A minimum of 2 to 4-inches of tilled topsoil is required. The topsoil must have a sandy loam to silt loam texture with 15% to 20% organic content.
- d) Apply uniformly 2 tons of ground limestone per acre (100 lbs. Per 1,000 sq.ft.) or according to soil test. Apply uniformly 10-10-10 analysis fertilizer at the rate of 400 lbs. per acre (14 lbs. per 1,000 sq.ft.) or as indicated by soil test. Forty percent of the nitrogen should be in organic form. Work in lime and fertilizer to a depth of 4-inches using any suitable equipment.
- e) Select the appropriate seed species for temporary cover from the following table.

Species	Seeding Rate (lbs/1,000 sq.ft.)	Seeding Rate (lbs/acre)	Recommended Seeding Dates	Seed Cover required
Annual Ryegrass	1	40	April 1 st to June 1 st August 15 th to Sept. 15 th	¼ inch
Foxtail Millet	0.7	30	May 1 st to June 30 th	½ to ¾ inch
Oats	2	80	April 1 st to July 1 st August 15 th to Sept. 15 th	1 to 1-½ inch
Winter Rye	3	120	August 15 th to Oct. 15 th	1 to 1-½ inch

Apply the seed uniformly by hydroseeding, broadcasting, or by hand.

- f) Use an effective mulch, such as clean grain straw; tacked and/or tied with netting to protect seedbed and encourage plant growth.

Temporary Seeding Inspection/Maintenance *

- a) Inspect within 6 weeks of planting to see if stands are adequate. Check for damage within 24 hours of the end to a heavy rainfall, defined as a 2-year storm event (i.e., 3.2 inches of rainfall within a twenty-four hour period). Stands should be uniform and dense. Fertilize, reseed, and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.
 - b) Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather. Water application rates should be controlled to prevent runoff.
- 4) **Dust Control** - Dust control will be utilized throughout the entire construction process of the site. For example, keeping disturbed surfaces moist during windy periods will be an effective control measure. The use of dust control will prevent the movement of soil to offsite areas. However, care must be taken to not create runoff from excessive use of water to control dust. The following are methods of Dust Control that may be used on-site:
- Vegetative Cover – The most practical method for disturbed areas not subject to traffic.
 - Sprinkling – The site may be sprinkled until the surface is wet. Sprinkling will be effective for dust control on haul roads and other traffic routes.
 - Stone – Stone will be used to stabilize construction entrances; will also be effective for dust control.
- 5) **Material Stockpiling** – Material stockpiles shall be located as far from Wetland Resource Areas as possible and shall never be located within the 100-foot buffer zone as shown on the approved site plans. The preferred location for all stockpiles is at the front of the project locus between the house and Spy Pond Lane.
- 6) **Cleaning of Vortech Unit:** During construction, the contractor is responsible for maintaining silt sacks within the drainage area contributing to the newly installed Vortech Unit. The Vortech unit will be vacuumed prior to the issuance of a Certificate of Compliance, at which time maintenance responsibilities for the unit will be delegated to the Arlington Department of Public Works.

Post-Construction Stormwater
Operation & Maintenance Plan

Site Redevelopment
47 Spy Pond Land (Lot 1/A), Arlington, MA

Best Management Practices (BMPs) pursuant to the MA DEP Wetlands Protection Act, Arlington Wetlands Protection Bylaw and accepted design practice have been implemented and utilized for the project. The following information provided is to be used as a guideline for monitoring and maintaining the performance of the drainage facilities constructed as part of the site development. The structural Best Management Practices (BMPs) shall be inspected during rainfall conditions during the first year of operation to verify functionality.

Responsible Party

Homeowner

Town of Arlington Contact Information

Conservation Administrator

Town Hall

730 Massachusetts Avenue
Arlington, MA
(781) 316 3012

Maintenance:

1. **Infiltration Systems** – Subsurface infiltration systems shall be inspected twice per year to verify that sediment is not being discharged into the system and that the system is functioning properly. If sediment depth within the system exceeds three inches, an experienced contractor or designer shall be contacted to consult on methods to clean and remediate the system. Furthermore, at least once per year, the system shall be inspected immediately following a heavy rainfall to ensure that the system drains within 72 hours of the end of said storm. If, after 72 hours, the system is still retaining water, the homeowner shall contact a licensed professional civil engineer to determine a method for remediating the system failure.
2. **Crushed Stone Infiltration Trench** – The crushed stone infiltration trench at the edge of the driveway shall be cleaned of debris during regular landscape maintenance. A standard leaf blower can be used to remove debris from the stone surface. If the trench fails to drain after rainfall, the stone shall be removed, washed, and placed back in the trench after the bottom is scarified.
3. **Pesticides, Herbicides and Fertilizers:** - Pesticides and herbicides shall not be used on the property. In addition, fertilizers that are used on the property shall be utilized sparingly and should be restricted to the use of organic fertilizers only
4. **Vortechnics Unit:** Maintenance of the unit will be done by the Town of Arlington, Department of Public Works. The unit will be inspected at least twice a year, and vacuumed as necessary to ensure full function of the unit.

Storage and Disposal of Household Waste and Toxics:

This management measure involves educating the general public on the management considerations for hazardous materials. Failure to properly store hazardous materials dramatically increases the probability that they will end up in local waterways. Many people have hazardous chemicals stored throughout their homes, especially in garages and storage sheds. Practices such as covering hazardous materials or even storing them properly, can have

dramatic impacts. Property owners are encouraged to support the household hazardous product collection events sponsored by the Town of Arlington.

MADEP has prepared several materials for homeowners on how to properly use and dispose of household hazardous materials:

<http://www.mass.gov/dep/recycle/reduce/househol.htm>

For consumer questions on household hazardous waste call the following number:

DEP Household Hazardous Waste Hotline 800-343-3420

Vehicle Washing:

This management measure involves educating the general public on the water quality impacts of the outdoor washing of automobiles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor car washing has the potential to result in high loads of nutrients, metals, and hydrocarbons during dry weather conditions in many watersheds, as the detergent-rich water used to wash the grime off our cars flows down the street and into the storm drain. The following management practices will be encouraged:

- Washing cars on gravel, grass, or other permeable surfaces.
- Blocking off the storm drain during car washing and redirecting wash water onto grass or landscaping to provide filtration.
- Using hoses with nozzles that automatically turn off when left unattended.
- Using only biodegradable soaps.
- Minimize the amounts of soap and water used. Wash cars less frequently.
- Promote use of commercial car wash services.

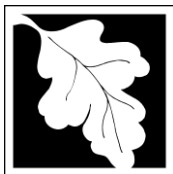
Landscape Maintenance:

This management measure seeks to control the storm water impacts of landscaping and lawn care practices through education and outreach on methods that reduce nutrient loadings and the amount of storm water runoff generated from lawns. Nutrient loads generated by fertilizer use on suburban lawns can be significant, and recent research has shown that lawns produce more surface runoff than previously thought.

Using proper landscaping techniques can effectively increase the value of a property while benefiting the environment. These practices can benefit the environment by reducing water use; decreasing energy use (because less water pumping and treatment is required); minimizing runoff of storm and irrigation water that transports soils, fertilizers, and pesticides; and creating additional habitat for plants and wildlife. The following lawn and landscaping management practices will be encouraged:

- Mow lawns at the highest recommended height.
- Minimize lawn size and maintain existing native vegetation.

- Collect rainwater for landscaping/gardening needs (rain barrels and cisterns to capture roof runoff).
- Raise public awareness for promoting the water efficient maintenance practices by informing users of water efficient irrigation techniques and other innovative approaches to water conservation.
- Abide by water restrictions and other conservation measures implemented by the Town of Arlington.
- Water only when necessary.
- Use automatic irrigation systems to reduce water use.



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):

47 Spy Pond Lane (Lot 2/Lot B)

a. Street Address

Arlington

b. City/Town

02474

c. Zip Code

Latitude and Longitude:

12-4-2

f. Assessors Map/Plat Number

d. Latitude

e. Longitude

g. Parcel /Lot Number

2. Applicant:

Scott

a. First Name

Seaver

b. Last Name

Seaver Construction

c. Organization

215 Lexington Street

d. Street Address

Woburn

e. City/Town

MA

f. State

01801

g. Zip Code

h. Phone Number

i. Fax Number

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):

Mary

a. First Name

Trudeau

b. Last Name

d. Street Address

e. City/Town

MA

02420

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

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

\$500.00

a. Total Fee Paid

\$237.50

b. State Fee Paid

\$ 262.50

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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Arlington

City/Town

A. General Information (continued)

6. General Project Description:

Construction of a single family dwelling. Work is within one hundred feet of jurisdictional wetlands.

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

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input type="checkbox"/> Other | |

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

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

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Middlesex

a. County

73606

c. Book

b. Certificate # (if registered land)

227

d. Page Number

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

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

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet	2. square feet
	3. cubic yards dredged	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet	2. square feet
	3. cubic feet of flood storage lost	4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet	
	2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland	

2. Width of Riverfront Area (check one):

☐ 25 ft. - Designated Densely Developed Areas only

☐ 100 ft. - New agricultural projects only

☐ 200 ft. - All other projects

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

4. Proposed alteration of the Riverfront Area:

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

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

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

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

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



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

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

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

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

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet 2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet	
h. <input type="checkbox"/> Salt Marshes	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet 2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above 1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet	
4. <input checked="" type="checkbox"/> 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. 200	
	a. square feet of BVW	b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings



WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Arlington

City/Town

C. Other Applicable Standards and Requirements

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

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

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

a. ☒ Yes ☐ No

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

2008

b. Date of map

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

- c. Submit Supplemental Information for Endangered Species Review*

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

(a) within wetland Resource Area 0 percent
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.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

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

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

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

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

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

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

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
1213 Purchase Street – 3rd Floor
New Bedford, MA 02740-6694
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.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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Arlington

City/Town

Online Users:

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

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

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
- a. ☐ Yes ☒ No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
- b. ACEC
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
- a. ☐ Yes ☒ No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
- a. ☐ Yes ☒ No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
- a. ☐ Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. ☐ Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
 2. ☐ A portion of the site constitutes redevelopment
 3. ☐ Proprietary BMPs are included in the Stormwater Management System.
- b. ☒ No. Check why the project is exempt:
1. ☒ Single-family house
 2. ☐ Emergency road repair
 3. ☒ Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

D. Additional Information

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

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

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

1. ☒ USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. ☒ Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



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D. Additional Information (cont'd)

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

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

Proposed Plan in Arlington, MA

a. Plan Title

Keenan Survey

James R Keenan

b. Prepared By

c. Signed and Stamped by

3-17-19

1"=10'

d. Final Revision Date

e. Scale

See Notice of Intent

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



WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

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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

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

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

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



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

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



A. Applicant Information

1. Location of Project:

47 Spy Pond Lane (Lot B)

a. Street Address

Arlington

b. City/Town

c. Check number

d. Fee amount

2. Applicant Mailing Address:

Scott

a. First Name

Seaver

b. Last Name

Seaver Construction

c. Organization

215 Lexington Street

d. Mailing Address

Woburn

e. City/Town

MA

f. State

01801

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

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

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

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

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

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

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

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

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



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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Single Family Dwelling	(1)	\$500.00	\$500.00
Step 5/Total Project Fee:			\$500.00

Step 6/Fee Payments:

Total Project Fee:	\$500.00
	a. Total Fee from Step 5
State share of filing Fee:	\$237.50
	b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:	262.50
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

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

Description of Work

Notice of Intent Filing 47 Spy Pond Lane (Lot 2/Lot B) Arlington, MA

EXISTING CONDITIONS

The 47 Spy Pond Lane property consisted of an existing single family house located on the north side of Spy Pond Lane, above the southern Bank of Spy Pond. Currently, the original dwelling has been demolished, and the foundation for a new single family home has been constructed. Framing and construction is ongoing atop of the newly poured foundation. The following photos show the condition of the lot on February 17, 2020:





WETLANDS DELINEATION

Wetland Resource Areas on the Lot

The wetlands on the property were delineated by Mary Trudeau in the early spring of 2016. Portions of the delineation were revised in response to comments from the Conservation Commission during an earlier filing for the property. Statutory wetlands on, or adjacent to, the property include Bordering Vegetated Wetland; Bank; Land Under Waterbody; and Bordering Land Subject to Flooding. Jurisdictional buffer zones have been calculated from the Bank of the waterbody, the Bordering Vegetated Wetlands, and/or off of the wetlands on the adjacent Lot 1/Lot A. This delineation was affirmed in the Superseding Orders of Conditions issued for the development of Lots 1/2 (A/B) in 2016, and subsequently in the Orders of Conditions issued by the Arlington Conservation Commission in 2019 under the local wetlands bylaw.

For the purposes of this filing, the mean annual high water level has been estimated at between elevations (3 and 4). This corresponds to the first discernable break in slope observed at this site. FEMA has determined the 100 year flood elevation to fall along the Bank of the Pond, but does not give a specific elevation on the maps for this site (attached). This delineation was also affirmed in the Superseding Order of Conditions issued by the Department, and the subsequent local Orders of Conditions.

WORK INCLUDED IN THE NOTICE OF INTENT

Construction of a Single Family Dwelling

Work included in this Notice of Intent consists of the construction of a single family home located on a portion of the property. This work is currently regulated under an Order of Conditions issued under the local Arlington Wetlands Protection bylaw. The expiration of the Superseding Order of Conditions in December of 2019 has left this project in need of an Order of Conditions issued under the Massachusetts Wetlands Protection Act.

At the time of the expiration, the applicant had poured the foundation for the new home, and had begun framing the structure. With the agreement of the Arlington Conservation Commission, the applicant has permission to continue the framing and structural work atop of the new foundation. The applicant has agreed to defer any earthwork, and ceased all other activities on this site, until the Arlington Conservation Commission has issued an Order of Conditions under the Massachusetts Wetlands Protection Act. The following photos show the current stockpiling of building materials outside of jurisdictional areas, and the ongoing work atop the new foundation:



With the exception of plantings within the 0 to 25 foot buffer zone, the application does not include any changes in the landscaping within seventy feet of the Bank resource area. The applicant is proposing the installation of the storm water infiltration system within the Adjacent Upland Resource Area, but no portion of this system is located within 65 feet of the wetlands associated with the Pond. As agreed, the sizing of the system reflects the larger footprint dwelling proposed in earlier filings.

MITIGATING MEASURES

RESTORATION OF THE 0 TO 25 FOOT BUFFER ZONE WITH NATIVE SHRUBS

The application includes a restoration plan designed to remove lawn areas, and restore a thicket type vegetation to the 0 to 25 foot buffer zone. This plan includes the planting of a variety of native, woody shrubs within the 0 to 25 foot buffer zone, leaving only an eight foot wide foot path open between the 25 foot buffer zone line and the waterbody.

Shrubs will be planted at 6'-10' foot centers, and will consist of the following varieties of woody plants:

The following plants have been included in this planting area:

(10)	Sweet Pepperbush	(Clethra alnifolia)
(10)	Arrowwood	(Viburnum recognitum)
(10)	Silky Dogwood	(Cornus amomum)
(5)	Witch hazel	(Hamamelis virginiana)
(3)	Shadbush	(Amelanchier canadense)
(30)	Lowbush Blueberry	(Vaccinium angustifolia)

As a portion of this lot includes an area of "Bordering Vegetated Wetland" within the existing lawn area, plantings listed above and planted in this portion of the lawn, will restore a Bordering Vegetated Wetland plant community to the resource area. The applicant estimates the square footage of this wetland restoration to be approximately 278 square feet, and the square footage of buffer zone restoration to be approximately 875 square feet. The wetland restoration portion of the restoration will be planted with Arrowwood Viburnums (FACW). The remainder of the proposed planting will be spread across the restoration area.

CONSTRUCTION OF FREE STANDING STONE WALL AT 25' BUFFER ZONE

The applicant will construct a free standing, field stone wall, with a height of at least 2.5 feet along the 25 foot buffer zone. The wall will begin 2 feet to the south of the northern property line, and run southerly to the edge of the 8' foot wide pedestrian walkway straddling the property line between Lots 1 and 2.

DOCK RELOCATION

The project locus currently has a small wooden dock, currently located on Lot 1. The applicant agrees to pursue a waterways license modification to relocate the dock to run perpendicular to the property line between lots 1 and 2. This will allow the dock to be accessed by the walking easement, straddling the property line between lots 1 and 2.

STORMWATER MANAGEMENT SYSTEM

The proposed site plan includes mitigation for the increased surface water flows and impervious surfaces on the site. The proposal includes a subsurface infiltration system designed to capture and infiltrate roof runoff, via a closed gutter system. This mitigation is proposed outside of the 0 to 50 foot buffer zone, and provides recharge capacity for the development. The system was designed and sized to accommodate the original foot print of the home proposed for this lot, and has not been reduced in size for the currently proposed footprint. This results in approximately ten percent excess capacity within the system for each of the design storm events.

EROSION AND SEDIMENTATION CONTROLS

Prior to any construction on the site, the limit of work line will be created through the use of a row of 12 inch diameter filter soxx filled with composted wood mulch, backed by an entrenched row of siltation control fencing. The controls will be used to insulate the various work areas from the down gradient wetlands, and will be maintained throughout the construction process. It is expected that a filter soxx will be set along the 25 foot buffer zone. As work areas vary during the construction, additional check dams and barriers may need to be added to protect recently graded areas. The photo below shows the installation on the site:



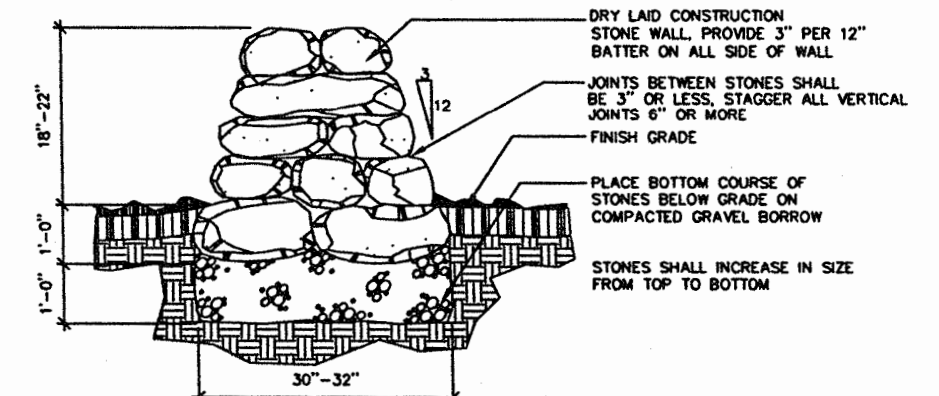
Stockpile areas for the spoils on this site are currently set upon a portion of Lot 1. While the proposed foundation work resulted in temporary or short term stockpiles of earth materials, the applicant will have covered the spoils with tarps and has set erosion controls at both the 25 foot buffer zone and above the top of the Bank of Spy Pond. Long term stockpiles will be bounded by staked straw bales or wattles, and excess soil materials will be hauled from the site. The surface of the work area will be loamed, planted and/or hydro seeded at the completion of the construction, and erosion controls maintained throughout the winter months.

SCALE: 1 IN. = 10 FT. MARCH 7, 2019

I CERTIFY THAT THE BUILDINGS ARE
LOCATED AS SHOWN AND THAT THIS
PLOT PLAN IS THE RESULT OF AN
INSTRUMENT SURVEY.

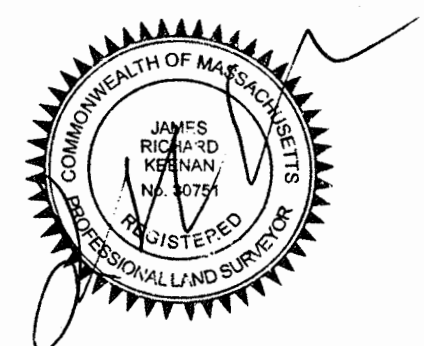
PROPOSED BASEMENT FLOOR=10.0
MIDPOINT=14.9
BASEMENT CEILING=19.75
PROPOSED FIRST FLOOR=21.0
EXISTING AVERAGE GRADE=15.25
PROPOSED ROOF HEIGHT = 34.75'
PROPOSED PEAK = 50.0
MAX. PEAK = 50.25
PROPOSED GARAGE FLR.=19.0
EXISTING BUILDING COVER= 18.2%
PROPOSED BUILDING COVER= 23.7%
EXISTING IMPERVIOUS = 2442 S.F.
PROPOSED IMPERVIOUS = 2065 S.F.
EXISTING IMPERVIOUS (100'BUFFER)= 298 S.F.
PROPOSED IMPERVIOUS (100'BUFFER)= 210 S.F.
AREA WITHIN 25'BUFFER ZONE=1129 S.F.

- 1) WATER SERVICE TO BE 1" TYPE "K" COPPER.
- 2) SEWER SERVICE TO BE 6" PVC.
- 3) WATER AND SEWER LATERALS SHALL BE 10' APART (min).
- 4) PROPOSED WATER TO BE CONNECTED TO EXISTING SERVICE.
- 5) PROPOSED SEWER TO BE CONNECTED TO EXISTING SERVICE.
- 6) LOT LOCATED IN FLOOD ZONE C. MAP 25017C0419E.
- 7) LAWN GRASS TO BE REMOVED FROM THE 0 TO 25 FOOT BUFFER ZONE AND THE AREA TOP DRESSED WITH A COMPOSTED LEAF LITTER MATERIAL, APPLIED TO A DEPTH OF 3-4 INCHES ACROSS THE RESTORATION AREA.

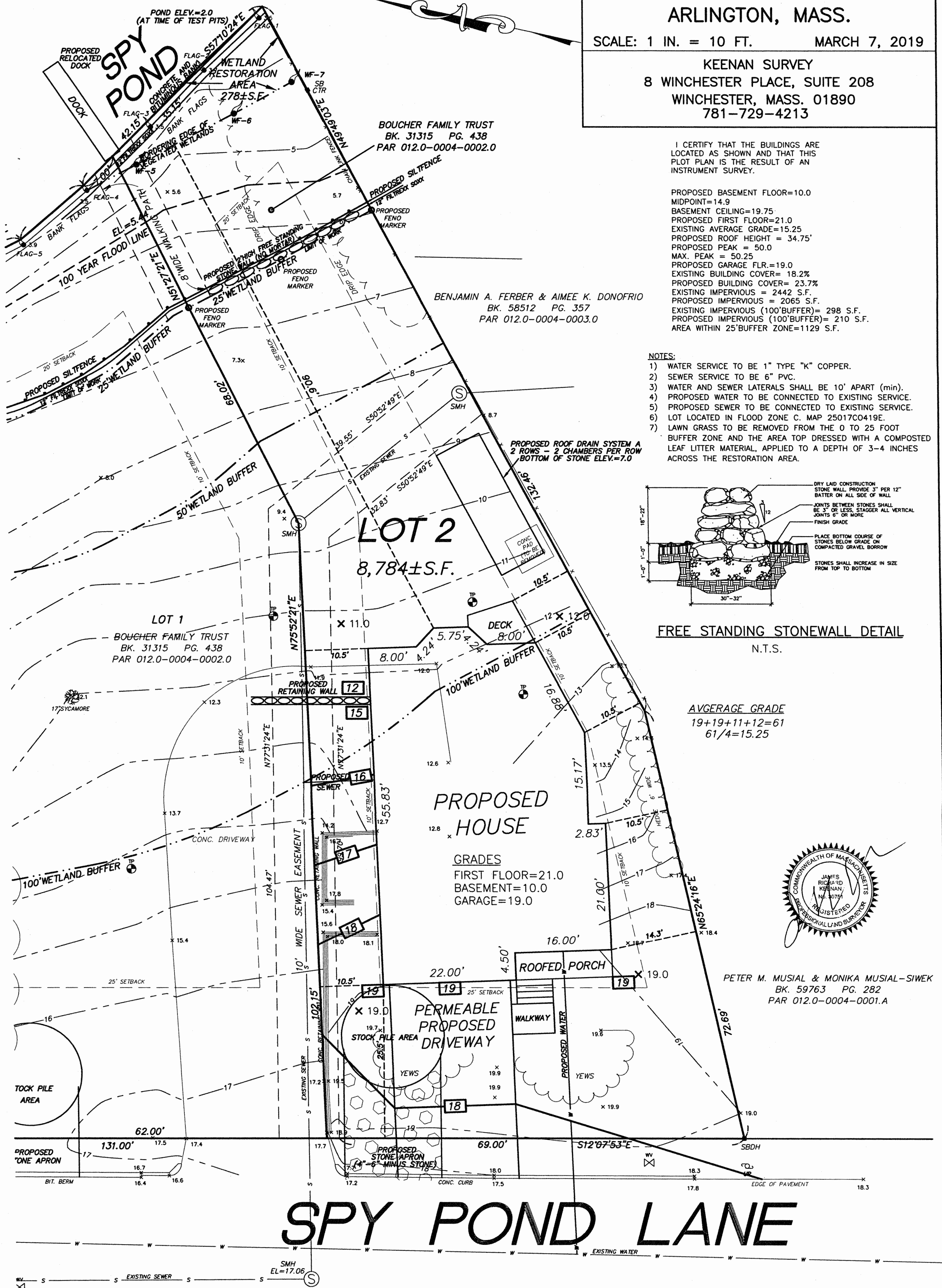


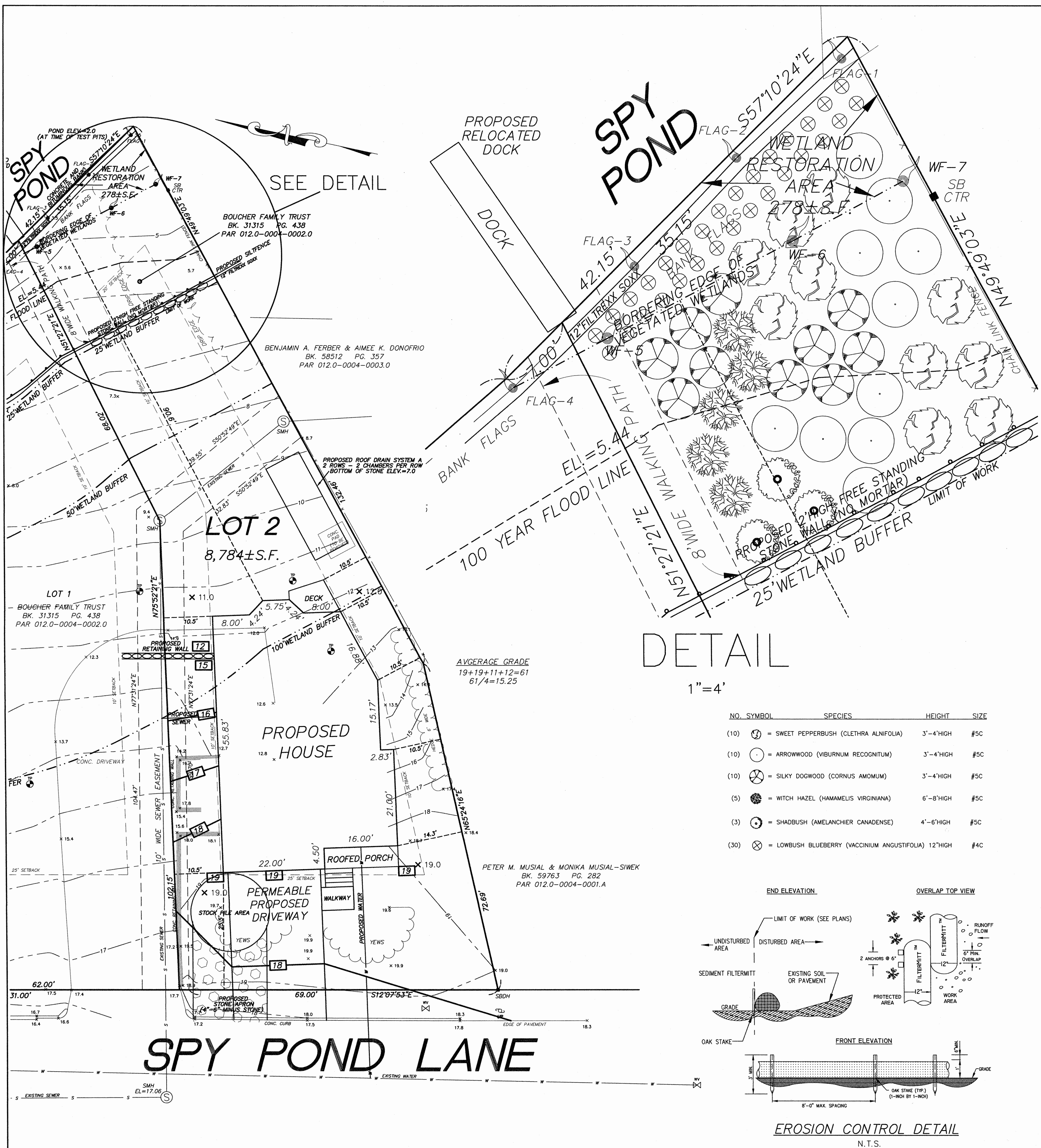
FREE STANDING STONEWALL DETAIL
N.T.S.

AVGERAGE GRADE
 $19+19+11+12=61$
 $61/4=15.25$

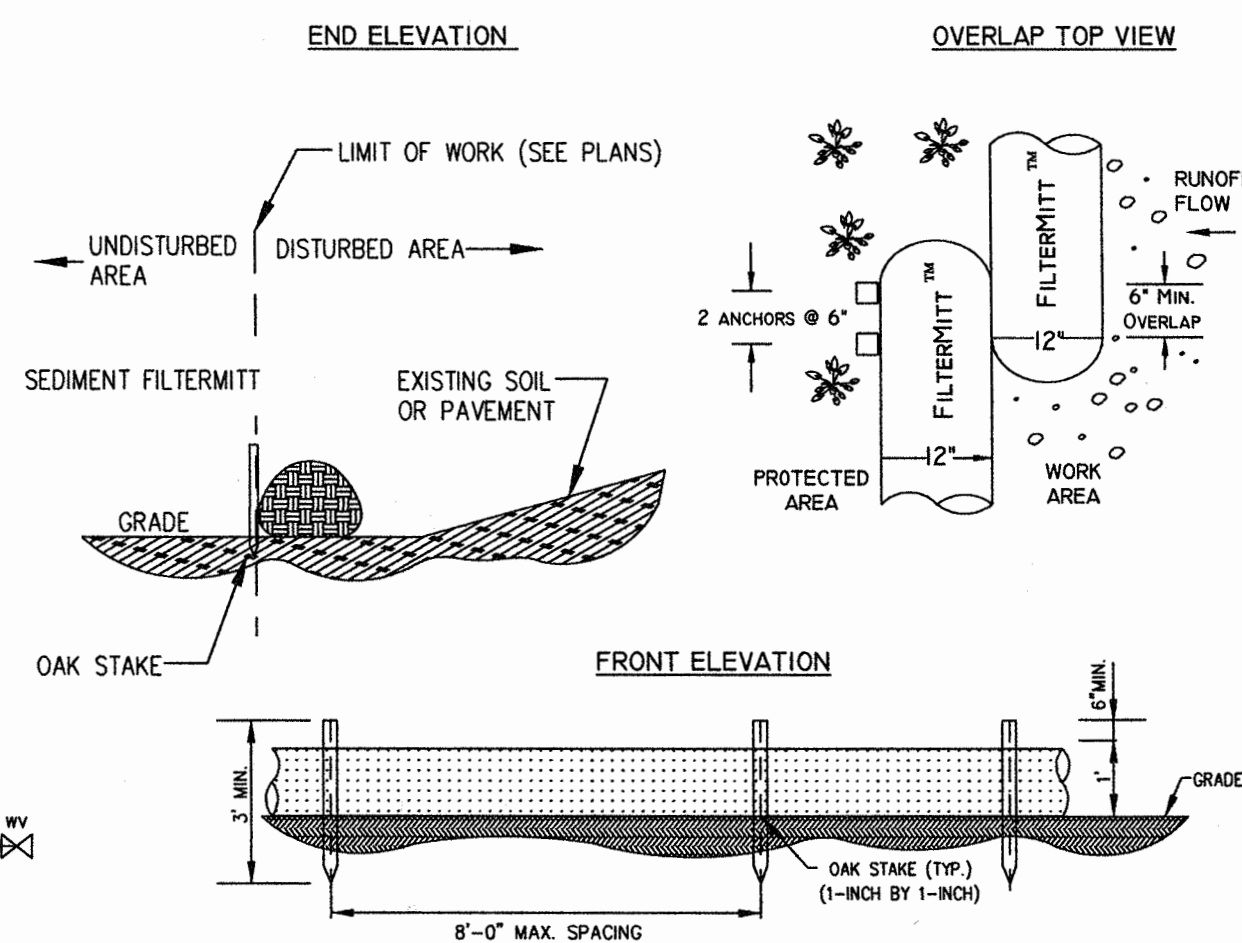


PETER M. MUSIAL & MONIKA MUSIAL-SIWEK
BK. 59763 PG. 282
PAR 012.0-0004-0001.A

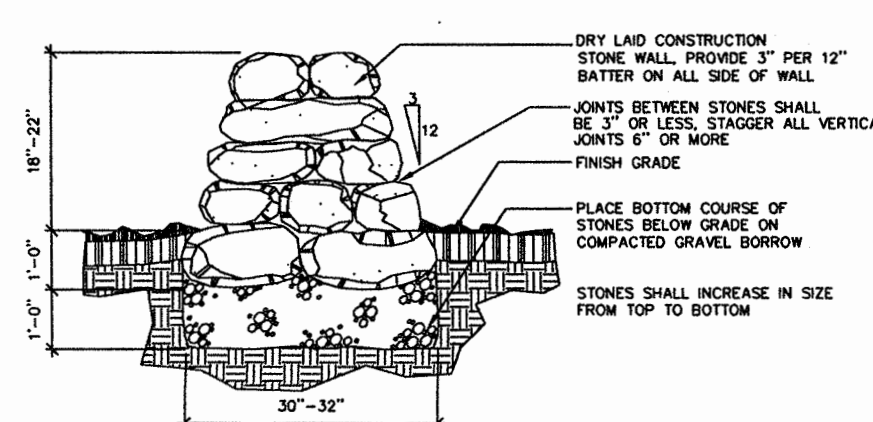
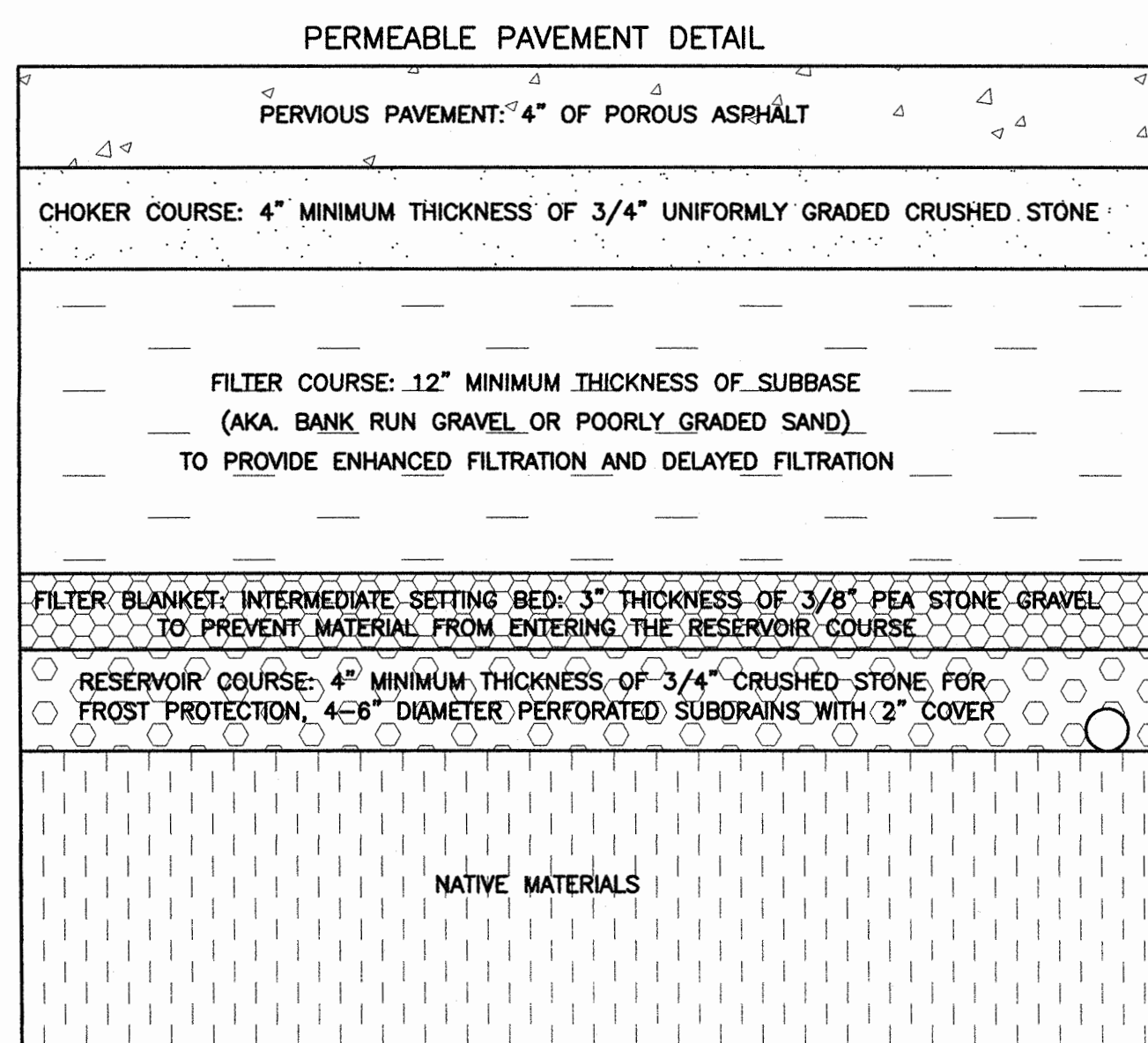




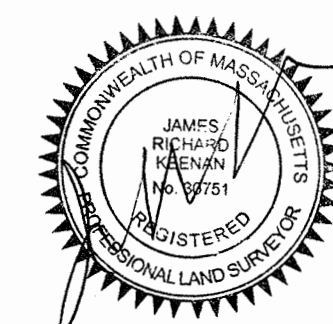
NO.	SYMBOL	SPECIES	HEIGHT	SIZE
(10)		SWEET PEPPERBUSH (CLETHRA ALNIFOLIA)	3'-4' HIGH	#5C
(10)		ARROWWOOD (VIBURNUM RECOGNITUM)	3'-4' HIGH	#5C
(10)		SILKY DOGWOOD (CORNUS AMOMUM)	3'-4' HIGH	#5C
(5)		WITCH HAZEL (HAMAMELIS VIRGINIANA)	6'-8' HIGH	#5C
(3)		SHADBUSH (AMELANCHIER CANADENSE)	4'-6' HIGH	#5C
(30)		LOWBUSH BLUEBERRY (VACCINIUM ANGUSTIFOLIA)	12' HIGH	#4C



EROSION CONTROL DETAIL
N.T.S.



FREE STANDING STONEWALL DETAIL
N.T.S.



I CERTIFY THAT THE BUILDINGS ARE LOCATED AS SHOWN AND THAT THIS PLOT PLAN IS THE RESULT OF AN INSTRUMENT SURVEY.

PLANTING PLAN
IN
ARLINGTON, MASS.
SCALE: 1 IN. = 10 FT. MARCH 7, 2019

KEENAN SURVEY
8 WINCHESTER PLACE, SUITE 208
WINCHESTER, MASS. 01890
781-729-4213

PROPOSED BASEMENT FLOOR=10.0
MIDPOINT=14.9
BASEMENT CEILING=19.75
PROPOSED FIRST FLOOR=21.0
EXISTING AVERAGE GRADE=15.25
PROPOSED ROOF HEIGHT=34.75'
PROPOSED PEAK=50.0
MAX. PEAK=50.25
PROPOSED GARAGE FLR=19.0
EXISTING BUILDING COVER=18.2%
PROPOSED BUILDING COVER=23.7%
EXISTING IMPERVIOUS=2442 S.F.
PROPOSED IMPERVIOUS=2065 S.F.
EXISTING IMPERVIOUS (100' BUFFER)=298 S.F.
PROPOSED IMPERVIOUS (100' BUFFER)=210 S.F.
AREA WITHIN 25' BUFFER ZONE=1129 S.F.

- NOTES:
- 1) WATER SERVICE TO BE 1" TYPE "K" COPPER.
 - 2) SEWER SERVICE TO BE 6" PVC.
 - 3) WATER AND SEWER LATERALS SHALL BE 10' APART (MIN).
 - 4) PROPOSED WATER TO BE CONNECTED TO EXISTING SERVICE.
 - 5) PROPOSED SEWER TO BE CONNECTED TO EXISTING SERVICE.
 - 6) LOT LOCATED IN FLOOD ZONE C. MAP 25017C0419E.
 - 7) LAWN GRASS TO BE REMOVED FROM THE 0 TO 25 FOOT BUFFER ZONE AND THE AREA TOP DRESSED WITH A COMPOSTED LEAF LITTER MATERIAL, APPLIED TO A DEPTH OF 3-4 INCHES ACROSS THE RESTORATION AREA.

ALAN ENGINEERING, L.L.C.

288 Littleton Road, Suite 31
Westford, MA 01886
(978) 577-6444
alan.eng@verizon.net

June 28, 2016

Scott Seaver
Seaver Construction, Inc.
215 Lexington Street
Woburn, MA 01801

Ref: Drainage Analysis
47 Spy Pond Lane – Lot 2
Arlington, MA

Dear Mr. Seaver:

Alan Engineering has prepared the following drainage analysis of the proposed house on Lot 2 at 47 Spy Pond Lane in Arlington, MA.

This analysis compares runoff generated from the existing site to the runoff that will be generated from the site after the construction of the new house. In accordance with the requirements of the Arlington Conservation Commission the 10-year, 25-year, and 100-year storm events were analyzed. The storm events were 24-hour rainfalls with a Type III rainfall distribution. The rainfall amounts were based on the "Cornell Study".

The proposed lot will contain 8,784 square feet of land. Under the existing conditions the lot contains 2,406 square feet of impervious area. The proposed site will contain a total of 2,588 square feet of impervious area.

The increase in impervious area will result in an increase in the rate and volume of runoff. In order to mitigate the increase a subsurface roof drain infiltration system is proposed. A roof gutter and downspout system will collect all roof runoff and discharge it into a subsurface system located at the rear of the proposed house. The system will collect and recharge a portion of the roof runoff that is slightly greater than the increase in runoff volume generated by the proposed site development. The result is a decrease in both the peak rate and total volume of runoff from the site. The results of the analysis are summarized in the table below.

Test pits were excavated on the lot on June 28, 2016 to determine the permeability of the soil and the depth to groundwater. All test pits had approximately 5 feet of fill above the original ground. The underlying native soil is fine sand. A percolation test yielded a rate of 1 minute per inch. This is indicative of hydrologic soil group (HSG) A. The estimated seasonal high groundwater ranged from 54 inches to 66 inches below the ground surface in 3 of the 4 test holes, and 90 inches below the ground surface in the higher of the 4 test holes.

Comparative Hydrologic Summary
47 Spy Pond Lane - Lot 2
Arlington, MA
June 28, 2016

10 Year Storm - 4.80 inches

Point of Analysis	Pre-Development		Post Development	
	Peak Rate (c.f.s.)	Volume (ac-ft)	Peak Rate (c.f.s.)	Volume (ac-ft)
Total Runoff	0.05	0.008	0.01	0.003

50 Year Storm - 7.06 inches

Point of Analysis	Pre-Development		Post Development	
	Peak Rate (c.f.s.)	Volume (ac-ft)	Peak Rate (c.f.s.)	Volume (ac-ft)
Total Runoff	0.29	0.024	0.13	0.013

100 Year Storm - 8.48 inches

Point of Analysis	Pre-Development		Post Development	
	Peak Rate (c.f.s.)	Volume (ac-ft)	Peak Rate (c.f.s.)	Volume (ac-ft)
Total Runoff	0.49	0.037	0.25	0.023

Please feel free to contact me with any questions or comments.

Very truly yours,

ALAN ENGINEERING, L.L.C.



Mark A. Sleger, P.E.
Manager

ALAN ENGINEERING, L.L.C.

SOIL EVALUATION REPORT

Job Number 1140

Client SEAUER CONSTRUCTION

Site Address 47 SPY POND LANE

Town ARLINGTON

Current Use RESIDENTIAL

Site Description SINGLE FAMILY RESIDENCE

Land Form GROUND MORRAINE

Vegetation LAWN

Water Supply TOWN

Deep Hole No AE-1

Date 6/28/2016

Soil Evaluator M. SLEGER

Temperature 65°

Local Official N/A

Weather CLOUDY - LIGHT RAIN

Horizon	Depth	Classification	Color	Comments		
FILL	0-54"	SANDY LOAM	—	SOME GRAVEL		
C	54-126	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
108"	—	60"	2.5Y 6/3	60"	72"	—

Deep Hole No AE-2

Horizon	Depth	Classification	Color	Comments		
FILL	0-60"	SANDY FILL	—	MOTTLING IN SAND FILL		
A	60-69"	SANDY LOAM	10YR 2/2			
B	69-78"	FINE SAND	10YR 4/6			
C	78-120	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
108"	108"	54"		54"	78"	—

Deep Hole No AE-3

Horizon	Depth	Classification	Color	Comments		
FILL	0-60"	SANDY FILL	—			
C ₁	60-138"	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
—	—	90"	2.5Y 6/3	90"	96"	—

Deep Hole No AE-4

Horizon	Depth	Classification	Color	Comments		
FILL	0-66"	SANDY FILL				
C ₁	66-114"	FINE SAND	10YR 5/4			
Seepage	Standing	Mottling	Color	ESHW	Roots	Refusal
—	—	66"	2.5Y 6/3	66"		

ALAN ENGINEERING, L.L.C.

SOIL EVALUATION REPORT

Job Number 1140
Site Address 47 SPY POND LANE

Client SCAVER CONST.
Town ARLINGTON

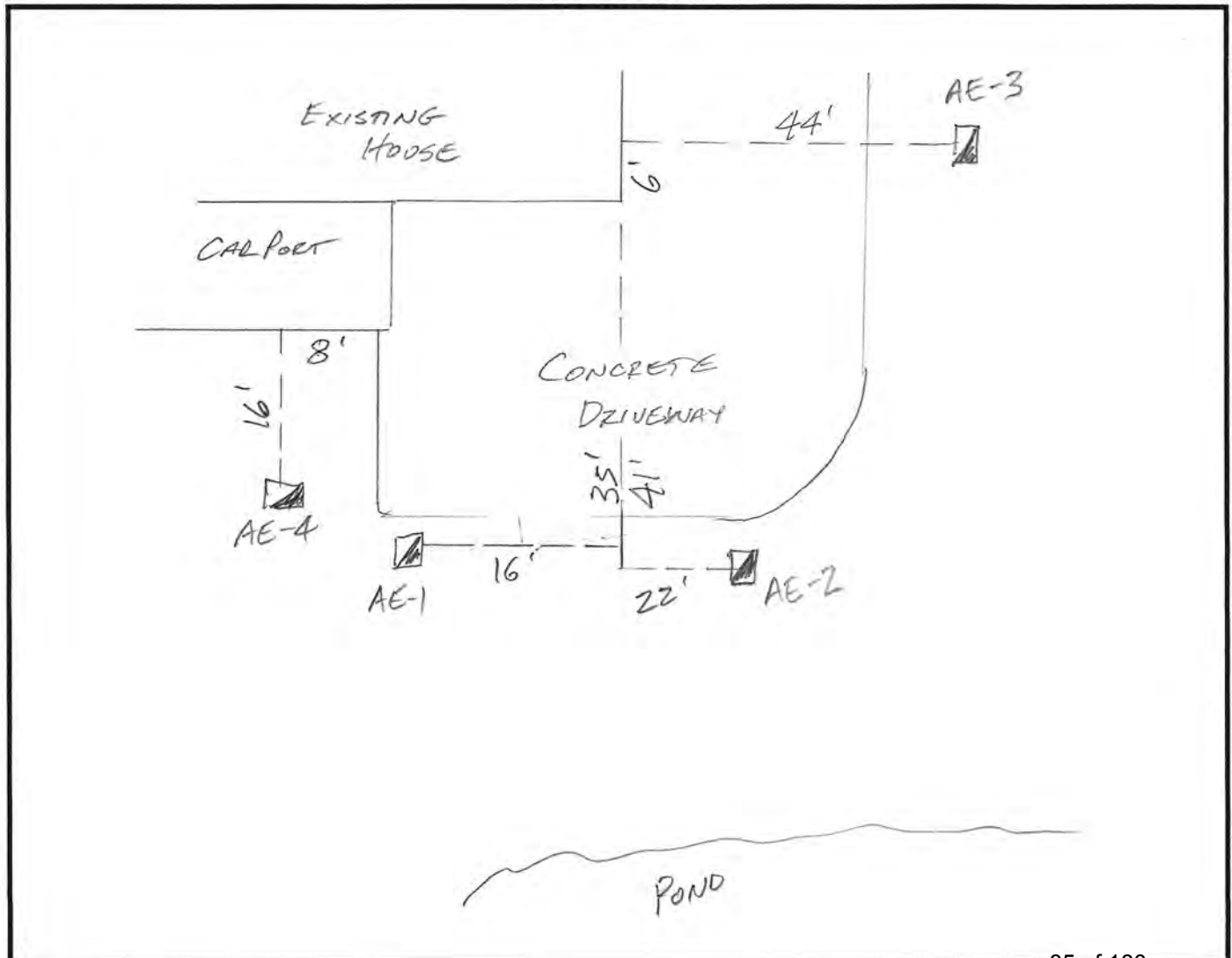
PERCOLATION TESTS

Soil Evaluator M. SLEGER
Local Official N/A

Date 6/28/2016 Temperature 65°
Weather LIGHT RAIN

Deep Hole No	AE-1				
Depth to Bottom	84"				
Soil Classification	FINE SAND				
Start Pre Soak	9:02				
Start of Test - 12"	9:17				
Time at 9"	9:21				
Time at 6"	9:24				
Time from 9" to 6"	3 MIN				
Percolation Rate	1 MIN/INCH				

SITE SKETCH



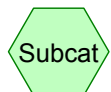
E
Existing Runoff

P2
Roof Runoff

P
Total Proposed Runoff

RD1
Roof Drain System

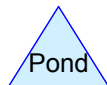
P1
Proposed Yard Runoff



Subcat



Reach



Pond



Link

Routing Diagram for Lot 2 Drainage Analysis
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Lot 2 Drainage Analysis

Prepared by ALAN Engineering, L.L.C.

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Runoff Comparison - Lot 2

Type III 24-hr 10-Year Storm Rainfall=4.80"

Page 2

Summary for Subcatchment E: Existing Runoff

Runoff = 0.05 cfs @ 12.14 hrs, Volume= 0.008 af, Depth> 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.80"

Area (sf)	CN	Adj	Description
2,406	98		Unconnected pavement, HSG A
6,378	39		>75% Grass cover, Good, HSG A
8,784	55	47	Weighted Average, UI Adjusted
6,378			72.61% Pervious Area
2,406			27.39% Impervious Area
2,406			100.00% Unconnected

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

Summary for Subcatchment P1: Proposed Yard Runoff

Runoff = 0.01 cfs @ 12.39 hrs, Volume= 0.003 af, Depth> 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.80"

Area (sf)	CN	Adj	Description
588	98		Unconnected pavement, HSG A
6,196	39		>75% Grass cover, Good, HSG A
6,784	44	42	Weighted Average, UI Adjusted
6,196			91.33% Pervious Area
588			8.67% Impervious Area
588			100.00% Unconnected

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

Summary for Subcatchment P2: Roof Runoff

Runoff = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 10-Year Storm Rainfall=4.80"

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 10-Year Storm Rainfall=4.80"

Page 3

Area (sf)	CN	Description
2,000	98	Roofs, HSG A
2,000		100.00% Impervious Area

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

Summary for Reach P: Total Proposed Runoff

Inflow Area = 0.202 ac, 29.46% Impervious, Inflow Depth > 0.20" for 10-Year Storm event
Inflow = 0.01 cfs @ 12.39 hrs, Volume= 0.003 af
Outflow = 0.01 cfs @ 12.39 hrs, Volume= 0.003 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond RD1: Roof Drain System

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 4.56" for 10-Year Storm event
Inflow = 0.22 cfs @ 12.07 hrs, Volume= 0.017 af
Outflow = 0.05 cfs @ 11.72 hrs, Volume= 0.017 af, Atten= 78%, Lag= 0.0 min
Discarded = 0.05 cfs @ 11.72 hrs, Volume= 0.017 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 270.02' @ 12.46 hrs Surf.Area= 262 sf Storage= 153 cf

Plug-Flow detention time= 14.3 min calculated for 0.017 af (100% of inflow)
Center-of-Mass det. time= 14.2 min (761.5 - 747.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	269.00'	198 cf	11.25'W x 23.25'L x 2.54'H Field A 665 cf Overall - 169 cf Embedded = 496 cf x 40.0% Voids
#2A	269.50'	169 cf	Cultec R-150XLHD x 6 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 3 rows
		367 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	269.00'	8.270 in/hr Exfiltration over Horizontal area
#2	Primary	271.00'	4.0" Round Culvert X 2.00 L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 271.00' / 270.90' S= 0.0200 ' S= 0.0200 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 10-Year Storm Rainfall=4.80"

Page 4

Discarded OutFlow Max=0.05 cfs @ 11.72 hrs HW=269.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=269.00' (Free Discharge)

↑**2=Culvert** (Controls 0.00 cfs)

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 50-Year Storm Rainfall=7.06"

Page 5

Summary for Subcatchment E: Existing Runoff

Runoff = 0.29 cfs @ 12.09 hrs, Volume= 0.024 af, Depth> 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Storm Rainfall=7.06"

Area (sf)	CN	Adj	Description
2,406	98		Unconnected pavement, HSG A
6,378	39		>75% Grass cover, Good, HSG A
8,784	55	47	Weighted Average, UI Adjusted
6,378			72.61% Pervious Area
2,406			27.39% Impervious Area
2,406			100.00% Unconnected

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

Summary for Subcatchment P1: Proposed Yard Runoff

Runoff = 0.13 cfs @ 12.11 hrs, Volume= 0.013 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Storm Rainfall=7.06"

Area (sf)	CN	Adj	Description
588	98		Unconnected pavement, HSG A
6,196	39		>75% Grass cover, Good, HSG A
6,784	44	42	Weighted Average, UI Adjusted
6,196			91.33% Pervious Area
588			8.67% Impervious Area
588			100.00% Unconnected

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

Summary for Subcatchment P2: Roof Runoff

Runoff = 0.33 cfs @ 12.07 hrs, Volume= 0.026 af, Depth> 6.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 50-Year Storm Rainfall=7.06"

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 50-Year Storm Rainfall=7.06"

Page 6

Area (sf)	CN	Description
2,000	98	Roofs, HSG A
2,000		100.00% Impervious Area

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

Summary for Reach P: Total Proposed Runoff

Inflow Area = 0.202 ac, 29.46% Impervious, Inflow Depth > 0.79" for 50-Year Storm event
Inflow = 0.13 cfs @ 12.11 hrs, Volume= 0.013 af
Outflow = 0.13 cfs @ 12.11 hrs, Volume= 0.013 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond RD1: Roof Drain System

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 6.82" for 50-Year Storm event
Inflow = 0.33 cfs @ 12.07 hrs, Volume= 0.026 af
Outflow = 0.05 cfs @ 11.63 hrs, Volume= 0.026 af, Atten= 85%, Lag= 0.0 min
Discarded = 0.05 cfs @ 11.63 hrs, Volume= 0.026 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 270.88' @ 12.54 hrs Surf.Area= 262 sf Storage= 296 cf

Plug-Flow detention time= 31.7 min calculated for 0.026 af (100% of inflow)
Center-of-Mass det. time= 31.6 min (773.1 - 741.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	269.00'	198 cf	11.25'W x 23.25'L x 2.54'H Field A 665 cf Overall - 169 cf Embedded = 496 cf x 40.0% Voids
#2A	269.50'	169 cf	Cultec R-150XLHD x 6 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 3 rows
		367 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	269.00'	8.270 in/hr Exfiltration over Horizontal area
#2	Primary	271.00'	4.0" Round Culvert X 2.00 L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 271.00' / 270.90' S= 0.0200 ' / ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2
Type III 24-hr 50-Year Storm Rainfall=7.06"

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Discarded OutFlow Max=0.05 cfs @ 11.63 hrs HW=269.03' (Free Discharge)
↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=269.00' (Free Discharge)
↑**2=Culvert** (Controls 0.00 cfs)

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 100-Year Storm Rainfall=8.48"

Page 8

Summary for Subcatchment E: Existing Runoff

Runoff = 0.49 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Storm Rainfall=8.48"

Area (sf)	CN	Adj	Description
2,406	98		Unconnected pavement, HSG A
6,378	39		>75% Grass cover, Good, HSG A
8,784	55	47	Weighted Average, UI Adjusted
6,378			72.61% Pervious Area
2,406			27.39% Impervious Area
2,406			100.00% Unconnected

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

Summary for Subcatchment P1: Proposed Yard Runoff

Runoff = 0.25 cfs @ 12.09 hrs, Volume= 0.022 af, Depth> 1.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Storm Rainfall=8.48"

Area (sf)	CN	Adj	Description
588	98		Unconnected pavement, HSG A
6,196	39		>75% Grass cover, Good, HSG A
6,784	44	42	Weighted Average, UI Adjusted
6,196			91.33% Pervious Area
588			8.67% Impervious Area
588			100.00% Unconnected

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

Summary for Subcatchment P2: Roof Runoff

Runoff = 0.40 cfs @ 12.07 hrs, Volume= 0.032 af, Depth> 8.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Storm Rainfall=8.48"

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 100-Year Storm Rainfall=8.48"

Page 9

Area (sf)	CN	Description
2,000	98	Roofs, HSG A
2,000		100.00% Impervious Area

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

Summary for Reach P: Total Proposed Runoff

Inflow Area = 0.202 ac, 29.46% Impervious, Inflow Depth > 1.40" for 100-Year Storm event
Inflow = 0.25 cfs @ 12.09 hrs, Volume= 0.023 af
Outflow = 0.25 cfs @ 12.09 hrs, Volume= 0.023 af, Atten= 0%, Lag= 0.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs

Summary for Pond RD1: Roof Drain System

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 8.23" for 100-Year Storm event
Inflow = 0.40 cfs @ 12.07 hrs, Volume= 0.032 af
Outflow = 0.14 cfs @ 12.30 hrs, Volume= 0.032 af, Atten= 64%, Lag= 13.9 min
Discarded = 0.05 cfs @ 11.59 hrs, Volume= 0.030 af
Primary = 0.09 cfs @ 12.30 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Peak Elev= 271.16' @ 12.30 hrs Surf.Area= 262 sf Storage= 328 cf

Plug-Flow detention time= 33.0 min calculated for 0.032 af (100% of inflow)
Center-of-Mass det. time= 32.9 min (772.0 - 739.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	269.00'	198 cf	11.25'W x 23.25'L x 2.54'H Field A 665 cf Overall - 169 cf Embedded = 496 cf x 40.0% Voids
#2A	269.50'	169 cf	Cultec R-150XLHD x 6 Inside #1 Effective Size= 29.8"W x 18.0"H => 2.65 sf x 10.25'L = 27.2 cf Overall Size= 33.0"W x 18.5"H x 11.00'L with 0.75' Overlap Row Length Adjustment= +0.75' x 2.65 sf x 3 rows
		367 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	269.00'	8.270 in/hr Exfiltration over Horizontal area
#2	Primary	271.00'	4.0" Round Culvert X 2.00 L= 5.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 271.00' / 270.90' S= 0.0200 ' S= 0.0200 ' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.09 sf

Lot 2 Drainage Analysis

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Runoff Comparison - Lot 2

Type III 24-hr 100-Year Storm Rainfall=8.48"

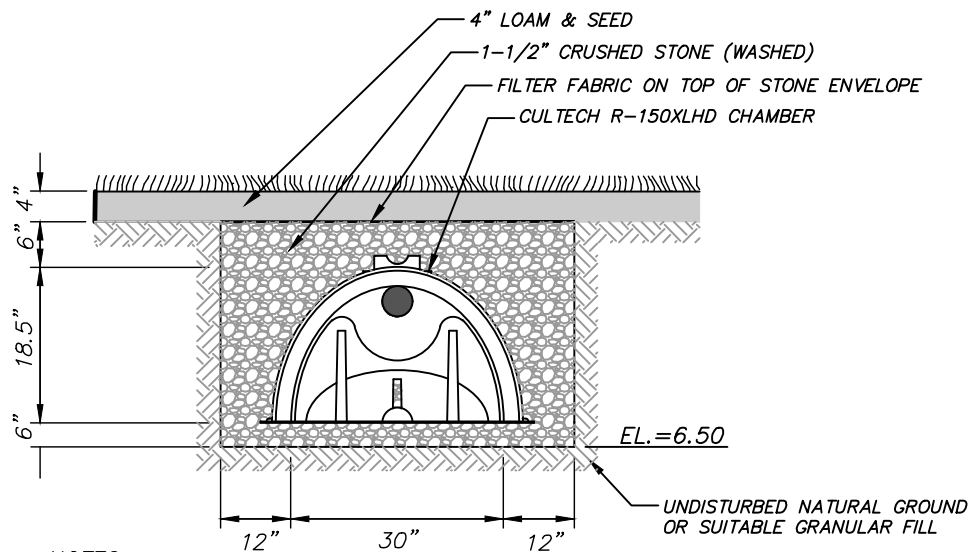
Page 10

Discarded OutFlow Max=0.05 cfs @ 11.59 hrs HW=269.03' (Free Discharge)

↑**1=Exfiltration** (Exfiltration Controls 0.05 cfs)

Primary OutFlow Max=0.09 cfs @ 12.30 hrs HW=271.16' (Free Discharge)

↑**2=Culvert** (Inlet Controls 0.09 cfs @ 1.09 fps)

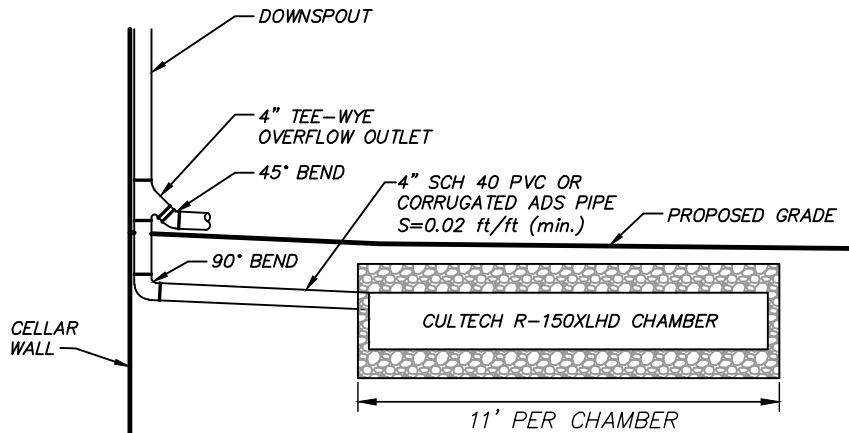


NOTES:

REMOVE ALL TOP AND SUBSOIL AND ANY ORGANIC OR OTHERWISE UNSUITABLE MATERIAL TO A DEPTH OF 2 FEET BENEATH STONE.

ROOF DRAIN LEACHING CHAMBER

NOT TO SCALE



ROOF DRAIN DETAIL

NOT TO SCALE

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ROOF DRAIN DETAIL
47 SPY POND LANE
LOT 2
ARLINGTON, MA

**ALAN
ENGINEERING, L.L.C.**
288 LITTLETON ROAD, SUITE 31
WESTFORD, MA 01886

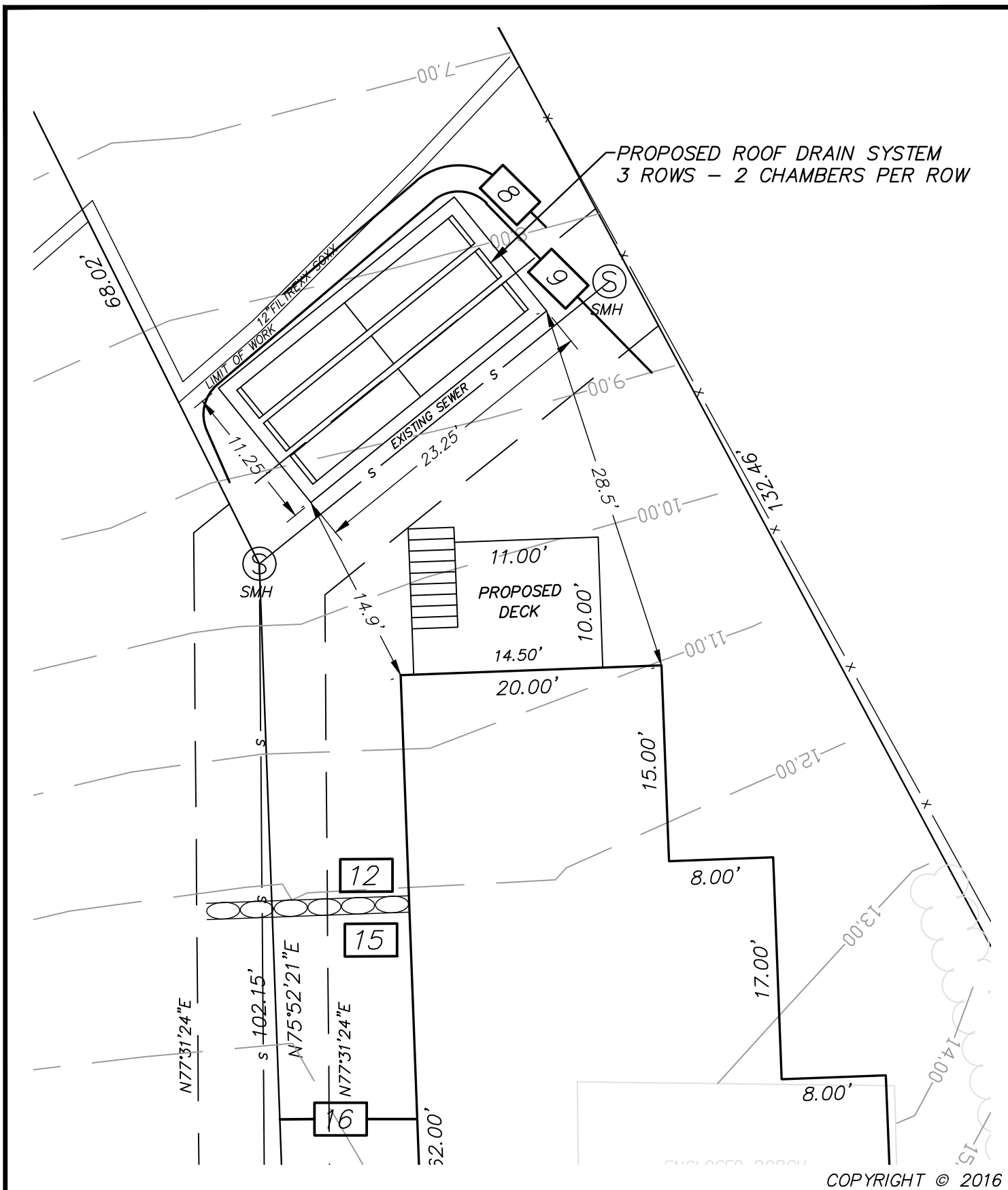
JOB NO. 1140

DWG NO

JUNE 28, 2016

SHEET

SCALE: AS SHOWN 18 of 2



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ROOF DRAIN DETAIL
47 SPY POND LANE
LOT 2
ARLINGTON, MA

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288 LITTLETON ROAD, SUITE 31
WESTFORD, MA 01886

JOB NO. 1140

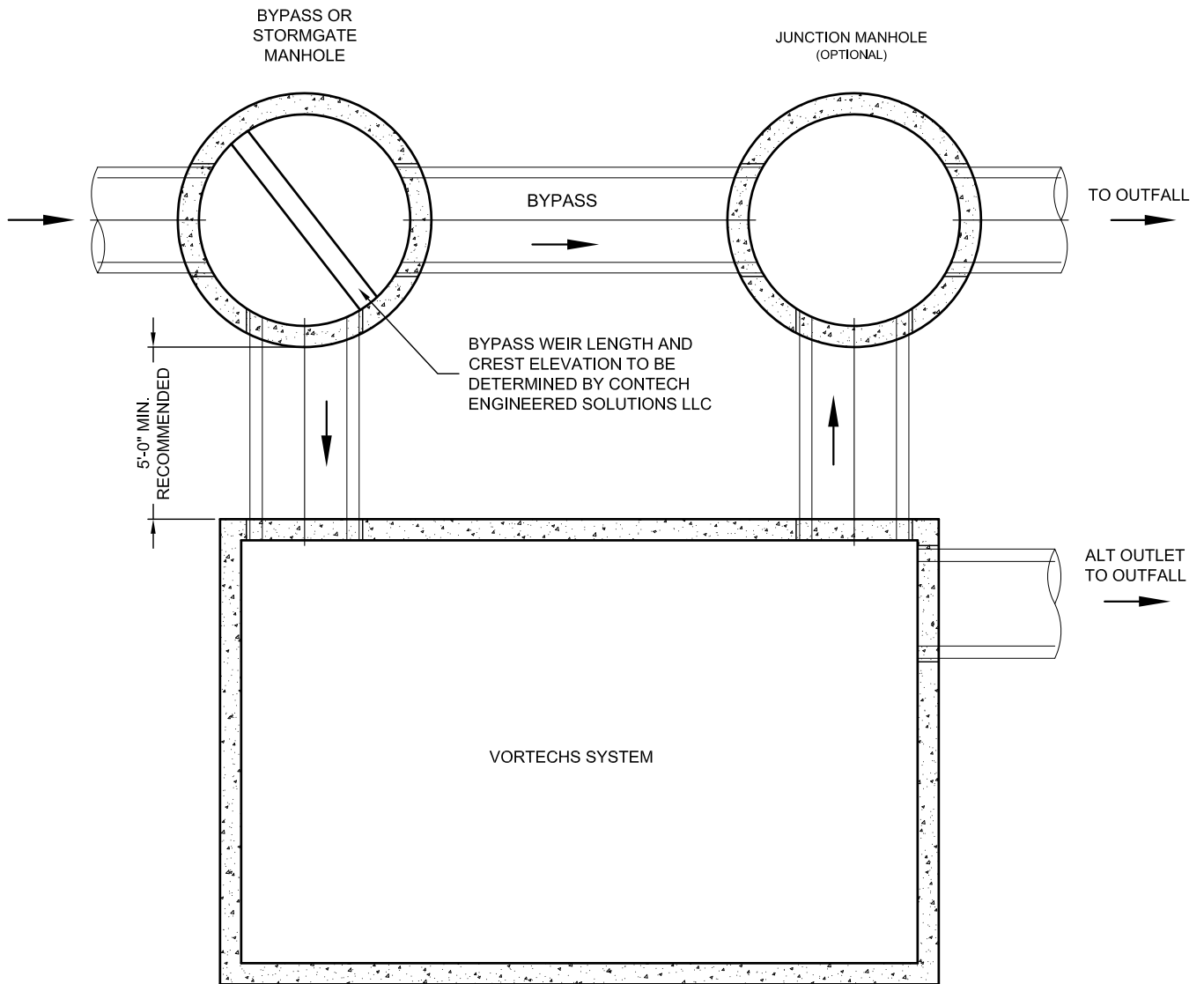
DWG NO

JUNE 28, 2016

SHEET

SCALE: 1" = 10' of 180 of 2

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NOT INTENDED AS A CONSTRUCTION DOCUMENT
- BYPASS AND JUNCTION STRUCTURES MAY OR MAY NOT BE SUPPLIED BY CONTECH -



ACTUAL ORIENTATION AND LAYOUT MAY VARY DUE TO
SITE SPECIFIC CONSIDERATIONS



THIS PRODUCT MAY BE PROTECTED BY THE FOLLOWING
U.S. PATENT: 5,759,415; RELATED FOREIGN PATENTS.

The design and information shown on this drawing is provided as a service to the project owner, engineer and contractor by Contech Engineered Solutions LLC ("Contech"). Neither this drawing, nor any part thereof, may be used, reproduced or modified in any manner without the prior written consent of Contech. Failure to comply is done at the user's own risk and Contech expressly disclaims any liability or responsibility for such use.

If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered as site work progresses, these discrepancies must be reported to Contech immediately for re-evaluation of the design. Contech accepts no liability for designs based on missing, incomplete or inaccurate information supplied by others.



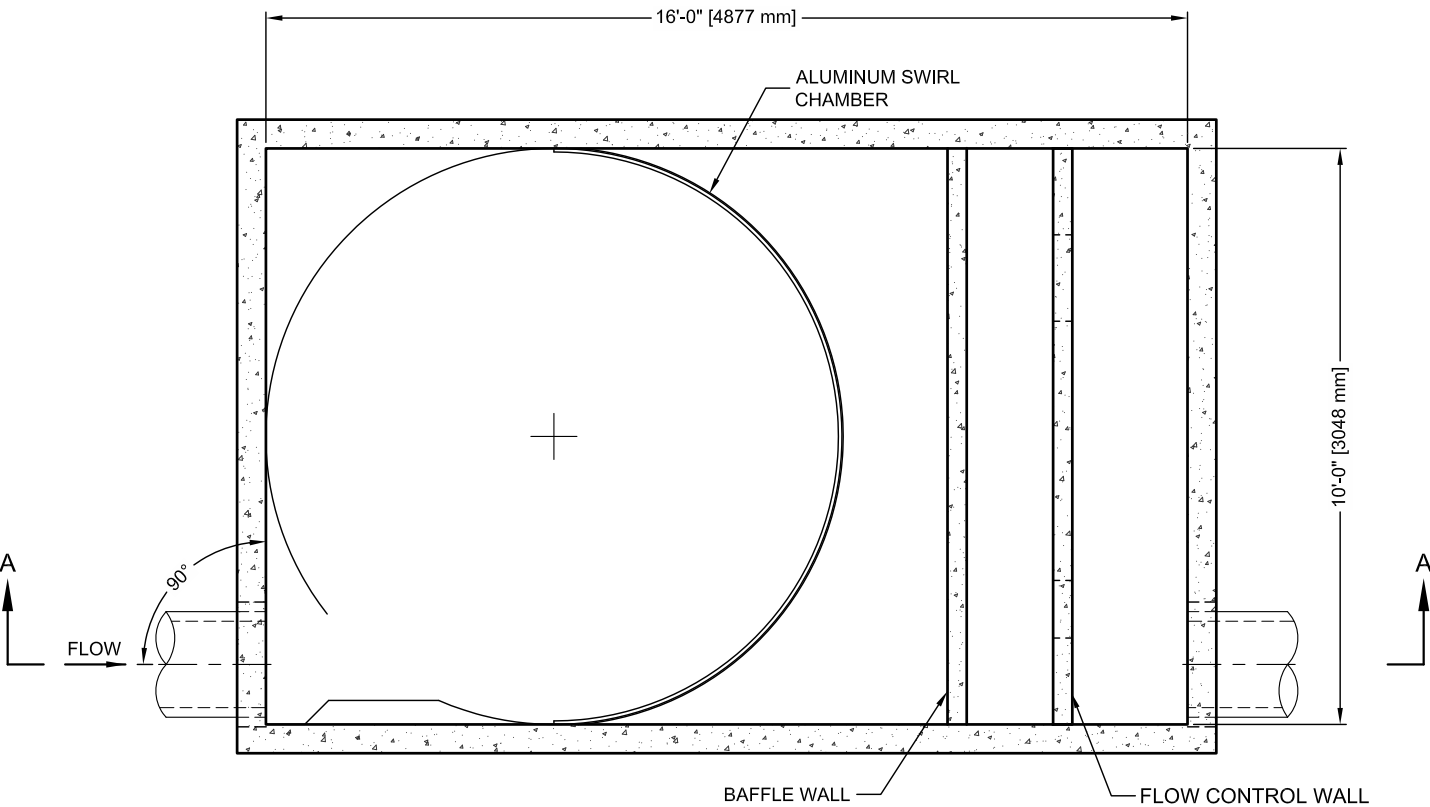
200 Enterprise Drive, Scarborough, ME 04074
877-907-8676 207-885-9830 207-885-9825 FAX

TYPICAL BYPASS LAYOUT VORTECHS® STORMWATER TREATMENT SYSTEM

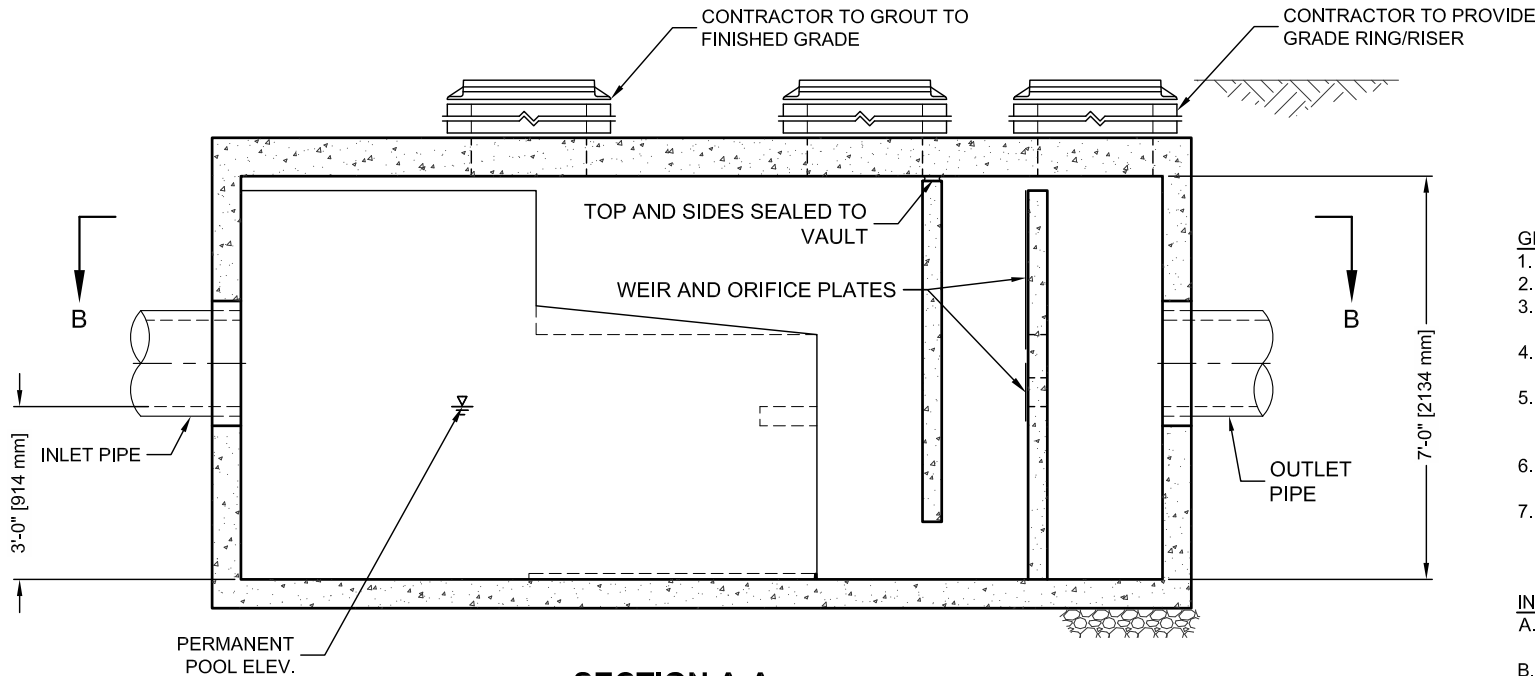
98 of 180

DATE: 3/8/13	SCALE: NONE	PROJECT No.: TYPVXBPLOR	SEQ. No.: N/A	DRAWN: SCF	CHECKED: NDG
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I:\COMMON\CAD\TREATMENT\20 VORTECHS\40 STANDARD DRAWINGS\DWG\1X-11000-DTL.DWG 8/6/2014 2:28 PM



SECTION B-B

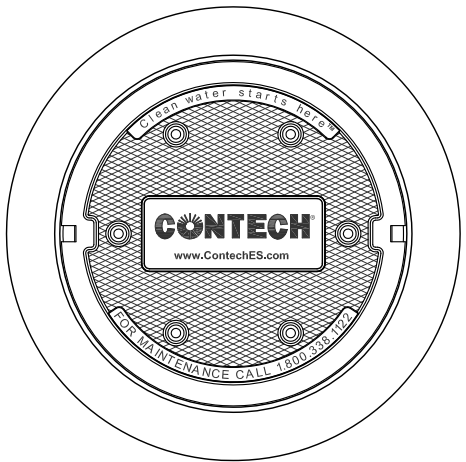


SECTION A-A

VORTECHS 11000 DESIGN NOTES

VORTECHS 11000 RATED TREATMENT CAPACITY IS 17.5 CFS, OR PER LOCAL REGULATIONS. IF THE SITE CONDITIONS EXCEED RATED TREATMENT CAPACITY, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

THE STANDARD INLET/OUTLET CONFIGURATION IS SHOWN. FOR OTHER CONFIGURATION OPTIONS , PLEASE CONTACT YOUR CONTECH CONSTRUCTION PRODUCTS REPRESENTATIVE. www.ContechES.com



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

**SITE SPECIFIC
DATA REQUIREMENTS**

STRUCTURE ID	*
WATER QUALITY FLOW RATE (CFS)	*
PEAK FLOW RATE (CFS)	*
RETURN PERIOD OF PEAK FLOW (YRS)	*

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*
INLET PIPE 2	*	*	*
OUTLET PIPE	*	*	*

RIM ELEVATION	*
---------------	---

ANTI-FLOTATION BALLAST	WIDTH	HEIGHT
	*	*

NOTES/SPECIAL REQUIREMENTS:

* PER ENGINEER OF RECORD

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. VORTECHS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET AASHTO M306 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. INLET PIPE(S) MUST BE PERPEDICULAR TO THE VAULT AND AT THE CORNER TO INTRODUCE THE FLOW TANGENTIALLY TO THE SWIRL CHAMBER. DUAL INLETS NOT TO HAVE OPPOSING TANGENTIAL FLOW DIRECTIONS.
7. OUTLET PIPE(S) MUST BE DOWN STREAM OF THE FLOW CONTROL BAFFLE AND MAY BE LOCATED ON THE SIDE OR END OF THE VAULT. THE FLOW CONTROL WALL MAY BE TURNED TO ACCOMODATE OUTLET PIPE KNOCKOUTS ON THE SIDE OF THE VAULT.

INSTALLATION NOTES

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE VORTSENTRY HS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- C. CONTRACTOR TO INSTALL JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



THIS PRODUCT MAY BE PROTECTED BY THE FOLLOWING
U.S. PATENT: 5,759,415; RELATED FOREIGN PATENTS.

CONTECH
ENGINEERED SOLUTIONS LLC

www.ContechES.com

9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069

800-338-1122 513-645-7000 513-645-7993 FAX

**VORTECHS 11000
STANDARD DETAIL**

VORTECHS SYSTEM® ESTIMATED NET ANNUAL TSS REDUCTION



Spy Pond
Arlington, MA
MODEL NAME VORTECHS 11000
SITE DESIGNATION VORTECHS

Design Ratio¹ =
$$\frac{(27 \text{ acres}) \times (0.9) \times (449 \text{ gpm/cfs})}{(78.5 \text{ sf})} = 138.9$$

Estimated bypass occurs at an elevation of 3.7' (at approximately 73 gpm/sf) above inlet invert*
*assuming a weir length of 6 ft

<u>Rainfall Intensity</u> "/hr	<u>Operating Rate</u> ² gpm/sf	<u>Treated Flow</u> cfs	<u>% Total Rainfall</u> Volume ³	<u>Rmvl. Effic</u> ⁴ (%)	<u>Rel. Effic</u> (%)
0.02	2.8	0.49	10.2%	100.0%	10.2%
0.04	5.6	0.97	9.6%	100.0%	9.6%
0.06	8.3	1.46	9.4%	100.0%	9.4%
0.08	11.1	1.94	7.7%	99.8%	7.7%
0.10	13.9	2.43	8.6%	99.8%	8.6%
0.12	16.7	2.92	6.3%	99.6%	6.3%
0.14	19.4	3.40	4.7%	99.4%	4.6%
0.16	22.2	3.89	4.6%	99.1%	4.6%
0.18	25.0	4.38	3.5%	99.8%	3.5%
0.20	27.8	4.86	4.3%	98.5%	4.3%
0.25	34.7	6.08	8.0%	96.3%	7.7%
0.30	41.7	7.29	5.6%	92.7%	5.2%
0.35	48.6	8.51	4.4%	88.8%	3.9%
0.40	55.6	9.72	2.5%	84.5%	2.1%
0.45	62.5	10.94	2.5%	79.9%	2.0%
0.50	69.5	12.15	1.4%	74.8%	1.0%
0.75	104.6	18.31	5.1%	0.0%	0.0%
1.00	139.5	24.41	1.0%	0.0%	0.0%
1.50	171.6	30.02	0.0%	0.0%	0.0%
2.00	183.2	32.06	0.0%	0.0%	0.0%
3.00	202.3	35.39	0.2%	0.0%	0.0%
					90.8%
% rain falling at >0"/hr or bypassing treatment =					0.2%
Assumed removal efficiency for bypassed flows =					0.0%
Estimated reduction in efficiency ⁴ =					6.5%
Predicted Net Annual Load Removal Efficiency =					84%

1 - Design Ratio = (Total Drainage Area) x (Runoff Coefficient) x (cfs to gpm conversion) / Grit Chamber Area
 - The Total Drainage Area and Runoff Coefficient is specified by the site engineer.
 - The conversion factor from cfs to gpm is 449.

2 - Operating Rate (gpm/sf) = intensity ("/hr) x Design Ratio.

3 - Based on 10 years of hourly precipitation data from NCDC Station 770, Boston WSFO AP, Suffolk County, MA

4- Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.

Calculated by: CJA 5/8/15 Checked by:

Construction Period Operation & Maintenance Plan

Construction Period Stormwater
Operation & Maintenance Plan

Site Redevelopment
47 Spy Pond Lane (Lot 2/B), Arlington, MA

Erosion and Sedimentation will be controlled at the site by utilizing Structural Practices, Stabilization Practices, and Dust Control. These practices correspond with site plans submitted for the 47 Spy Pond Lane (Lot 1/A) project.

Responsible Party

Seaver Construction, Inc.
215 Lexington Street
Woburn, MA 01801

City of Arlington Emergency Contact Information

Conservation Administrator

Town Hall
730 Massachusetts Avenue
Arlington, MA
(781) 316 3012

Project Summary

The project involves the construction of a new home, driveway, landscaping and utilities. A wetland resource area, ie Spy Pond, at the rear of the property requires diligence in ensuring that disturbance to the site does not cause erosion or detriment to the resource area. At the outset of the project, erosion controls shall be installed and maintained throughout the duration of the proposed work as follows.

Erosion & Sedimentation Control Practices

- 1) **Silt Sock Erosion Control Barrier** – A Filter Mitt erosion control barrier, backed by an entrenched row of siltation control fencing, will be installed along downward slopes at the limit of work shown on the site plans. This control will be installed prior to soil disturbance on the site. The sediment fence should be installed as shown on the Site Plans.

Filter Mitt Inspection/Maintenance *

- a) Erosion control should be inspected immediately after each rainfall event of 1-inch or greater, and at least daily during prolonged rainfall. Inspect the depth of sediment, fabric tears, if the silt sock is securely attached to the ground, and to see that the stakes are firmly in the ground. Repair or replace as necessary.
- b) Remove sediment deposits promptly after storm events to provide adequate storage volume for the next rain and to reduce pressure on the sock. Sediment will be removed from behind the sock when it becomes about 3 inches deep at the fence. Take care to avoid undermining sock during cleanout.

- c) Remove all materials after the contributing drainage area has been properly stabilized. Sediment deposits remaining after the fabric has been removed should be graded to conform with the existing topography and vegetated.
- 2) **Stabilized Construction Entrance** – A stabilized construction entrance shall be placed at the location of the proposed driveway, or at the location specified on the site plans. The stabilized entrance shall be installed immediately following the removal of the existing bituminous concrete driveway. The entrance will keep mud and sediment from being tracked onto Spy Pond Lane by vehicles leaving the site. This stabilized entrance shall be 15 feet long and as wide as the proposed drive.

Construction Entrance Design/Construction Requirements *

- a) Stone for a stabilized construction entrance shall consist of 1 to 3-inch stone placed on a stable foundation.
- b) Pad dimensions: The minimum length of the gravel pad should be 15 feet. The pad should extend the full width of the proposed driveway, or wide enough so that the largest construction vehicle will fit in the entrance with room to spare; whichever is greater. If a large amount of traffic is expected at the entrance, then the stabilized construction entrance should be wide enough to fit two vehicles across with room to spare.
- c) A geotextile filter fabric shall be placed between the stone fill and the earth surface below the pad to reduce the migration of soil particles from the underlying soil into the stone and vice versa. The filter fabric should be Amoco woven polypropylene 1198 or equivalent.

Construction Entrance Inspection/Maintenance *

- a) The entrance should be maintained in a condition that will prevent tracking or flowing of sediment onto Spy Pond Lane. This may require periodic topdressing with additional stone.
- b) The construction entrance and sediment disposal area shall be inspected weekly and after heavy rains or heavy use.
- c) Mud and sediment tracked or washed onto public road shall be immediately removed by sweeping.
- d) If washing facilities are used, the sediment traps should be cleaned out as often as necessary to assure that adequate trapping efficiency and storage volume is available.
- e) The pad shall be reshaped as needed for drainage and runoff control.
- f) All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization is achieved or after the temporary practices are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil areas resulting from removal shall be permanently stabilized.

- 3) **Temporary Seeding** – Temporary seeding will allow a short-term vegetative cover on disturbed site areas that may be in danger of erosion. Temporary seeding will be done at stock piles and disturbed portions of the site where construction activity will temporarily cease for at least 21 days. The temporary seedings will stabilize cleared and unvegetated areas that will not be brought into final grade for several weeks or months.

Temporary Seeding Planting Procedures *

- a) Planting should preferably be done between April 1st and June 30th, and September 1st through September 31st. If planting is done in the months of July and August, irrigation may be required. If planting is done between October 1st and March 31st, mulching should be applied immediately after planting. If seeding is done during the summer months, irrigation of some sort will probably be necessary.
- b) Before seeding, install structural practice controls. Utilize Amoco supergro or equivalent.
- c) The seedbed should be firm with a fairly fine surface. Perform all cultural operations across or at right angles to the slope. A minimum of 2 to 4-inches of tilled topsoil is required. The topsoil must have a sandy loam to silt loam texture with 15% to 20% organic content.
- d) Apply uniformly 2 tons of ground limestone per acre (100 lbs. Per 1,000 sq.ft.) or according to soil test. Apply uniformly 10-10-10 analysis fertilizer at the rate of 400 lbs. per acre (14 lbs. per 1,000 sq.ft.) or as indicated by soil test. Forty percent of the nitrogen should be in organic form. Work in lime and fertilizer to a depth of 4-inches using any suitable equipment.
- e) Select the appropriate seed species for temporary cover from the following table.

Species	Seeding Rate (lbs/1,000 sq.ft.)	Seeding Rate (lbs/acre)	Recommended Seeding Dates	Seed Cover required
Annual Ryegrass	1	40	April 1 st to June 1 st August 15 th to Sept. 15 th	¼ inch
Foxtail Millet	0.7	30	May 1 st to June 30 th	½ to ¾ inch
Oats	2	80	April 1 st to July 1 st August 15 th to Sept. 15 th	1 to 1-½ inch
Winter Rye	3	120	August 15 th to Oct. 15 th	1 to 1-½ inch

Apply the seed uniformly by hydroseeding, broadcasting, or by hand.

- f) Use an effective mulch, such as clean grain straw; tacked and/or tied with netting to protect seedbed and encourage plant growth.

Temporary Seeding Inspection/Maintenance *

- a) Inspect within 6 weeks of planting to see if stands are adequate. Check for damage within 24 hours of the end to a heavy rainfall, defined as a 2-year storm event (i.e., 3.2 inches of rainfall within a twenty-four hour period). Stands should be uniform and dense. Fertilize, reseed, and mulch damaged and sparse areas immediately. Tack or tie down mulch as necessary.
 - b) Seeds should be supplied with adequate moisture. Furnish water as needed, especially in abnormally hot or dry weather. Water application rates should be controlled to prevent runoff.
- 4) **Dust Control** - Dust control will be utilized throughout the entire construction process of the site. For example, keeping disturbed surfaces moist during windy periods will be an effective control measure. The use of dust control will prevent the movement of soil to offsite areas. However, care must be taken to not create runoff from excessive use of water to control dust. The following are methods of Dust Control that may be used on-site:
- Vegetative Cover – The most practical method for disturbed areas not subject to traffic.
 - Sprinkling – The site may be sprinkled until the surface is wet. Sprinkling will be effective for dust control on haul roads and other traffic routes.
 - Stone – Stone will be used to stabilize construction entrances; will also be effective for dust control.
- 5) **Material Stockpiling** – Material stockpiles shall be located as far from Wetland Resource Areas as possible and shall never be located within the 100-foot buffer zone as shown on the approved site plans. The preferred location for all stockpiles is at the front of the project locus between the house and Spy Pond Lane.

Post-Construction Stormwater
Operation & Maintenance Plan

Site Redevelopment
47 Spy Pond Land (Lot 2/B), Arlington, MA

Best Management Practices (BMPs) pursuant to the MA DEP Wetlands Protection Act, Arlington Wetlands Protection Bylaw and accepted design practice have been implemented and utilized for the project. The following information provided is to be used as a guideline for monitoring and maintaining the performance of the drainage facilities constructed as part of the site development. The structural Best Management Practices (BMPs) shall be inspected during rainfall conditions during the first year of operation to verify functionality.

Responsible Party

Homeowner

Town of Arlington Contact Information

Conservation Administrator

Town Hall

730 Massachusetts Avenue
Arlington, MA
(781) 316 3012

Maintenance:

1. **Infiltration Systems** – Subsurface infiltration systems shall be inspected twice per year to verify that sediment is not being discharged into the system and that the system is functioning properly. If sediment depth within the system exceeds three inches, an experienced contractor or designer shall be contacted to consult on methods to clean and remediate the system. Furthermore, at least once per year, the system shall be inspected immediately following a heavy rainfall to ensure that the system drains within 72 hours of the end of said storm. If, after 72 hours, the system is still retaining water, the homeowner shall contact a licensed professional civil engineer to determine a method for remediating the system failure.
2. **Crushed Stone Infiltration Trench** – The crushed stone infiltration trench at the edge of the driveway shall be cleaned of debris during regular landscape maintenance. A standard leaf blower can be used to remove debris from the stone surface. If the trench fails to drain after rainfall, the stone shall be removed, washed, and placed back in the trench after the bottom is scarified.
3. **Pesticides, Herbicides and Fertilizers:** - Pesticides and herbicides shall not be used on the property. In addition, fertilizers that are used on the property shall be utilized sparingly and should be restricted to the use of organic fertilizers only

Storage and Disposal of Household Waste and Toxics:

This management measure involves educating the general public on the management considerations for hazardous materials. Failure to properly store hazardous materials dramatically increases the probability that they will end up in local waterways. Many people have hazardous chemicals stored throughout their homes, especially in garages and storage sheds. Practices such as covering hazardous materials or even storing them properly, can have

dramatic impacts. Property owners are encouraged to support the household hazardous product collection events sponsored by the Town of Arlington.

MADEP has prepared several materials for homeowners on how to properly use and dispose of household hazardous materials:

<http://www.mass.gov/dep/recycle/reduce/househol.htm>

For consumer questions on household hazardous waste call the following number:

DEP Household Hazardous Waste Hotline 800-343-3420

Vehicle Washing:

This management measure involves educating the general public on the water quality impacts of the outdoor washing of automobiles and how to avoid allowing polluted runoff to enter the storm drain system. Outdoor car washing has the potential to result in high loads of nutrients, metals, and hydrocarbons during dry weather conditions in many watersheds, as the detergent-rich water used to wash the grime off our cars flows down the street and into the storm drain. The following management practices will be encouraged:

- Washing cars on gravel, grass, or other permeable surfaces.
- Blocking off the storm drain during car washing and redirecting wash water onto grass or landscaping to provide filtration.
- Using hoses with nozzles that automatically turn off when left unattended.
- Using only biodegradable soaps.
- Minimize the amounts of soap and water used. Wash cars less frequently.
- Promote use of commercial car wash services.

Landscape Maintenance:

This management measure seeks to control the storm water impacts of landscaping and lawn care practices through education and outreach on methods that reduce nutrient loadings and the amount of storm water runoff generated from lawns. Nutrient loads generated by fertilizer use on suburban lawns can be significant, and recent research has shown that lawns produce more surface runoff than previously thought.

Using proper landscaping techniques can effectively increase the value of a property while benefiting the environment. These practices can benefit the environment by reducing water use; decreasing energy use (because less water pumping and treatment is required); minimizing runoff of storm and irrigation water that transports soils, fertilizers, and pesticides; and creating additional habitat for plants and wildlife. The following lawn and landscaping management practices will be encouraged:

- Mow lawns at the highest recommended height.
- Minimize lawn size and maintain existing native vegetation.

- Collect rainwater for landscaping/gardening needs (rain barrels and cisterns to capture roof runoff).
- Raise public awareness for promoting the water efficient maintenance practices by informing users of water efficient irrigation techniques and other innovative approaches to water conservation.
- Abide by water restrictions and other conservation measures implemented by the Town of Arlington.
- Water only when necessary.
- Use automatic irrigation systems to reduce water use.



Town of Arlington, Massachusetts

Notice of Intent: 93 Sunnyside Ave (continued from 2/27/2020)

Summary:

MassDEP File #091-0319

This Notice of Intent (NOI) was presented to the Commission on 2/27/2020 and 3/5/2020 with the opportunity for public comment. It is likely that the public comment period for this NOI will close during the 4/2/2020 virtual meeting. It is strongly encouraged that members of the public submit written comment for this NOI to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for this NOI can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

This project proposes an addition in the backyard and expanding a mudroom in the front yard. The back addition is within the 200-ft Riverfront Area and 100-year floodplain. The back addition is proposed to be built on footings, above the floodplain. The front addition is within the 200-ft Riverfront Area. The project also proposes installing a deck and porous paver driveway in the back yard. As mitigation, this project proposes a native vegetated buffer and three drywells that capture all roof runoff.

ATTACHMENTS:

Type	File Name	Description
☐ Notice of Intent	93_Sunnyside_Ave_NOI_redacted.pdf	93 Sunnyside Ave NOI Packet
☐ Notice of Intent	93_Sunnyside_Revised_Plans.pdf	93 Sunnyside Ave Revised Plans
☐ Notice of Intent	93_Sunnyside_Revised_Narrative.pdf	93 Sunnyside Ave Revised Narrative



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

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):

93 Sunnyside Avenue

Arlington

02474

a. Street Address

b. City/Town

c. Zip Code

Latitude and Longitude:

42.410930

-71.133160

34-3

d. Latitude

e. Longitude

18

f. Assessors Map/Plat Number

g. Parcel /Lot Number

2. Applicant:

Lynne

Cooney

a. First Name

b. Last Name

c. Organization

93 Sunnyside Avenue

d. Street Address

Arlington

MA

02474

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

3. Property owner (required if different from applicant):

☐ Check if more than one owner

Same as above.

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):

None

a. First Name

b. Last Name

c. Company

d. Street Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email address

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

\$310.00

\$42.50

267.50

a. Total Fee Paid

b. State Fee Paid

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

City/Town

A. General Information (continued)

6. General Project Description:

see attached project narrative

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

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Commercial/Industrial | 4. <input type="checkbox"/> Dock/Pier |
| 5. <input type="checkbox"/> Utilities | 6. <input type="checkbox"/> Coastal engineering Structure |
| 7. <input type="checkbox"/> Agriculture (e.g., cranberries, forestry) | 8. <input type="checkbox"/> Transportation |
| 9. <input type="checkbox"/> Other | |

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

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

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

South Middlesex

a. County

73753

b. Certificate # (if registered land)

38

c. Book

d. Page Number

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

- ☐ 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.
- ☒ Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

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



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

City/Town

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

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

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	1. square feet 4.28 Cubic Ft. 3. cubic feet of flood storage lost	2. square feet 8.56 Cubic Ft. 4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input checked="" type="checkbox"/> Riverfront Area	Alewife 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: 2983 sq. ft.
square feet

4. Proposed alteration of the Riverfront Area:

a. total square feet	b. square feet within 100 ft.	increase in impervious surface c. square feet between 100 ft. and 200 ft.
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5. Has an alternatives analysis been done and is it attached to this NOI? ☒ Yes ☐ No

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

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

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



Massachusetts Department of Environmental Protection
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

City/Town

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

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

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

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	1. square feet _____ 2. cubic yards dredged _____	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet _____	2. cubic yards beach nourishment _____
e. <input type="checkbox"/> Coastal Dunes	1. square feet _____	2. cubic yards dune nourishment _____
	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	1. linear feet _____	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet _____	
h. <input type="checkbox"/> Salt Marshes	1. square feet _____	2. sq ft restoration, rehab., creation _____
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet _____	
	2. cubic yards dredged _____	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet _____	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged _____	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet _____	
4. <input type="checkbox"/> 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

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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Provided by MassDEP:

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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.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

Provided by MassDEP:

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

City/Town

D. Additional Information (cont'd)

3. ☐ Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. ☒ List the titles and dates for all plans and other materials submitted with this NOI.
- Topographic Plan of Land
- | | |
|---|--|
| <p>a. Plan Title</p> <p style="margin-left: 20px;">Medford Survey Inc.</p> | <p>Richard J. Mead Jr.</p> |
| <p>b. Prepared By</p> <p style="margin-left: 20px;">1.17.2020</p> | <p>c. Signed and Stamped by</p> <p style="margin-left: 20px;">1" = 20'</p> |
| <p>d. Final Revision Date</p> <p style="margin-left: 20px;">See application packet.</p> | <p>e. Scale</p> |
| <p>f. Additional Plan or Document Title</p> | <p>g. Date</p> |
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:

<p>2. Municipal Check Number</p>	<p>February 10, 2020</p> <p>3. Check date</p>
<p>4. State Check Number</p> <p style="margin-left: 20px;">Lynne</p>	<p>February 10, 2020</p> <p>5. Check date</p> <p style="margin-left: 20px;">Cooney</p>
<p>6. Payor name on check: First Name</p>	<p>7. Payor name on check: Last Name</p>



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Provided by MassDEP:

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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.

Lynne Cooney

1. Signature of Applicant

2/13/2020

2. Date

3. Signature of Property Owner (if different)

4. Date

5. Signature of Representative (if any)

6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

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

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



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

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



A. Applicant Information

1. Location of Project:

93 Sunnyside Avenue

Arlington, MA 02474

b. City/Town

\$42.50

d. Fee amount

c. Check number

2. Applicant Mailing Address:

Lynne

Cooney

a. First Name

b. Last Name

c. Organization

93 Sunnyside Avenue

d. Mailing Address

Arlington

MA
f. State

02474
g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

3. Property Owner (if different):

Same as Above

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

h. Phone Number

i. Fax Number

j. Email Address

B. Fees

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

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

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

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

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

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

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

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



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

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Work on Single Family House + Additon	1	\$110.00	\$110.00
Step 5/Total Project Fee:			\$110.00

Step 6/Fee Payments:

Total Project Fee:	\$110.00
	a. Total Fee from Step 5
State share of filing Fee:	\$42.50
	b. 1/2 Total Fee less \$12.50
City/Town share of filing Fee:	\$67.50
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

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

NOI Application Project Narrative
Lynne Cooney
93 Sunnyside Avenue, Arlington, MA 02474

General Project Description

Proposed interior renovations and two-story rear addition to existing 2 Bedroom, 1 Bathroom single family unit, which is part of an attached 2-family structure. Project includes kitchen and bedroom addition off rear (180 sq. ft.) and expansion of existing entry mudroom (from 17 sq. ft. to 46 sq. ft.). New elevated deck also proposed constructed off of the new rear addition (145 sq. ft.). Existing rear concrete slab and knee walls to be reused at deck structure.

Back elevated addition will increase impervious surface area by 180 sq. ft. and front addition would increase impervious surface area by 29 sq. ft. for a total increase in impervious area of 209 sq. ft. This increase in impervious area is within the 200-foot riverfront area and the 180 sq. ft. expansion is within the floodplain. Back elevated addition will be built above the floodplain with footings not foundation. The new footings will take up 4.28 cubic feet of floodplain. 8.56 cubic ft. of soil will be removed from the floodplain as compensatory flood storage.

Proposed driveway (284 sq. ft.) of permeable pavers (Unilock Eco-Priora materials packet included with proposal packet) will be installed on 1" bedding sand over 8" minimum of aggregate gravel base to reduce the amount of stormwater runoff.

400 sq. ft. of vegetation buffer at rear of property will replace existing grass yard and act as mitigation for this project in the 200-foot riverfront area. Three new drywells will also be installed as stormwater mitigation. Drywells will capture all roof square footage including current roof and new back & front addition.

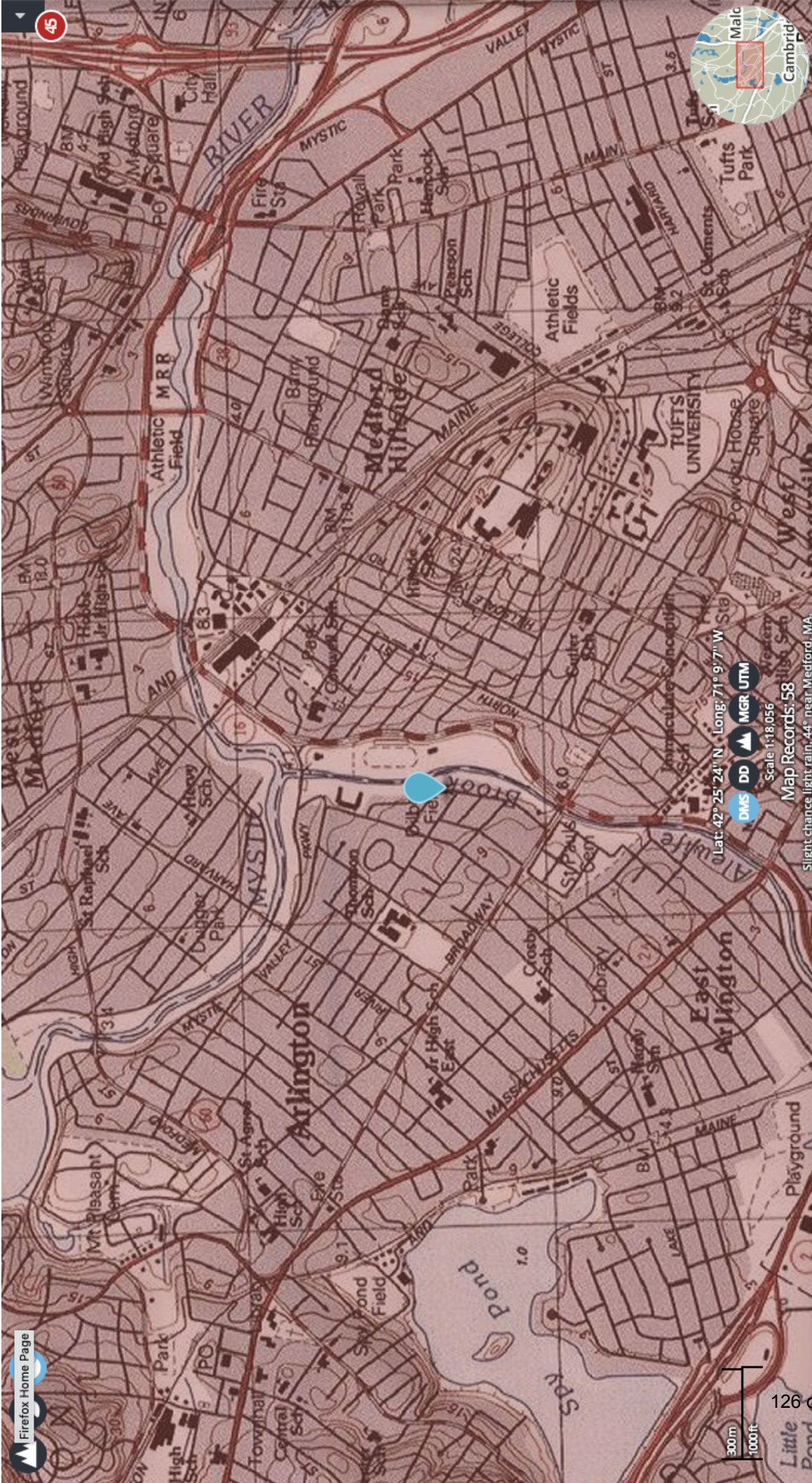
Climate Change Resilience (in accordance with Section 31 of the Arlington Regulations for Wetlands Protection).

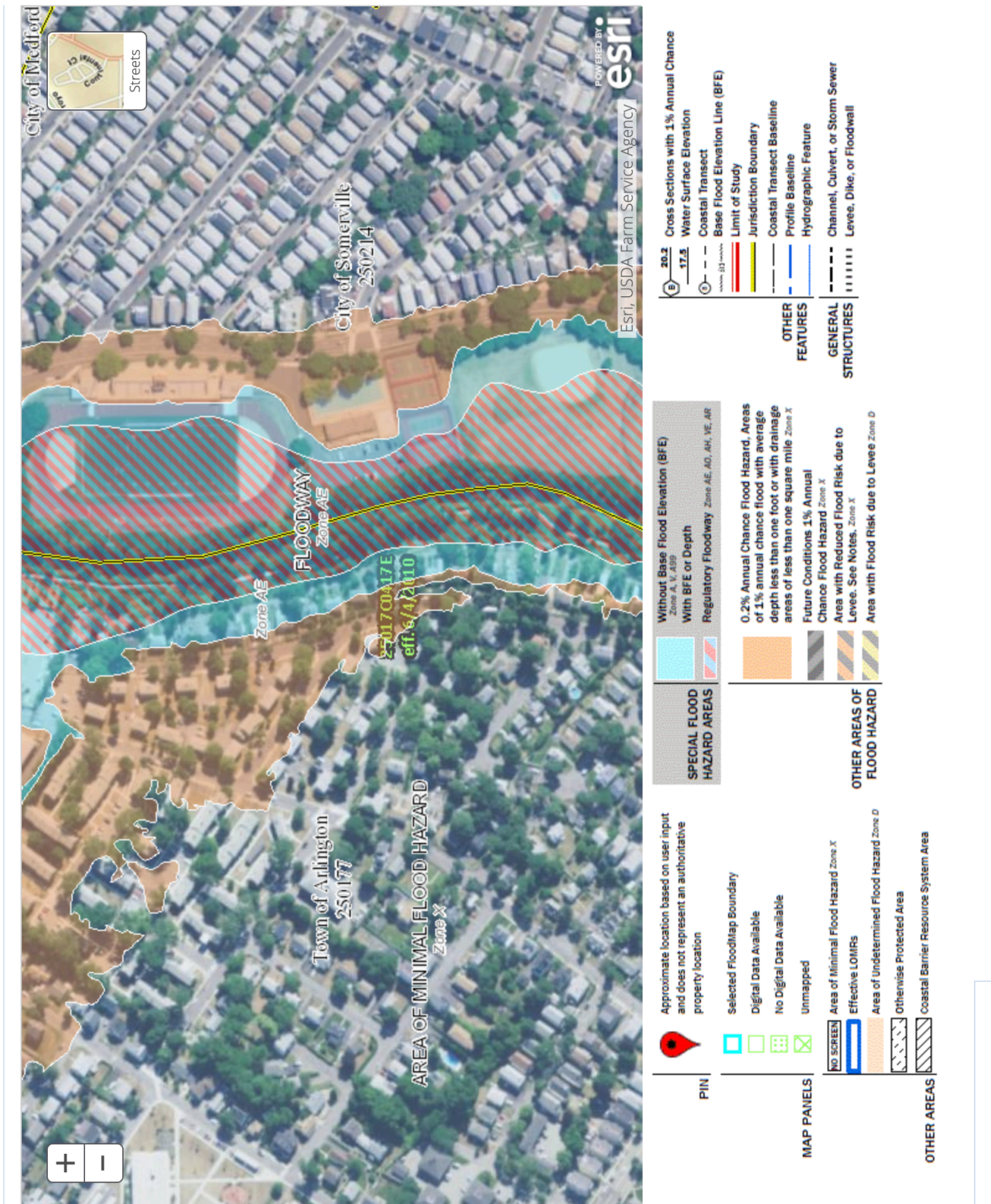
1. This project limits storm and flood damage by building above the floodplain, with minimal floodplain encroachment. The back addition will be built on footings, not on a foundation. The total floodplain encroachment is 4.28 cubic feet, and will be mitigated by creating 8.56 cubic feet of compensatory flood storage. Additionally, this project proposes adding three new drywells to the site, reducing stormwater runoff. Finally, this project proposes to create a 400 square foot vegetated buffer zone with native plantings close to the 100-foot wetlands buffer. The native plantings will mitigate stormwater runoff better than the existing grass yard and create better quality wildlife habitat.

2. This project proposes to mitigate stormwater runoff and enhance stormwater quality through three interventions: The addition of three new drywells, a new 400 square foot vegetated buffer area, and a new permeable paver driveway (described above). These interventions will control stormwater runoff and infiltrate runoff such that nutrients and pollutants will be removed prior to entering Alewife Brook.

3. The 400 square foot vegetated buffer will include native plants. The water table on this site is high, so plants will be selected such that they can tolerate both dry and wet conditions. Pollinator plants will also be planted to encourage enhanced wildlife habitat. This project will include the removal of non-native plants from overgrown areas (without the use of chemicals or toxic sprays) and planting native vegetation buffer along the border of riverfront area on back of property. Supplemental landscaping to front of house to include pruning existing shrubs (not more than 20% per the Commission's regulations) and adding native shrubbery and vegetation.

3. This project minimizes the impacts of climate change on the structure by building the addition and deck above the floodplain, improving stormwater management, and increasing vegetative cover onsite.





PROJECT ADDRESS / APN:
93 SUNNYSIDE AVENUE
ARLINGTON MA 02474

APN: 34-3-18

OWNER:

MICHAEL GREENBLATT + LYNNIE COONEY
93 SUNNYSIDE AVENUE
ARLINGTON MA 02474

ARCHITECT:

blanchard+A+D, LLC
MA LIC#: 30597
661 MASSACHUSETTS AVE.
SUITE 20
ARLINGTON MA 02476
(617) 519-5434

PROJECT DESCRIPTION:

EXISTING 2 BEDROOM, 1 BATHROOM SINGLE-FAMILY UNIT PART OF A 2-FAMILY STRUCTURE ON A 5,959 SQ. FT. LOT (+/-2,983 SQ. FT. PER UNIT). PROPOSED INTERIOR RENOVATIONS w/ NEW ENTRY MUDROOM (46 SQ. FT.) AND KITCHEN/W. BEDROOM ADDITION OFF REAR (180 SQ. FT.). PROPOSED NEW ATTIC DORMER WITHING EXISTING FOOTPRINT AT ROOF LEVEL. PROPOSED NEW DECK AT NEW REAR ADDITION - 145 SQ. FT. EXISTING REAR CONCRETE SLAB AND KNEEWALLS TO BE REUSED AT DECK STRUCTURE.

PROJECT STATISTICS:

LOT AREA:

2,983 SQ. FT.

EXISTING LOT COVERAGE:

396 SQ. FT. + 17 SQ. FT. = 413 SQ. FT. (13.8%)

MAX. LOT COVERAGE ALLOWED:

1,044 SQ. FT. (35% PER R2)
+447 SQ. FT. (+15% PER A5.7.5,B.2)

PROPOSED BUILDING AREA:

EXISTING INTERIOR:
EXISTING ENTRY REMOVED:
NEW MUDROOM ENTRY:
NEW REAR ADDITION:

398 + 409 = 807 GROSS SQ. FT.
-17 GROSS SQ. FT.
46 GROSS SQ. FT.
360 GROSS SQ. FT. (+9.0%)

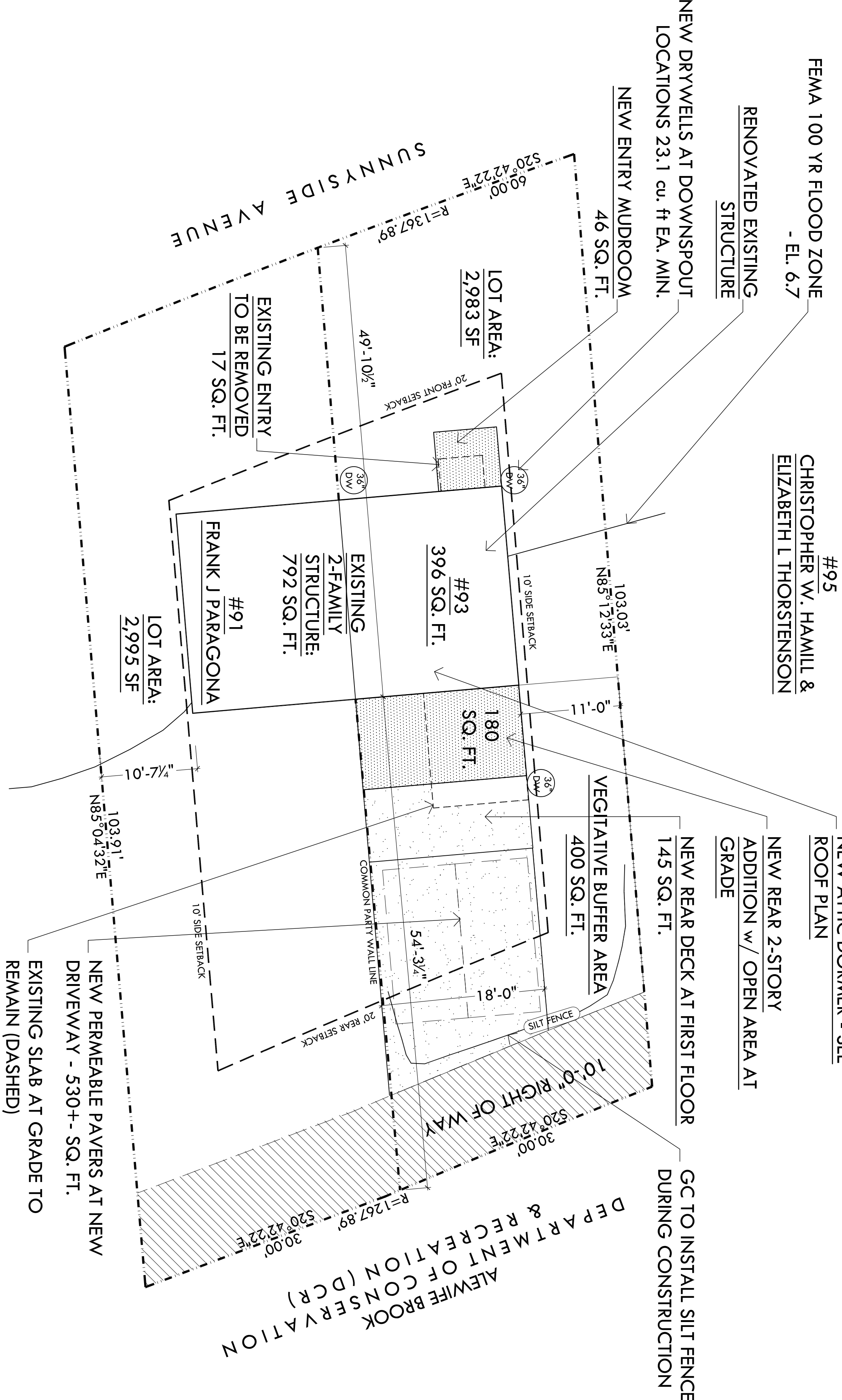
1,196 SQ. FT. (+389 GROSS SQ. FT AREA)

NEW PROPOSED LOT COVERAGE:

EXISTING//RENOVATED INTERIOR:
REMOVAL OF EXISTING ENTRY:
NEW ENTRY MUDROOM:
NEW REAR ADDITION::

396 SQ. FT.
-17 SQ. FT.
46 SQ. FT.
180 SQ. FT.

534 SQ. FT. (+209 SQ. FT, +7.5% LOT COVERAGE)



#89
VLADAMIR N. JANDEISEK

SITE PLAN
1/8" = 1'-0"

SITE PLAN GENERAL NOTES:

THE PROPERTY LINE AND BOUNDARY INFORMATION IS BASED ON INFORMATION PROVIDED BY THE PLOT PLAN BY JOSEPH SELWYN, REGISTERED LAND SURVEYOR, REPORT DATED UNKNOWN - COPY IS ON FILE AT ISD.

TEMPORARY INFILTRATION TRENCHES TO BE USED ON SITE DURING ANY/ALL DE-WATERING DURING FOUNDATION WORK. INFILTRATION TRENCHES TO USE 3/4" GRAVEL AT A DEPTH OF 3' FROM GRADE OR TO TOP OF WATER TABLE, V/F. ALL TRENCHES SHALL BE RESTORED POST CONSTRUCTION.

PERMEABLE PAYER SYSTEM: (5" x 10" UNILOCK ECO-PRORA) SHALL BE INSTALLED ON 1" OF BEDDING SAND, 90% COMPACTED OVER 8" MINIMUM OF AGGREGATE GRAVEL BASE, COMPACTED 90%. PLASTIC EDGE RESTRAINTS SHALL BE INSTALLED ALONG EACH SITE USING 10" GALVANIZED SPIKES. IF SOIL CONDITIONS ARE POOR, INCREASE BASE DEPTH TO 12". APPLY POLYMETRIC JOINTING SAND TO REDUCE WEED GROWTH - DO NOT USE CHEMICAL WEED KILLERS AS PART OF THE MAINTENANCE PLAN. SEE PRODUCT SPECIFICATIONS FOR SPECIFIC INSTALLATION REQUIREMENTS.

NEW DRYWELLS (LEACHING PITS): INSTALL 36" DIAM. x 66" DEEP DRYWELLS LINED w/ 5 OZ. WOVEN, NEEDLE-PUNCHED POLYPROPYLENE LANDSCAPE FABRIC AND INFILLED w/ 3/4" GRAVEL AGGREGATE. PROVIDE PERFORATED 4" PVC PIPE TO BE DROPPED INTO THE DRYWELL AND CONNECT BOTTOM OF DOWNSPOUT TO PIPE. MAINTAIN PIPE AND DRAINAGE BY CLEARING OUT ORGANIC MATERIAL, LEAVES AND DIRT EVERY 45-60 DAYS, MIN.

LEGEND

- NEW HOUSE / ADDITION
- NEW DRIVEWAY
- DRIPWAY
- EXIST. CONTOUR
- NEW CONTOUR

ASSESSOR'S MAP 034.0 BLOCK 003, LOT 0018.0
93 SUNNYSIDE AVENUE,
ARLINGTON MA 02474

ZONING: R-2, TWO FAMILY RESIDENTIAL

SETBACK REQUIRED:

FRONT: 20'
SIDE: 10'
REAR: 20'
PARTY WALL: 0'
HEIGHT: 35', 2.5 STORIES MAXIMUM

**GREENBLATT
- COONEY
RESIDENCE**
93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474

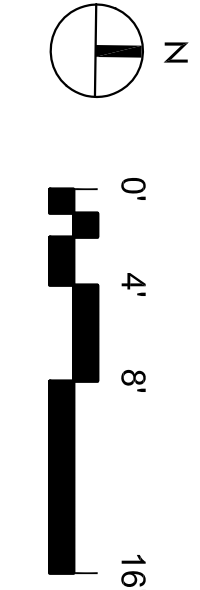


blanchard+A+D
661 MASSACHUSETTS AVENUE
SUITE 20
ARLINGTON, MA 02476
TELEPHONE: 617-519-5434
EMAIL: bcooney@blanchardad.com

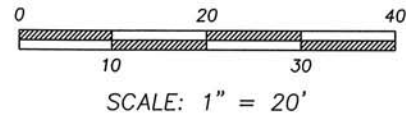
**NOT FOR
CONSTRUCTION**

blanchard+A+D, LLC (Architect/Engineer) reserves the Common Law Copyrights and other property rights in these drawings. These drawings are the property of blanchard+A+D, LLC and shall not be reproduced in any manner without the written permission from blanchard+A+D, LLC (Architect/Engineer).
c 2020 blanchard+A+D, LLC / Timothy J. Blanchard, AIA

**PROPOSED
SITE PLAN**



A1.0



CURRENT OWNER: JEFFREY STERN
TITLE REFERENCE: BK 26089 PG 364
PLAN REFERENCE: 1049 OF 1948

THIS PLAN WAS PREPARED WITHOUT A FULL TITLE EXAMINATION AND IS NOT A CERTIFICATION TO THE TITLE OF THE LANDS SHOWN. THE OWNERSHIP OF ABUTTING PROPERTIES IS ACCORDING TO ASSESSORS RECORDS. THIS PLAN MAY OR MAY NOT SHOW ALL ENCUMBRANCES WHETHER EXPRESSED, IMPLIED OR PRESCRIPTIVE.

SURVEYOR'S CERTIFICATION:

TO: TIMOTHY BLANCHARD

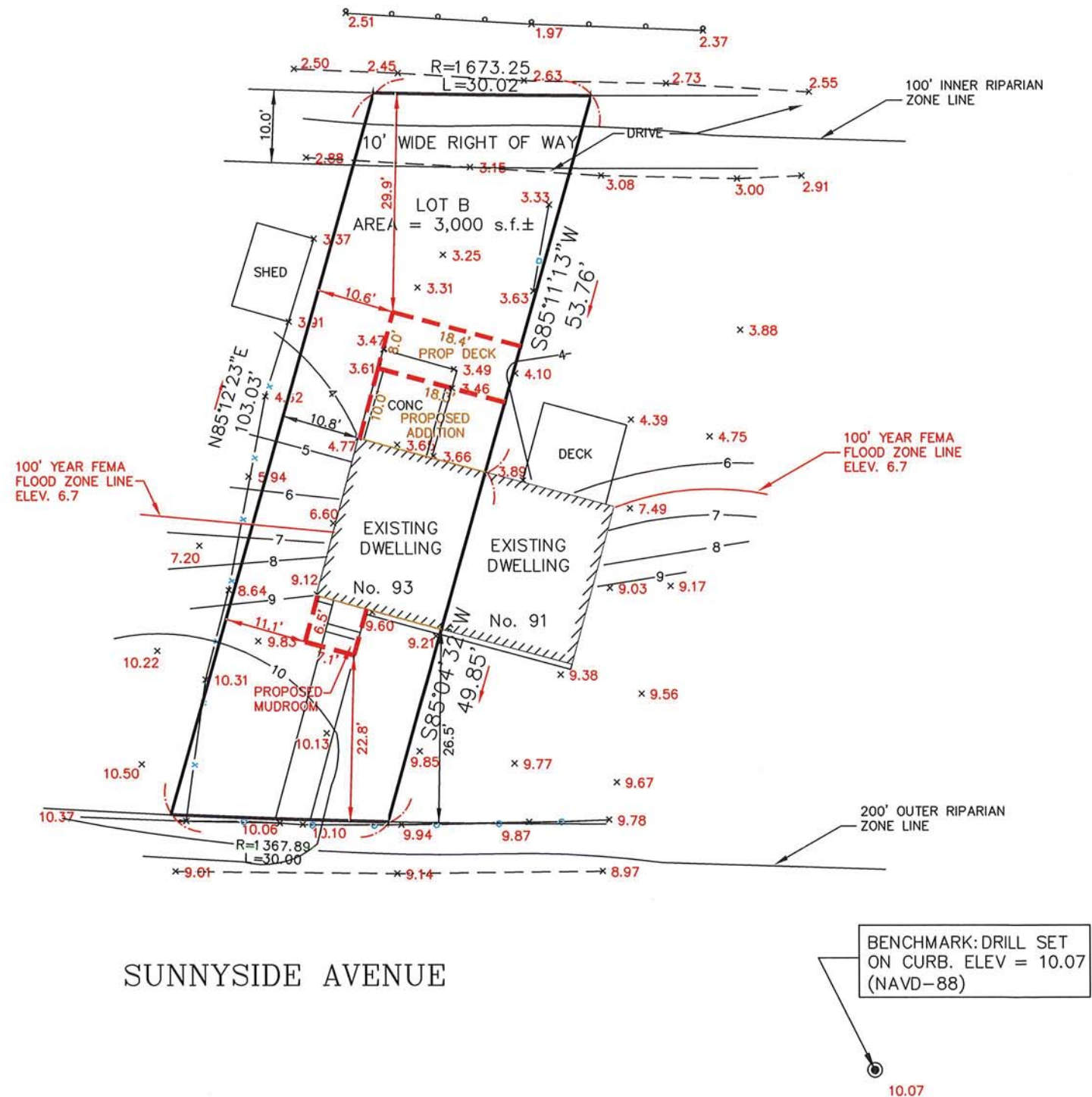
I CERTIFY THAT THIS PLAN AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE GENERALLY ACCEPTABLE PRACTICES OF LAND SURVEYORS IN THE COMMONWEALTH OF MASSACHUSETTS FOR A PLAN AND SURVEY OF THIS TYPE. THIS CERTIFICATION IS MADE ONLY TO THE ABOVE NAMED INDIVIDUAL(S) AND IS NULL AND VOID UPON ANY FURTHER CONVEYANCE OF THIS PLAN.

THE FIELD WORK WAS COMPLETED ON: JANUARY 15, 2020
DATE OF PLAN: JANUARY 17, 2020


RICHARD J. MEDE, JR. P.L.S.

01/17/2020

DATE:



TOPOGRAPHIC PLAN OF LAND
93 SUNNYSIDE AVE
ARLINGTON, MA.
(MIDDLESEX COUNTY)

PREPARED BY:

**MEDFORD
ENGINEERING
& SURVEY**

ANGELO B. VENEZIANO ASSOCIATES
15 HALL STREET, MEDFORD, MA 02155
781-396-4466 fax: 781-396-8052

PREPARED FOR:

TIMOTHY BLANCHARD

DRAWN	CHECKED	FILE No.
CAV	RJM	20706



VIEW FROM FRONT (WEST)

N.T.S.

A



VIEW FROM REAR (EAST)

N.T.S.

B



REAR EXISTING KNEEWALL & SLAB OFF LOWER LEVEL
N.T.S.

C



VIEW FROM REAR ALONG EASEMENT/ROAD (EAST)
N.T.S.

①



VIEW OF REAR AT EXISTING CONCRETE PAD
N.T.S.

E

**GREENBLATT
- COONEY
RESIDENCE**

93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474



b l a n c h a r d A + D
661 MASSACHUSETTS AVENUE
SUITE 20
ARLINGTON, MA 02476
tblanchard@gmail.com
TELEPHONE 617-519-5434

NOT FOR
CONSTRUCTION

02/13/20 CONSERVATION COMMISSION		
No	Date	Revision / Issue

Project Number	Scale	
1908	AS NOTED	

Drawn By	Checked By	
ib	ib	

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SITE PHOTOGRAPHS

GREENBLATT
- COONEY
RESIDENCE

93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474



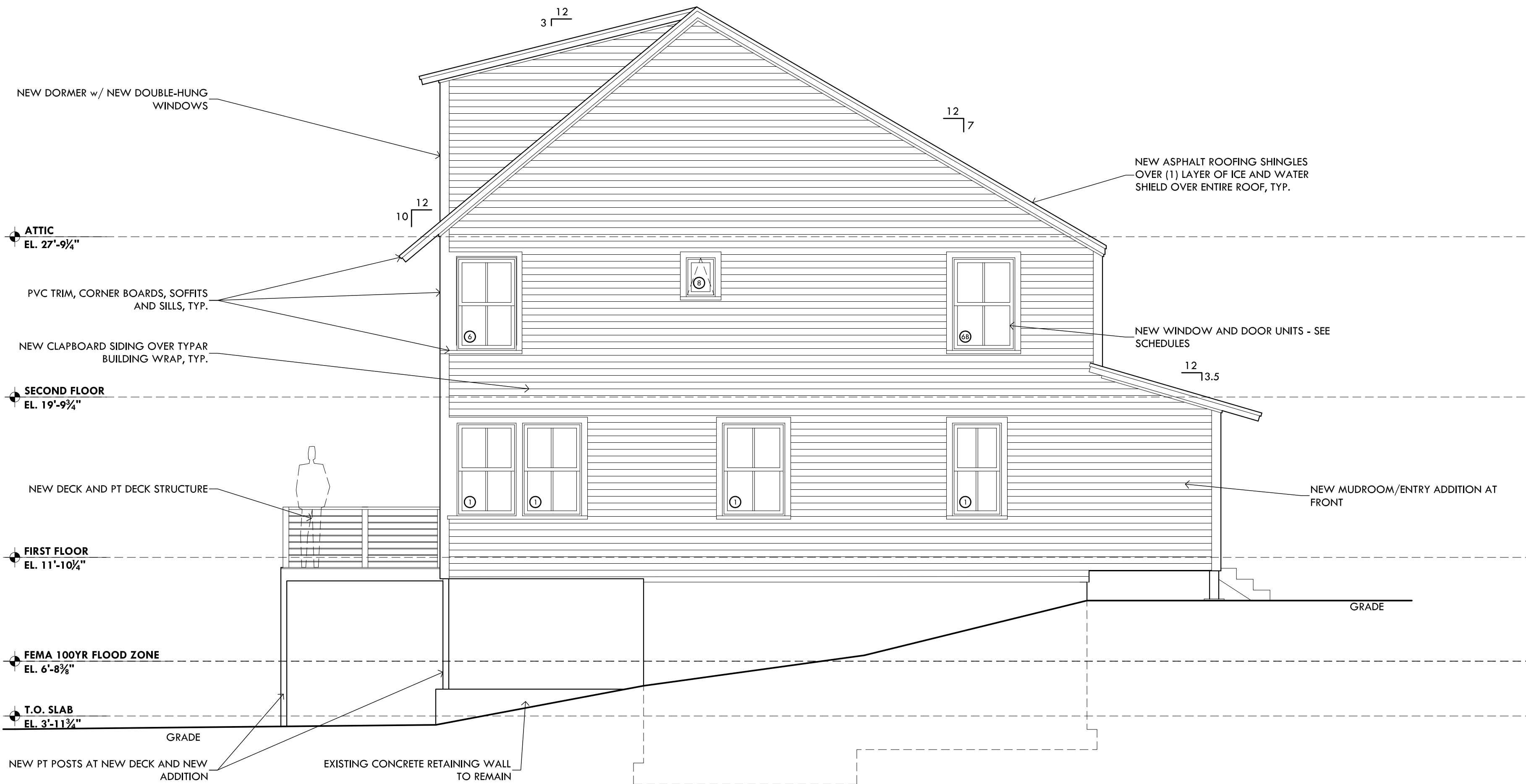
blanchardA+D
661 MASSACHUSETTS AVENUE
SUITE 20
ARLINGTON, MA 02476
blanchard@gmail.com
TELEPHONE 817-519-5434

NOT FOR
CONSTRUCTION

02/10/20 CONSERVATION COMMISSION		
No	Date	Revision / Issue
Project Number	1908	Scale AS NOTED
Drawn By	tb	Checked By tb
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PROPOSED
EXTERIOR
ELEVATIONS

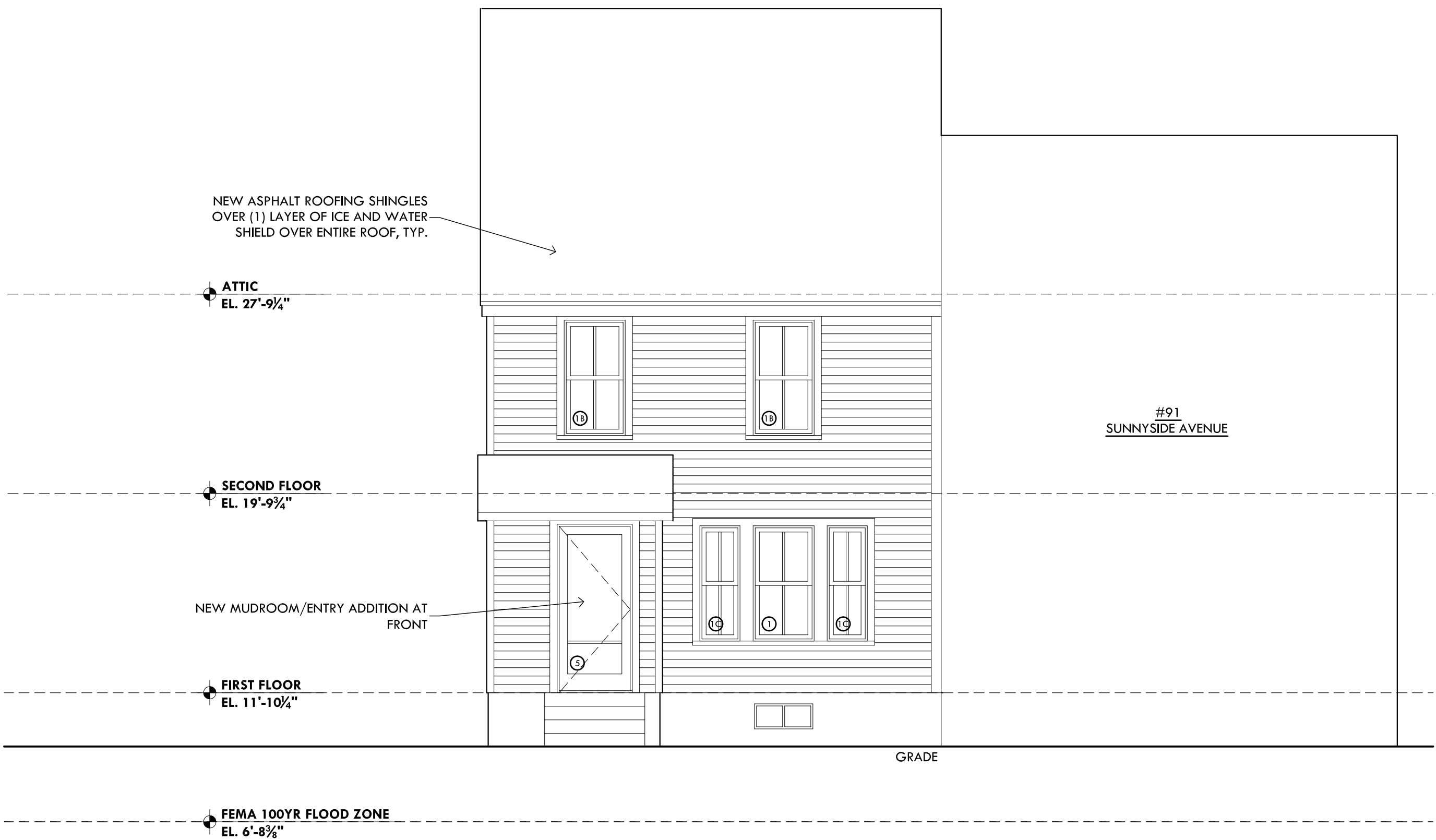
A3.0



PROPOSED NORTH ELEVATION

1/4" = 1'-0"

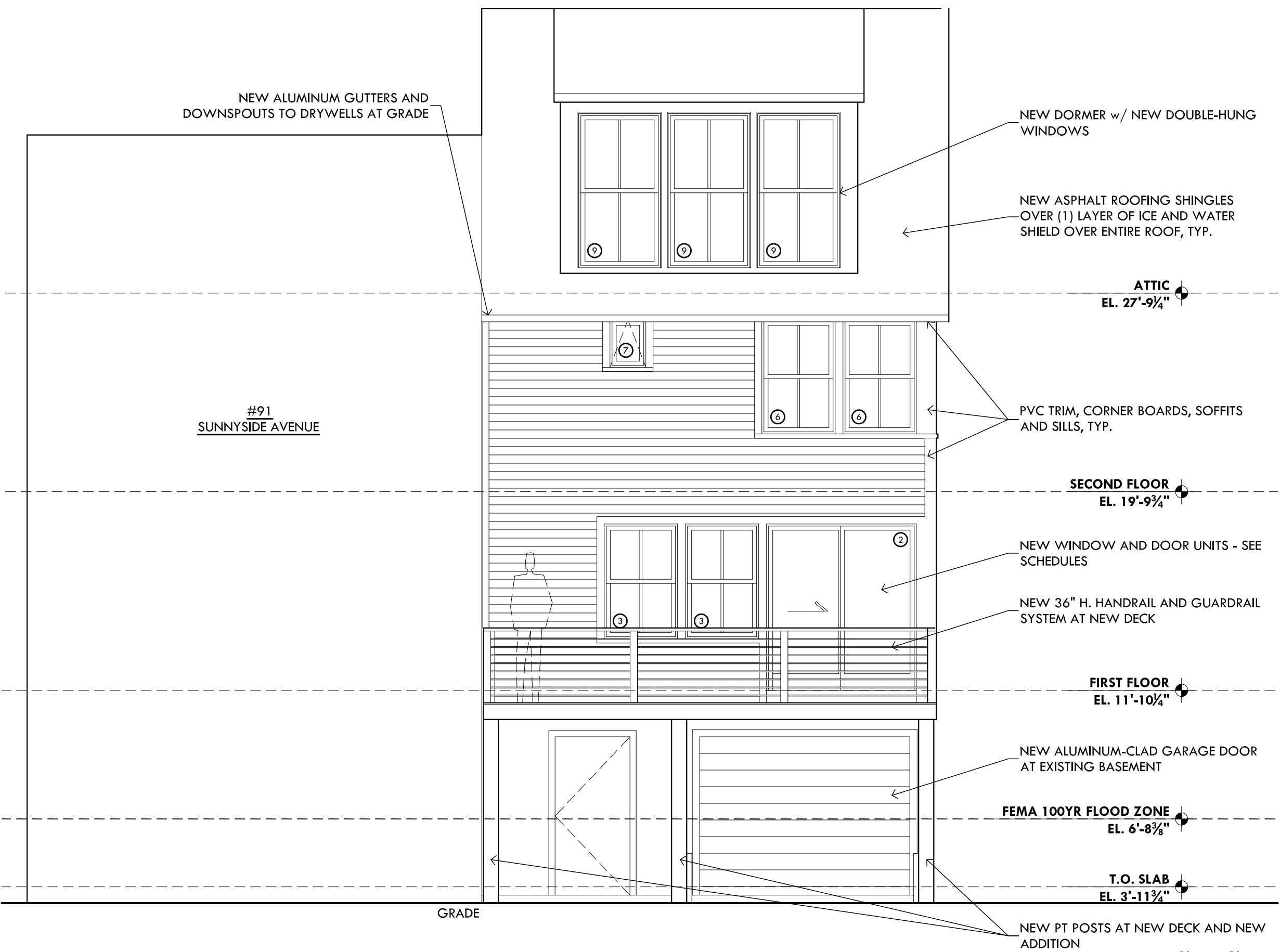
A



PROPOSED EAST ELEVATION

1/4" = 1'-0"

B



PROPOSED WEST ELEVATION

1/4" = 1'-0"

C



93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474

93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474



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A4.0



ECO-PRIORA™

Architectural design with engineered performance.

Designed with special spacer bars, the resulting 7mm gap is filled with a clear, fine stone chip that allows rapid penetration of rainwater into the sub-base and subsoil.



**COFFEE CREEK
STANDARD FINISH**
SPECIAL ORDER



**GRANITE BLEND
STANDARD FINISH**



**SIERRA
STANDARD FINISH**



**COFFEE CREEK
TUMBLED FINISH**
SPECIAL ORDER



**GRANITE BLEND
TUMBLED FINISH**
SPECIAL ORDER



**SIERRA
TUMBLED**
SPECIAL ORDER



**AUTUMN SUNSET
UMBRIANO FINISH**
SPECIAL ORDER



**MIDNIGHT SKY
UMBRIANO FINISH**
SPECIAL ORDER



**SUMMER WHEAT
UMBRIANO FINISH**
SPECIAL ORDER



**WINTER MARVEL
UMBRIANO FINISH**
SPECIAL ORDER



10"X10"
24 CM X 24 CM X 8 CM
9.5" X 9.5" X 3.125"



5"X10"
24 CM X 12 CM X 8 CM
9.5" X 4.75" X 3.125"



5"X5"
12 CM X 12 CM X 8 CM
4.75" X 4.75" X 3.125"

	Unit	SqFt Per			Per Bundle	Soldier LnFt Per		Sailor LnFt Per		Units Per		Lbs Per	
Stones & Bundling	Thickness	Bundle	Layer	Stone	Layers	SqFt	Bundle	SqFt	Bundle	SqFt	Bundle	Layers	Bundle
10"x10"	3-1/8" (8cm)	86.6	12.37	0.619	7	0.786	110.2	0.79	110.24	1.62	140	443	3099
5"x10"	3-1/8" (8cm)	74.59	10.66	0.304	7	0.773	96.4	0.39	192.89	3.28	245	381	2669
5"x5"	3-1/8" (8cm)	74.59	10.66	0.152	7	0.387	192.9	0.39	192.89	6.57	490	381	2669

Sold in full bundles only and shipped on refundable skids. Eco-Priora is available in Series 3000 and Umbriano finishes. Minimum quantities apply on custom orders. Textured surfaces require a buffer between the plate compactor and the paver surface to prevent scuffing. Specially graded aggregates must be used for the joints. Contact Unilock for more information.



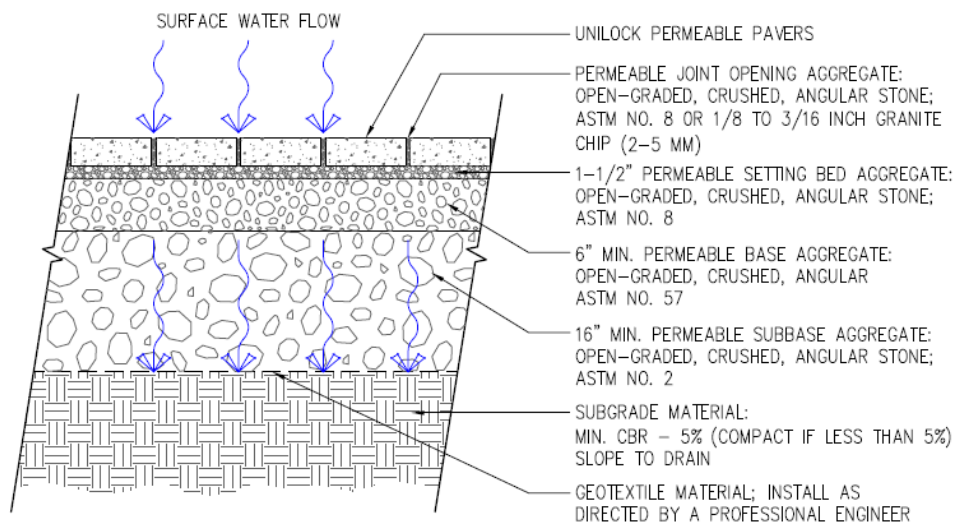
Eco-Priora H
5"x10" (50%)
10"x10" (50%)

Eco-Priora E
5"x10"(100%)

32-14-13.19

Unilock Permeable

For any additional information or assistance with this spec please contact your Unilock Representative.



***** Delete all text in RED after modifying the text in BLUE. All BLUE text requires modification. *****

FOREWORD

These specifications have been prepared for the general guidance of architects, landscape architects, engineers, contractor and superintendents associated with the construction of interlocking concrete pavements. Consult with a licensed architect, landscape architect or engineer to determine the suitability of the design, confirm site conditions and monitor the installation in critical applications. Unilock is not responsible for the information in this specification meeting local or national building codes. The Architect, Landscape Architect or Engineer of Record is responsible selecting products that meet any and all building code requirements to gain occupancy permit and updating this specification as necessary.

INTRODUCTION

Unilock® permeable pavers are manufactured in a variety of shapes and colors for residential, commercial, municipal and industrial applications. They offer design professionals several engineered pavement systems that are efficient, durable, economical and aesthetically attractive.

Unilock® permeable pavers are manufactured to tight dimensional tolerances. This, in combination with their permeable and interlocking capabilities, allows the surface to be completely porous with a high resistance to compressive loads and lateral forces.

SECTION 32 14 13.19

PERMEABLE CONCRETE PAVER MATERIALS

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes the following:
 1. Permeable Concrete Pavers
 2. Permeable Joint Opening Aggregate
 3. Permeable Joint Aggregate Type 1
 4. Permeable Joint Aggregate Type 2
 5. Permeable Setting Bed Aggregate (Open-graded)
 6. Permeable Base Aggregate (Open-graded)
 7. Permeable Subbase Aggregate (Open-graded)

1.02 REFERENCES

Note: Design street, industrial, port and airport pavement thicknesses in consultation with a qualified civil engineer, in accordance with established flexible pavement design procedures, LOCKPAVE® software, and in accordance with Interlocking Concrete Pavement Institute Technical Bulletins. Sample construction detail drawings are available from Unilock®. This specification may require modifications.

- A. ASTM International, latest edition:
 1. C 29 Bulk Density and Voids in Aggregate Materials.
 2. C 33, Standard Specification for Concrete Aggregates.
 3. C 136, Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 4. C 140, Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 5. D 448, Standard Classification for Sizes of Aggregate for Road and Bridge Construction.
 6. C 936, Standard Specification for Solid Concrete Interlocking Paving Units.
 7. C 979, Standard Specification for Pigments for Integrally Colored Concrete.

8. D 698 Test Methods for Moisture Density Relations of Soil and Soil Aggregate Mixtures Using a 5.5 lb (24.4 N) Rammer and 12 in. (305 mm) drop.
9. D 1557 Test Methods for Moisture Density Relations of Soil and Soil Aggregate Mixtures Using a 10-lb (44.5 N) Rammer and 18 in. (457 mm) drop.
10. C1645 Standard Test Method for Freeze-thaw and De-icing Salt Durability of Solid Concrete Interlocking Paving Units
11. D 4254, Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density.
12. D 4632, Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
13. D 4533, Standard Test Method for Index Trapezoidal Tearing Strength of Geotextiles
14. D 4833, Standard Test Method for Index Puncture Resistance of Geotextiles, Geomembranes and Related Products
15. D 4491, Standard Test Method for Water Permeability of Geotextiles by Permittivity
16. D 4751, Standard Test Method for Determining Apparent Opening Size of a Geotextile

Delete the BLUE text above if no geotextile is being utilized.

Note: In order to determine the latest version of the listed specifications and standards, please consult the ASTM web page (www.astm.com)

- B. U.S. Green Building Council Leadership in Energy and Environmental Design (LEED)
1. Building Design + Construction, latest edition

1.03 SUBMITTALS

- A. Permeable Concrete Pavers:
1. Samples for verification: Three representative full-size samples of each paver type, thickness, color and finish that indicate the range of color variation and texture expected upon project completion.
 2. Accepted samples become the standard of acceptance for the product produced.
 3. Test results from an independent testing laboratory for compliance of concrete pavers with ASTM C 936.
 4. Manufacturer's catalog product data, installation instructions, and material safety data sheets for the safe handling of the specified materials and products.
- B. Permeable Joint Opening Aggregate:
1. Provide three representative one pound samples in containers of aggregate materials that indicate the range of color variation and texture expected upon project completion.
 2. Accepted samples become the standard of acceptance for the product produced.
 3. Test results from an independent testing laboratory for sieve analysis, including washed gradations per ASTM C 136.
 4. Test results for void space percentage per ASTM C 29.
- C. Permeable Setting Bed, Base and Subbase Aggregate:
1. Test results from an independent testing laboratory for compliance with ASTM D 448 No. 8, No. 57 and No. 2.
 2. Test results from an independent testing laboratory for sieve analysis, including washed gradations per ASTM C 136.
 3. Test results for void space percentage per ASTM C 29.
- D. Paving Installation Contractor:
1. Job references from a minimum of three projects similar in size and complexity. Provide Owner/Client/General Contractor names, postal address, phone, fax, and email address.
- E. LEED (required only for LEED projects, delete otherwise)
1. LEED Materials and Resources Credit 4, Recycled Materials: Submit letter from manufacturer certifying the products having recycled content, documentation indicating percentages by weight of post-consumer and pre-consumer recycled content.

- a. Include statement indicating costs for each product having recycled content.
- 2. LEED Materials and Resources Credit 5, Regional Materials: Submit letter from manufacturer certifying products having been extracted, harvested, or recovered, as well as manufactured within 500 miles of the project site.
 - a. Include a statement indicating the percentage by weight which is extracted, harvested, or recovered within 500 miles of the project site.
- 3. LEED Sustainable Sites Credit 7.1, Non-roof: Submit letter from manufacturer certifying the solar reflectance index (SRI) of the paver is 29 or greater.

1.04 QUALITY ASSURANCE

- A. Utilize a Manufacturer having at least ten years of experience manufacturing interlocking concrete pavers on projects of similar nature or project size.
- B. Source Limitations:
 - 1. Obtain Permeable Concrete Pavers from one source location with the resources to provide products of consistent quality in appearance and physical properties.
 - 2. Obtain Permeable Joint Opening Aggregate from one source with the resources to provide materials and products of consistent quality in appearance and physical properties.
- C. Paving Contractor Qualifications:
 - 1. Utilize an installer having successfully completed concrete paver installation similar in design, material, and extent indicated on this project.
- D. Mockups:
 - 1. Install a 5 ft x 5 ft paver area.
 - 2. Use this area to determine joint sizes, lines, laying pattern(s) and levelness. This area will serve as the standard by which the workmanship will be judged.
 - 3. Subject to acceptance by owner, mock-up may be retained as part of finished work.
 - 4. If mock-up is not retained, haul offsite and dispose legally.

1.05 DELIVERY, STORAGE & HANDLING

- A. In accordance with Conditions of the Contract and Division 1 Product Requirement Section. (Modify this to match the general conditions of the specific project)
- B. Deliver Permeable Concrete Pavers in manufacturer's original, unopened and undamaged container packaging with identification labels intact.
 - 1. Coordinate delivery and paving schedule to minimize interference with normal use of streets and sidewalks adjacent to paver installation.
 - 2. Deliver concrete pavers to the site in steel banded, plastic banded or plastic wrapped packaging capable of transfer by forklift or clamp lift.
 - 3. Unload pavers at job site in such a manner that no damage occurs to the product or adjacent surfaces.
- C. Store and protect materials free from mud, dirt and other foreign materials.

1.06 PROJECT/SITE CONDITIONS

- A. Environmental Requirements:
 - 1. Install permeable pavers only on unfrozen permeable setting bed aggregate materials.
 - 2. Install permeable setting bed only on unfrozen permeable base and subbase aggregates.
 - 3. Install permeable base or subbase aggregates only over unfrozen subgrade.

1.07 PERMEABLE CONCRETE PAVER OVERAGE AND ATTIC STOCK

- A. Provide a minimum of 5% additional material for overage to be used during construction.
- B. Furnish 100 square feet of each product and size used to owner for maintenance and repair. Furnish Permeable Concrete Pavers from the same production run as installed materials.
- C. Manufacture to supply maintenance and reinstatement manuals for Permeable Concrete Paver units.

- 1.08 LEED REQUIREMENTS (required only for LEED projects, delete otherwise)
 A. Add any specific requirements necessary for achieving desired credits.

PART 2 PRODUCTS

2.01 PERMEABLE CONCRETE PAVERS

- A. Basis-of-Design Product: The permeable concrete paver shapes are based on:
1. Unilock: (Select product or products being used)
 - a. Eco-Optiloc
 - b. Eco-Priora
 - c. Eco-Promenade
 - d. Eco-Line
 - e. DuraFlow
 - f. Town Hall
 - g. (other Unilock products)
 2. As manufactured by:
 Unilock (Add location)
 Address
 City, State and Zip
 Contact: (insert Unilock representative name and phone number) or your local Territory Manager
 3. The specified products establish minimum requirements that substitutions must meet to be considered acceptable.
 - a. To obtain acceptance of unspecified products, submit written requests at least 7 days before the Bid Date.

Note: Unless required by the owner, an "or equal" line is not necessary when using a basis-of-design specification with the above information is listed and outline in Division 1, Product Substitution Procedures.

Or choose number 3 below and delete above number 3.

3. Substitutions: No substitutions permitted.

- B. Product requirements:
1. Permeable Paver Type 1: Unilock Eco-Optiloc (or other Unilock product name)
 - a. Finish: (Select finish type from below and insert here. Finish type will affect product pricing).
 1. Standard – this is not a face mix finish.
 2. Smooth (Premier) – this is a face mix finish.
 3. Brushed (IL Campo) – this is a face mix finish.
 4. Exposed Granite (Series 3000) – this is a face mix finish.
 5. Granite appearance (Umbriano) – this is a face mix finish.
 6. Tile appearance (Senzo) – this is a face mix finish.
 7. Add other Unilock options.
 - b. Color: Insert product color
 - c. Edge: Chamfer - 3 mm bevel
 - d. Size: Manufacture the sizes indicated with a maximum tolerance of plus or minus 1/16 inch for length and width. Maximum height tolerance of plus or minus 1/8 inch.
 1. L-shape

Note: Imperial dimensions are nominal equivalents to the metric dimensions.
 2. Permeable Paver Type 2: Unilock Eco-Priora (or other Unilock product name)
 - a. Finish: (Select finish type from below and insert here. Finish type will affect product pricing).
 1. Standard – this is not a face mix finish.
 2. Smooth (Premier) – this is a face mix finish.
 3. Brushed (IL Campo) – this is a face mix finish.

4. Exposed Granite (Series 3000) – this is a face mix finish.
5. Granite appearance (Umbriano) – this is a face mix finish.
6. Tile appearance (Senzo) – this is a face mix finish.
7. Add other Unilock options.
- b. Color: Insert product color
- c. Edge: Chamfer - 3 mm rolled
- d. Size: Manufacture the sizes indicated with a maximum tolerance of plus or minus 1/16 inch for length and width. Maximum height tolerance of plus or minus 1/8 inch.
 1. 120 mm (5 in) x 120 mm (5 in) x 80 mm (3-1/8 in) thick
 2. 120 mm (5 in) x 240 mm (10 in) x 80 mm (3-1/8 in) thick
 3. 240 mm (10 in) x 240 mm (10 in) x 80 mm (3-1/8 in) thick

Note: Imperial dimensions are nominal equivalents to the metric dimensions.
3. Permeable Paver Type 3: Town Hall (or other Unilock product name)
 - a. Finish: molded Streetpaver
 - b. Color: Insert product color(s): Burgundy Red, Burnt Clay, Old Oak
 - c. Edge: molded
 - d. Size: Manufacture the sizes indicated with a maximum tolerance of plus or minus 1/16 inch for length and width. Maximum height tolerance of plus or minus 1/8 inch..
 1. 10 cm (4 in) x 25 cm (9-3/4 in) x 7 cm (2-3/4 in) thick
4. (Insert additional Permeable Paver Types here as necessary or delete this line)
- C. Provide pavers meeting the minimum material and physical properties set forth in ASTM C 936, Standard Specification for Interlocking Concrete Paving Units. Efflorescence is not a cause for rejection.
 1. Average compressive strength 8000 psi (55MPa) with no individual unit under 7,200 psi (50 MPa).
 2. Average absorption of 5% with no unit greater than 7% when tested according to ASTM C 140.
 3. Conforming to ASTM C 1645 when tested for freeze-thaw requirements.
 4. Height tolerances +/- 3.2 mm (1/8 in).

Note: Efflorescence is a whitish powder-like deposit that sometimes appears on concrete products. Calcium hydroxide and other water-soluble materials form or are present during the hydration of Portland cement. Pore water becomes saturated with these materials, and diffuses to the surface of the concrete. When this water evaporates, the soluble materials remain as a whitish deposit on the concrete surface. The calcium hydroxide is converted to calcium carbonate during a reaction with carbon dioxide from the atmosphere. The calcium carbonate is difficult to remove with water. However, the efflorescence will wear off with time, and it is advisable to wait a few months before attempting to remove any efflorescence. Commercially available cleaners can be used, provided directions are carefully followed. Some cleaners contain acids that may alter the color of the pavers.
- D. Accept only pigments in concrete pavers conforming to ASTM C 979.
Note: ACI Report No. 212.3R provides guidance on the use of pigments.
- E. Maximum allowable breakage of product is 5%.

2.02 PERMEABLE JOINT OPENING AGGREGATE

- A. Provide Permeable Joint Opening Aggregate materials conforming to ASTM C 33 and gradation requirements of ASTM D 448 No. 8 as shown in Table 1. Unilock recommends using granite chips listed in table 2 below for vehicular areas with heavy traffic loads such as roadways or drive-through areas.

**TABLE 1 - ECO-OPTILOC
PERMEABLE JOINT OPENING AGGREGATE
GRADATION REQUIREMENTS
(CRUSHED LIMESTONE)**

ASTM No. 8	
Sieve Size	Percent Passing
1/2 in (12.5 mm)	100
3/8 in (9.5 mm)	85 to 100
No. 4 (4.75 mm)	10 to 30
No. 8 (2.36 mm)	0 to 10
No. 16 (1.18 mm)	0 to 5

- B. Provide Permeable Joint Opening Aggregate materials conforming to ASTM C 33 and gradation requirements as presented in Table 2.

1. Supplier:
 - a. [Kafka Granite LLC, 101 S. Weber Ave, Stratford, WI 54484 – Toll Free: 800-852-7415](#)
 - b. [Alliance Aqua-Roc](#)
 - c. [SEK Perm Chip](#)
2. Color: [\(Specify granite chip color if other than crushed limestone\)](#)

**TABLE 2 - ECO-PRIORA & TOWN HALL
PERMEABLE JOINT OPENING AGGREGATE
GRADATION REQUIREMENTS
(GRANITE CHIPS)**

1/8 to 3/16 inch granite chips	
Sieve Size	Percent Passing
1/4 in (6 mm)	97 to 100
No. 4 (4.75 mm)	70 to 83
No. 8 (2.36 mm)	37 to 50
No. 16 (1.18 mm)	0 to 12
pan	

2.03 PERMEABLE SETTING BED AGGREGATE

- A. Provide Permeable Setting Bed Aggregate materials conforming to ASTM C 33 and gradation requirements of ASTM D 448 No. 8 as presented in Table 3.

**TABLE 3
PERMEABLE SETTING BED AGGREGATE
GRADATION REQUIREMENTS**

ASTM No. 8	
Sieve Size	Percent Passing
½ in (12.5 mm)	100
3/8 in (9.5 mm)	85 to 100
No. 4 (4.75 mm)	10 to 30
No. 8 (2.36 mm)	0 to 10
No. 16 (1.18 mm)	0 to 5

2.04 PERMEABLE BASE AGGREGATE

- A. Provide Permeable Base Aggregate materials conforming to ASTM C 33 and gradation requirements of ASTM D 448 No. 57 as presented in Table 4.

**TABLE 4
PERMEABLE BASE AGGREGATE
GRADATION REQUIREMENTS**

ASTM No. 57	
Sieve Size	Percent Passing
1-1/2 in (37.5 mm)	100
1 in (25 mm)	95 to 100
1/2 in (12.5 mm)	25 to 60
No. 4 (4.75 mm)	0 to 10
No. 8 (2.36 mm)	0 to 5

2.05 PERMEABLE SUBBASE AGGREGATE

- A. Provide Permeable Subbase Aggregate materials conforming to ASTM C 33 and gradation requirements of ASTM D 448 No. 2 as presented in Table 5.

**TABLE 5
PERMEABLE SUBBASE AGGREGATE
GRADATION REQUIREMENTS**

ASTM No. 2	
Sieve Size	Percent Passing
3 in (75 mm)	100
2-1/2 in (63 mm)	90 to 100
2 in (50 mm)	35 to 70
1-1/2 in (37.5 mm)	0 to 15
3/4 (19 mm)	0 to 5

Note: For all aggregates, provide washed, clean, have zero plasticity, free from deleterious or foreign matter, crushed, angular rock and contain no No. 200 sieve size aggregate materials used in the construction of permeable pavement. Aggregate materials serve as the structural load bearing platform of the pavement as well as a temporary receptor for the infiltrated water that is collected through the openings in the pavement's surface.

2.06 GEOTEXTILE (Optional depending on soil conditions)

- A. Provide Geotextile material conforming to the following performance characteristics, measured per the test methods referenced:
- 4 oz., nonwoven needle punched geotextile composed of 100% polypropylene staple fibers that are inert to biological degradation and resists naturally encountered chemicals, alkalis, and acids.
 - Grab Tensile Strength: ASTM D 4632: 115 lbs.
 - Grab Tensile Elongation: ASTM D 4632: 50%
 - Trapezoidal Tear: ASTM D 4533: 50 lbs.
 - Puncture: ASTM D 4833: 65 lbs.
 - Apparent Opening Size: ASTM D 4751: 0.212 mm, 70 U.S. Sieve
 - Permittivity: ASTM D 4491: 2.0 sec ⁻¹
 - Flow Rate: ASTM D 4491: 140 gal/min/s.f.
- B. As supplied by Unilock (add location, address, City, State and Zip)
Contact: (Insert Unilock representative name and phone number) or your local Territory Manager
- Carthage Mills – FX-40HS

2. U.S. Fabrics – US 115NW
3. Mirafi – 140N

2.07 EDGE RESTRAINTS

- A. Concrete Edge Restraint as indicated.
- B. Plastic and Metal Edge Restraints:
 1. Permaloc, www.permaloc.com
 - a. Material Type: Aluminum
 - b. Model No.: 3 inch GeoEdge capture plate and geogrid
 2. SEK Surebond
 - a. Model No.: 8 feet PermEdge with attached geogrid

Note: The provision of suitable edge restraints is critical to the satisfactory performance of interlocking concrete block pavement. Abut pavers tightly against the restraints to prevent rotation under load and any consequent spreading of joints. Install sufficiently stable edge restraints that are, in addition to providing suitable edge support for the paver units, able to withstand the impact of temperature changes, vehicular traffic and/or snow removal equipment.

Curbs, gutters or curbed gutter, constructed to the dimensions of municipal standards (noting that these standards generally refer to cast-in-place concrete sections), are considered to be acceptable edge restraints for heavy duty installations. Where extremely heavy industrial equipment is involved such as container handling equipment, review the flexural strength of the edge restraint carefully particularly if a section that is flush with the surface is used and may be subjected to high point loading.

2.08 ACCESSORIES (Optional depending on project needs)

- A. [Cleaners] [Sealers]
 1. Supplier: Unilock (add location, address, City, State and Zip)
Contact: (Insert Unilock representative name and phone number) or your local Territory Manager
 2. Material Type and Description: (Specify material type and description)
 3. Material Standard: (Specify material standard)

Note: Generally sealing permeable pavers for utilitarian uses such as parking lots is not necessary. Consult with your product representative prior to specifying or remove section 2.08 Accessories.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine areas indicated to receive paving for compliance with requirements for installation tolerances and other conditions affecting performance for the following items before placing the Permeable Concrete Pavers.
 1. Verify that subgrade preparation, compacted density and elevations conform to specified requirements.
 2. Verify that Geotextiles, if applicable, have been placed according to drawings and specifications.
 3. Verify that Permeable Base and Subbase Aggregate materials, thickness, compacted density, surface tolerances and elevations conform to specified requirements.
 4. Provide written density test results for soil subgrade, Permeable Base and Subbase Aggregate materials to the Owner, General Contractor and paver installation subcontractor.
 5. Verify location, type, and elevations of edge restraints, concrete collars around utility structures, and drainage inlets.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Beginning of bedding sand and paver installation signifies acceptance of base and edge restraints.

3.02 PREPARATION

- A. Verify that the subgrade soil is free from standing water.
- B. Stockpile Permeable Setting Bed, Joint, Base and Subbase Aggregate materials such that they are free from standing water, uniformly graded, free of any organic material or sediment, debris, and ready for placement.
- C. Remove any excess thickness of soil applied over the excavated soil subgrade to trap sediment from adjacent construction activities before placing the Geotextile and Permeable Subbase Aggregate materials.
- D. Keep area where pavement is to be constructed free from sediment during entire job. Remove and replace all Geotextile, Permeable Joint, Setting Bed, Base and Subbase Aggregate materials contaminated with sediment with clean materials.
- E. Complete all subdrainage of underground services within the pavement area in conjunction with subgrade preparation and before the commencement of Permeable Subbase Aggregate construction.
- F. Prevent damage to underdrain pipes, overflow pipes, observation wells, or inlets and other drainage appurtenances during installation. Report all damage immediately.
- G. Compact soil subgrade uniformly to at least 90 percent of Standard Proctor Density per ASTM D 698 for pedestrian areas. Compact soil subgrade uniformly to at least 95 percent Modified Proctor per ASTM D 1557 for vehicular areas.
- H. Proof-roll prepared subgrade according to requirements in Division 31 Section "Earth Moving" to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting and replace with compacted backfill or fill as directed.

Note: Base compaction and proof-rolling of the subgrade soil on the recommendations of the Design Engineer. Request the Architect/Engineer to inspect subgrade preparations, elevations and conduct density tests for conformance to specifications.

Note: Mechanical tampers (jumping jacks) are recommended for compaction of soil subgrade and aggregate base around lamp standards, utility structures, building edges, curbs, tree wells and other protrusions. Compact areas, not accessible to roller compaction equipment, to the specified density with mechanical tampers. **CAUTION** – Proceed with care around the perimeters of excavations, buildings, curbs, etc. These areas are especially prone to consolidation and settlement. Do not place wedges of backfill in these areas. If possible particularly in these areas, proceed with backfilling and compacting in shallow lifts, parallel to the finished surface.

3.03 INSTALLATION

A. EDGE RESTRAINTS

- 1. Provide edge restraints as indicated.
 - a. Install job-built concrete edge restraints to comply with requirements in Division 3 Section "Cast-in-Place Concrete." (Add section number and match specification name)
 - b. Provide concrete edge restraint along the perimeter of all paving as specified. Install the face of the concrete edge restraint, where it abuts pavers vertical down to the subbase.
 - c. Construct concrete edge restraint to dimensions and level specified and support on a compacted subbase not less than 6 in (150 mm) thick.
- 2. Provide plastic or metal edge restraints as indicated. (Delete if not being used).
 - a. Provide plastic or metal edge restraints along the perimeter of all paving as indicated and supported on a minimum of 6 inches (150 mm) of Base Aggregate.

- b. Provide 10" spiral galvanized or stainless steel spike to fasten plastic edge restraint at 24 inches on center for straight sections and 12 inches on center for curved sections.
- B. GEOTEXTILES (Delete if not being used).
 - 1. Provide separation geotextile on bottom and sides of prepared soil subgrade. Secure in place to prevent wrinkling or folding from equipment tires and tracks.
 - 2. Overlap ends and edges a minimum of 18 in. (450 mm) in the direction of drainage.
- C. PERMEABLE BASE AND SUBBASE AGGREGATE
 - 1. Provide the Permeable Subbase Aggregate in uniform lifts not exceeding 6 in., (150 mm) loose thickness and compact to at least 95 percent as per ASTM D 4254 to depths as indicated.
 - 2. Compact the Permeable Subbase Aggregate material with at least two passes in the vibratory mode then at least two in the static mode with a minimum 10 ton vibratory roller until there is no visible movement. Do not crush aggregate with the roller.
 - 3. Tolerance: Do not exceed the specified surface grade of the compacted Permeable Subbase Aggregate material more than $\pm 3/4$ in. (20 mm) over a 10 ft. (3 m) long straightedge laid in any direction.
 - 4. Provide the Permeable Base Aggregate material in uniform lifts not exceeding 6 in. (150 mm) over the compacted Permeable Subbase Aggregate material and compact to at least 95 percent as per ASTM D 4254 to depths as indicated.
 - 5. Compact the Permeable Base Aggregate material with at least two passes in the vibratory mode then at least two in the static mode with a minimum 10 ton vibratory roller until there is no visible movement. Do not crush aggregate with the compaction device.
 - 6. Tolerance: Do not exceed the specified surface grade of the compacted Permeable Base Aggregate material more than $\pm 1/2$ in. (13 mm) over a 10 ft. (3 m) long straightedge laid in any direction.
 - 7. Grade and compact the upper surface of the Permeable Base Aggregate material sufficiently to prevent infiltration of the Permeable Setting Bed Aggregate material both during construction and throughout its service life.

Note: In-place density of the Permeable Base and Subbase Aggregate materials may be checked per ASTM D 4254. Establish a Compacted density of 95% of the laboratory index density for the subbase and base stone.
- D. PERMEABLE SETTING BED AGGREGATE
 - 1. Provide, spread and screed Permeable Setting Bed aggregate evenly over the Permeable Base Aggregate course.
 - a. Protect screeded Permeable Setting Bed Aggregate from being disturbed.
 - b. Screed only the area which can be covered by pavers in one day.
 - c. Do not use Permeable Setting Bed Aggregate material to fill depressions in the base surface.
 - 2. Keep moisture content constant and density loose and constant until Concrete Pavers are set and compacted.
 - 3. Inspect the Permeable Setting Bed Aggregate course prior to commencing the placement of the permeable concrete pavers.
 - 4. Inspect the Setting Bed Aggregate course prior to commencing the placement of the Permeable Concrete Pavers. Acceptance of the Setting Bed Aggregate occurs with the initiation of Permeable Concrete Paver placement.
- E. PERMEABLE CONCRETE PAVERS
 - 1. Replace unit pavers with chips, cracks, voids, discolorations, and other defects that might be visible in finished work.
 - 2. Mix Concrete Pavers from a minimum of three (3) bundles simultaneously drawing the paver vertically rather than horizontally, as they are placed, to produce uniform blend of colors and textures. (Color variation occurs with all concrete products. This phenomenon is influenced by a variety of factors, e.g. moisture content, curing conditions, different aggregates and, most commonly, from different production

runs. By installing from a minimum of three (3) bundles simultaneously, variation in color is dispersed and blended throughout the project).

3. Exercise care in handling face mix pavers to prevent surfaces from contacting backs or edges of other units.
4. Provide Permeable Concrete Pavers using joint pattern as indicated. Adjust joint pattern at pavement edges such that cutting of edge pavers is minimized. Cut all pavers exposed to vehicular tires no smaller than one-third of a whole paver.
5. Use string lines or chalk lines on Permeable Setting Bed aggregate to hold all pattern lines true.
6. Set surface elevation of pavers 1/8 in. (3 mm) above adjacent drainage inlets, concrete collars or channels.
7. Place units hand tight against spacer bars. Adjust horizontal placement of laid pavers to align straight.
 - a. When installation is performed with mechanical equipment, use only unit pavers with spacer bars on sides of each unit.
8. Provide space between paver units of 1/32 in. (1 mm) wide to achieve straight bond lines.
9. Prevent joint (bond) lines from shifting more than $\pm 1/2$ in. (± 15 mm) over 50 ft. (15 m) from string lines.
10. Fill gaps between units or at edges of the paved area that exceed 3/8 inch (10 mm) with pieces cut to fit from full-size unit pavers.
11. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
12. Prevent all traffic on installed pavers until Permeable Joint Aggregate has been vibrated into joints. Keep skid steer and forklift equipment off newly laid pavers that have not received initial compaction and Permeable Joint Aggregate material.
13. Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a to 5000-lbf (22-kN) compaction force at 80 to 90 Hz. Perform at least three passes across paving with vibrator. Vibrate under the following conditions:
 - a. After edge pavers are installed and there is a completed surface.
 - b. Compact installed concrete pavers to within 6 feet (1,800 mm) of the laying face before ending each day's work. Cover pavers that have not been compacted and leveling course on which pavers have not been placed, with nonstaining plastic sheets to prevent Permeable Setting Bed Aggregate from becoming disturbed.
14. Protect face mix Concrete Paver surface from scuffing during compaction by utilizing a urethane pad.
15. Remove any cracked or structurally damaged pavers and replace with new units prior to installing Permeable Joint Opening Aggregate material.
16. Provide, spread and sweep Permeable Joint Opening Aggregate into joints immediately after vibrating pavers into Permeable Setting Bed course until full. Vibrate pavers and add Permeable Joint Aggregate material until joints are completely filled, then remove excess material. This will require at least 4 passes with a plate compactor.
17. Remove excess Permeable Joint Aggregate broom clean from surface when installation is complete.

3.04 FIELD QUALITY CONTROL

- A. Verify final elevations for conformance to the drawings after sweeping the surface clean.
 1. Prevent final Concrete Paver finished grade elevations from deviating more than $\pm 3/8$ in. (± 10 mm) under a 10 ft (3 m) straightedge or indicated slope, for finished surface of paving.
- B. [Lippage: Paver-to-Paver Lippage:](#)
 1. [No greater than 3 mm \(1/8 inch\) difference in height between adjacent pavers.](#)

Note: The industry standard acceptable lippage between adjacent pavers is 3 mm (1/8 inch). Achieving a completely flush paver surface is most desirable but may be unattainable depending on factors such as paver type, setting bed materials or depth, ASTM manufacturing standards or other specific project needs. Consult with your Unilock representative to determine the best approach for a reasonable lippage tolerance on each project.

3.05 REPAIRING, CLEANING AND SEALING

- A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.
- B. Cleaning: Remove excess dirt, debris, stains, grit, etc. from exposed paver surfaces; wash and scrub clean.
 - 1. Clean Permeable Concrete Pavers in accordance with the manufacturer's written recommendations.
- C. Seal as indicated. (If not indicated elsewhere in the contract documents, sealing is not required and remove this section 3.05, C.)
 - 1. Apply Sealer for Permeable Concrete Pavers in accordance with the sealer and paver manufacturer's written recommendations.

3.06 PROTECTION

- A. Protect completed work from damage due to subsequent construction activity on the site.

3.07 PERMEABLE JOINT AGGREGATE MATERIAL REFILLING

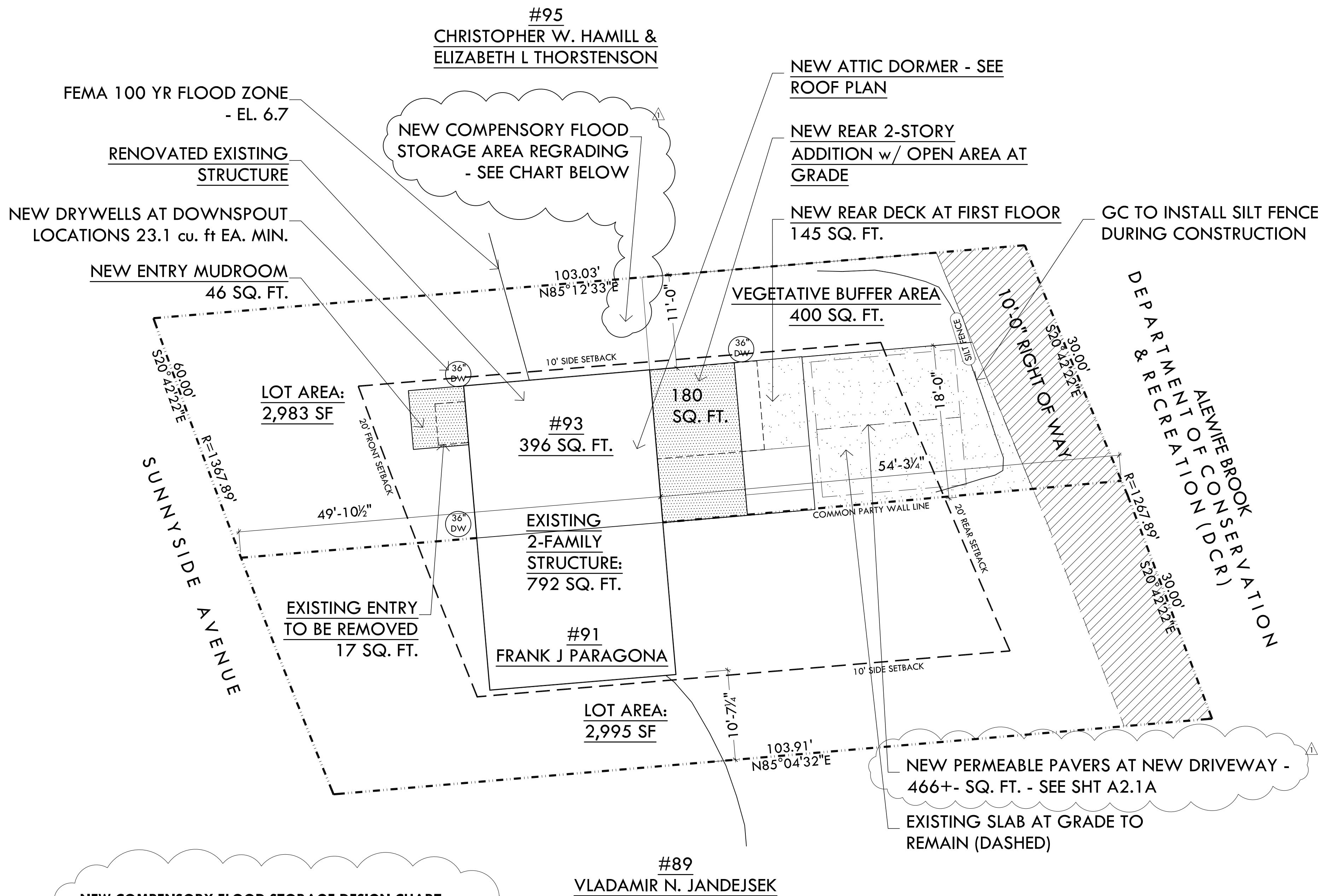
- A. Remove all debris from joint and provide additional Permeable Joint Aggregate material after 120 days and before 150 days after date of Substantial Completion/Provisional Acceptance.
 - 1. Fill Permeable Joint Aggregate material full to the lip of the paver.

NOTE: This preventative maintenance requirement is very important to include in your specification to help increase the long term function of the system. This is a good item to mention during the prebid meeting.

4.08 LIFE CYCLE ACTIVITIES

- A. Paver cleaning: Clean Permeable Concrete Pavers as needed to remove staining, dirt, debris, etc.
 - 1. Clean per manufacturers recommendations.
- B. Maintenance: Permeable Joint Aggregate Material.
 - 1. Annually inspect Permeable Joint Aggregate material for areas clogged with debris.
 - 2. Vacuum or sweep as necessary to restore surface infiltration.
 - 3. Remove debris by vacuuming or sweeping Permeable Joint Aggregate
 - a. Replenish removed Permeable Joint Aggregate material with clean aggregate material flush to paver lip.
 - b. Sweep excess material from paver surface.

END OF SECTION



NEW COMPENSORY FLOOD STORAGE DESIGN CHART		
ELEV. RANGE	NEW POST DISPLACEMENT IN FEMA FLOOD ZONE	NEW FLOOD STOORAGE AREA (SOIL REMOVAL)
EL. 6.7	0.18 CU. FT PER POST x 6 POSTS = 1.08 CU. FT.	2.16 CU. FT. SOIL REMOVED AT 0.72 CU. FT PER 0.5' IN ELEVATION
EL. 5.2	0.25 CU. FT PER POST x 4 POSTS = 1.0 CU. FT.	2.0 CU. FT. SOIL REMOVED AT 0.66 CU. FT PER 0.5' IN ELEVATION
EL. 3.5		

EXISTING GRADE AT POSTS IS EL. 3.5.
EXISTING FEMA FLOOD ZONE IS EL. 6.7.

SITE PLAN

1/8" = 1'-0"

SITE PLAN GENERAL NOTES:

THE PROPERTY LINE AND BOUNDARY INFORMATION IS BASED ON INFORMATION PROVIDED BY THE PLOT PLAN BY JOSEPH SELWYN, REGISTERED LAND SURVEYOR, REPORT DATED UNKNOWN - COPY IS ON FILE AT ISD.

TEMPORARY INFILTRATION TRENCHES TO BE USED ON SITE DURING ANY/ALL DE-WATERING DURING FOUNDATION WORK. INFILTRATION TRENCHES TO USE ¾" GRAVEL AT A DEPTH OF 3' FROM GRADE OR TO TOP OF WATER TABLE, VIF. ALL TRENCHES SHALL BE RESTORED POST CONSTRUCTION.

PERMEABLE PAVER SYSTEM: (5"x10" UNILOCK ECO-PRIORA) SHALL BE INSTALLED ON 1" OF BEDDING SAND, 90% COMPACTED OVER 8" MINIMUM OF AGGREGATE GRAVEL BASE, COMPACTED 90%. PLASTIC EDGE RESTRAINTS SHALL BE INSTALLED ALONG EACH SITE USING 10" GALVANIZED SPIKES. IF SOIL CONDITIONS ARE POOR, INCREASE BASE DEPTH TO 12". APPLY POLYMETRIC JOINTING SAND TO REDUCE WEED GROWTH - DO NOT USE CHEMICAL WEED KILLERS AS PART OF THE MAINTENANCE PLAN. SEE PRODUCT SPECIFICATIONS FOR SPECIFIC INSTALLATION REQUIREMENTS.

NEW DRYWELLS (LEACHING PITS): INSTALL 36" DIAM. x 66" DEEP DRYWELLS LINED w/.5 OZ. WOVEN, NEEDLE-PUNCHED POLYPROPYLENE LANDSCAPE FABRIC AND INFILLED w/ WASHED ¾" GRAVEL AGGREGATE. PROVIDE PERFORATED 4" PVC PIPE TO BE DROPPED INTO THE DRYWELL AND CONNECT BOTTOM OF DOWNSPOUT TO PIPE. MAINTAIN PIPE AND DRAINAGE BY CLEARING OUT ORGANIC MATERIAL, LEAVES AND DIRT EVERY 45-60 DAYS, MIN.

PROJECT ADDRESS / APN:
93 SUNNYSIDE AVENUE
ARLINGTON MA 02474

APN: 34-3-18

OWNER:

MICHAEL GREENBLATT + LYNNE COONEY
93 SUNNYSIDE AVENUE
ARLINGTON MA 02474

ARCHITECT:

blanchardA+D, LLC
MA LIC#: 30597
661 MASSACHUSETTS AVE.
SUITE 20
ARLINGTON MA 02476
(617) 519-5434

PROJECT DESCRIPTION:

EXISTING 2 BEDROOM, 1 BATHROOM SINGLE-FAMILY UNIT PART OF A 2-FAMILY STRUCTURE ON A 5,959 SQ. FT. LOT (+2,983 SQ. FT PER UNIT). PROPOSED INTERIOR RENOVATIONS w/ NEW ENTRY MUDROOM (46 SQ. FT.) AND KITCHEN/M. BEDROOM ADDITON OFF REAR (180 SQ. FT). PROPOSED NEW ATTIC DORMER WITHING EXISTING FOOTPRINT AT ROOF LEVEL. PROPOSED NEW DECK AT NEW REAR ADDITION - 145 SQ. FT. EXISTING REAR CONCRETE SLAB AND KNEEWALLS TO BE REUSED AT DECK STRUCTURE.

PROJECT STATISTICS:

LOT AREA:	2,983 SQ. FT.
EXISTING LOT COVERAGE:	396 SQ. FT. + 17 SQ. FT. = 413 SQ. FT. (13.8%)
MAX. LOT COVERAGE ALLOWED:	1,044 SQ. FT. (35% PER R2) +447 SQ. FT. (+15% PER A5.7.5,B,2)
PROPOSED BUILDING AREA:	
EXISTING INTERIOR:	398 + 409 = 807 GROSS SQ. FT.
EXISTING ENTRY REMOVED:	-17 GROSS SQ. FT.
NEW MUDROOM ENTRY:	46 GROSS SQ. FT.
NEW REAR ADDITION:	360 GROSS SQ. FT. (+9.0%)
	1,196 SQ. FT. (+389 GROSS SQ. FT AREA)
NEW PROPOSED LOT COVERAGE:	
EXISTING/RENOVATED INTERIOR:	396 SQ. FT.
REMOVAL OF EXISTING ENTRY:	-17 SQ. FT.
NEW ENTRY MUDROOM:	46 SQ. FT.
NEW REAR ADDITION::	180 SQ. FT.
	534 SQ. FT. (+209 SQ. FT, +7.5% LOT COVERAGE)

LEGEND

- NEW HOUSE/ADDITION
- NEW DRIVEWAY
- DRIPWAY
- EXIST. CONTOUR
- NEW CONTOUR

ASSESSOR'S MAP 034.0 BLOCK 003, LOT 0018.0
93 SUNNYSIDE AVENUE,
ARLINGTON MA 02474

ZONING: R-2, TWO FAMILY RESIDENTIAL

SETBACK REQUIRED:
FRONT: 20'
SIDE: 10'
REAR: 20'
PARTY WALL: 0'
HEIGHT: 35', 2.5 STORIES MAXIMUM



GREENBLATT
- COONEY
RESIDENCE

93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474



blanchardA+D
661 MASSACHUSETTS AVENUE
SUITE 20
ARLINGTON, MA 02476
blanchard@gmail.com
TELEPHONE 617-519-5434

NOT FOR
CONSTRUCTION

03/02/20 CONSERVATION COMM. REV. 1

02/13/20 CONSERVATION COMMISSION

No	Date	Revision / Issue
Project Number	Scale	
1908	1" = 8'-0"	
Drawn By	Checked By	
tb	tb	

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PROPOSED
SITE PLAN

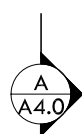
93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474



No	Date	Revision / Issue
Project Number	Scale	
1908	AS NOTED	
Drawn By	Checked By	
th	th	

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A2.1A


$$\overline{1/4'' = 1'-0''}$$

 EXISTING WALLS TO REMAIN
 NEW WALLS



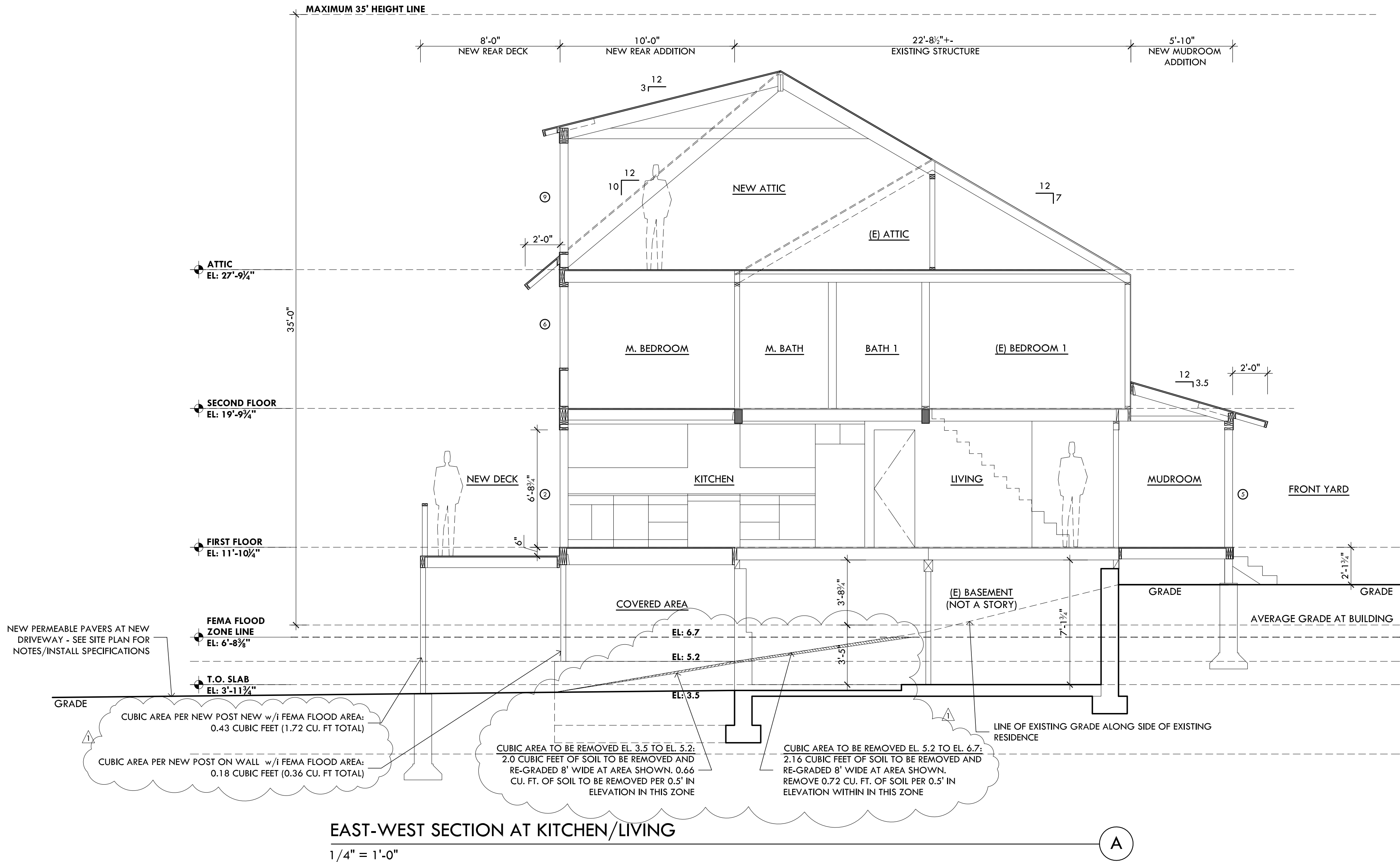
GREENBLATT
- COONEY
RESIDENCE

93 SUNNYSIDE AVENUE
ARLINGTON, MA 02474



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toblanchard@gmail.com
TELEPHONE 617-519-5434

NOT FOR
CONSTRUCTION



03/02/20 CONSERVATION COMM. REV. 1		
02/13/20 CONSERVATION COMMISSION		
No	Date	Revision / Issue
Project Number	Scale	
1908	AS NOTED	
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tb	tb	
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BUILDING
SECTIONS



A4.0

Lynne Cooney
93 Sunnyside Avenue
Project Narrative Addendum 3/2/2020

1. **New Driveway Design:** Driveway is reduced to 466 sq. ft. allowable for side-by-side parking for two compact cars. See attached site plan A2.1A.
2. **New compensatory flood storage design at same elevation as encroachment:** See site plan A1.0 & A4.0.
3. **Alternative for the backyard drywell in the event that the water table is too high:** If ground water is too high, new perforated VC French drain system will be installed that will direct water run off to vegetation buffer area. See site plan A2.1A.

4. Planting Narrative:

Back Yard Riverfront Area:

Identify and remove any invasive plants. In the 400 sq. ft. vegetation buffer will include a mixture of flowering pollinator plants tolerant of wet soil and full and/or partial sun including Swamp Milkweed, Beebalm, Joe-pye Weed, and Star Flower. Flowering plants will be arranged tallest to shortest and grouped by color: White Swamp milkweed in the back (bordering 95 Sunnyside property line), a layer of pink Joe-pye Weed, then a layer of purple Beebalm, and layer of blue Star Flower closest to driveway.

Opposite side in vegetation 42 sq. ft. strip assortment of ferns that tolerate wet soil and partial sun/partial shade including Ostrich Fern, Cinnamon Fern, and Lady Fern.

Front yard Sunnyside Ave:

Identify and remove invasive plants. New plantings will be a mixture of ornamental grasses including Pennsylvania Sage and Purple Love Grass.

Vegetation will be maintained without the use of use chemicals or toxic sprays.



Town of Arlington, Massachusetts

Notice of Intent: 77 Sunnyside Ave

Summary:

MassDEP File #unassigned

This Notice of Intent (NOI) has not yet been presented to the Conservation Commission, and this meeting is the first opportunity for public comment. It is likely that the public comment period for this NOI will be continued to the Commission's 4/16/2020 meeting. It is strongly encouraged that members of the public submit written comment for this NOI to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for this NOI can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

This project proposes building an elevated addition in the backyard and an entranceway in the front yard. The back addition and front addition are both within the 100-ft Wetland Buffer and 200-ft Riverfront Area. No work is proposed within the floodplain. The project also proposes replacing an existing bituminous concrete walkway and driveway with pervious pavers.



Town of Arlington, Massachusetts

Notice of Intent: 1267 Massachusetts Ave

Summary:

Request continuance to the 4/16/2020 Commission meeting

MassDEP File #unassigned

This Notice of Intent (NOI) has not yet been presented to the Conservation Commission, and this meeting is the first opportunity for public comment. It is likely that the public comment period for this NOI will be continued to the Commission's 4/16/2020 meeting. It is strongly encouraged that members of the public submit written comment for this NOI to the Conservation Agent in advance of the hearing, by emailing Emily Sullivan at esullivan@town.arlington.ma.us. All materials submitted for this NOI can be found on the Commission's Novus Agenda page, under the agenda for the 4/2/2020 meeting.

Hearing Summary:

This project proposes the excavation and remediation of soil contaminated by commercial kitchen soy bean oil grease within the 100-ft Wetlands Buffer.

ATTACHMENTS:

Type	File Name	Description
□	Notice of Intent 1297_Mass_Ave_NOI_Packet_Redacted.pdf	1267 Mass Ave NOI Packet

TRANSMITTAL

March 4, 2020

Emily Sullivan
Environmental Planner & Conservation Agent
Town of Arlington Conservation Commission
730 Massachusetts Avenue, Annex
Arlington, Massachusetts 02476

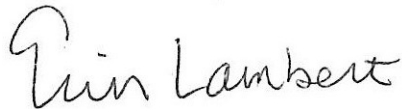
**RE: Wetlands Protection Agency Notice of Intent
D'Agostino's Delicatessen
1297 Massachusetts Avenue, Arlington, MA**

Item No.	Quantity	Description
1	7	WPA Form 3
2	7	Bylaw Filing Fees and Transmittal Form
3	7	Bylaw Filing and State Filing Fees Check
4	7	Abutters List and Abutter Notification Letter Copy
5	7	Affidavit of Service and Copies of Certified Mail Receipts
6	7	Legal Notice of Charge
7	7	Project Narrative
8	7	Site Plans (24x36)
9	7	USGS Site Location Map
10	7	FEMA Site Floodplain Map
11	7	Site Photo Log
12	1	Electronic Copy of Packet Submission

If you have any questions, or require additional information, please contact me at (603) 731-9883.

Very truly yours,

WILCOX & BARTON, INC.



Erin R. Lambert, P.E., LEED AP
Associate Vice President



Massachusetts Department of Environmental Protection

eDEP Transaction Copy

Here is the file you requested for your records.

To retain a copy of this file you must save and/or print.

Username: **RRUCKER**

Transaction ID: **1179566**

Document: **WPA Form 3 - NOI**

Size of File: **249.37K**

Status of Transaction: **In Process**

Date and Time Created: **3/3/2020:4:14:44 PM**

Note: This file only includes forms that were part of your transaction as of the date and time indicated above. If you need a more current copy of your transaction, return to eDEP and select to "Download a Copy" from the Current Submittals page.

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 #:
eDEP Transaction #:1179566
City/Town:ARLINGTON

A.General Information

1. Project Location:

a. Street Address	1297 MASSACHUSETTS AVENUE		
b. City/Town	ARLINGTON	c. Zip Code	02476
d. Latitude	42.42458N	e. Longitude	71.18177W
f. Map/Plat #	59	g.Parcel/Lot #	10.D

2. Applicant:

☐ Individual ☒ Organization

a. First Name		b. Last Name	
c. Organization	P&D REALTY		
d. Mailing Address	109 REFLECTION DRIVE		
e. City/Town	SANDWICH	f. State	MA
g. Zip Code			02563
h. Phone Number		i. Fax	
j. Email			

3. Property Owner:

☐ more than one owner

a. First Name		b. Last Name	
c. Organization	P&D REALTY		
d. Mailing Address	109 REFLECTION DRIVE		
e. City/Town	SANDWICH	f. State	MA
g. Zip Code			02563
h. Phone Number		i. Fax	
j. Email			

4. Representative:

a. First Name	RUSSELL	b. Last Name	BARTON
c. Organization	WILCOX & BARTON, INC.		
d. Mailing Address	#1B COMMONS DRIVE, UNIT 12B		
e. City/Town	LONDONDERRY	f. State	NH
g. Zip Code			03053
h. Phone Number	603-369-4190	i. Fax	
j. Email			rbarton@wilcoxandbarton.com

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

a. Total Fee Paid	110.00	b. State Fee Paid	42.50	c. City/Town Fee Paid	67.50
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6. General Project Description:

THE PROPOSED PROJECT INVOLVES THE EXCAVATION AND REMEDIATION OF CONTAMINATED SOIL FROM A COMMERCIAL KITCHEN GREASE STORAGE CONTAINER SPILL.

7a. Project Type:

- | | |
|---|--|
| 1. <input type="checkbox"/> Single Family Home | 2. <input type="checkbox"/> Residential Subdivision |
| 3. <input type="checkbox"/> Limited Project Driveway Crossing | 4. <input checked="" type="checkbox"/> Commercial/Industrial |
| 5. <input type="checkbox"/> Dock/Pier | 6. <input type="checkbox"/> Utilities |
| 7. <input type="checkbox"/> Coastal Engineering Structure | 8. <input type="checkbox"/> Agriculture (eg., cranberries, forestry) |
| 9. <input type="checkbox"/> Transportation | 10. <input type="checkbox"/> Other |

7b. Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310

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 #:

eDEP Transaction #:1179566

City/Town:ARLINGTON

CMR 10.53 (inland)?

1. ☐ Yes ☒ No

If yes, describe which limited project applies to this project:

2. Limited Project

8. Property recorded at the Registry of Deeds for:

a. County:

b. Certificate:

c. Book:

d. Page:

SOUTHERN MIDDLESEX

21176

327

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

1. Buffer Zone & Resource Area Impacts (temporary & permanent):

☐ This is a Buffer Zone only project - 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)

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

a. ☐ Bank

1. linear feet

2. linear feet

b. ☐ Bordering Vegetated Wetland

1. square feet

2. square feet

c. ☐ Land under Waterbodies and Waterways

1. Square feet

2. square feet

3. cubic yards dredged

d. ☐ Bordering Land Subject to Flooding

1. square feet

2. square feet

3. cubic feet of flood storage lost

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 any)

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

53736

square feet

4. Proposed Alteration of the Riverfront Area:

2700

2700

0

a. total square feet

b. square feet within 100 ft.

c. square feet between 100 ft. and 200 ft.

Massachusetts Department of Environmental Protection

Bureau of Resource Protection - Wetlands

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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)

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

a. <input type="checkbox"/> Designated Port Areas	Indicate size under	Land under the ocean below,
b. <input type="checkbox"/> Land Under the Ocean	1. square feet	
	2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes, below	
d. <input type="checkbox"/> Coastal Beaches	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment
f. <input type="checkbox"/> Coastal Banks	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	1. square feet	
h. <input type="checkbox"/> Salt Marshes	1. square feet	2. sq ft restoration, rehab, crea.
i. <input type="checkbox"/> Land Under Salt Ponds	1. square feet	
	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	1. cubic yards dredged	
l. <input type="checkbox"/> Land Subject to Coastal Storm Flowage	1. square feet	

4.Restoration/Enhancement

☐ Restoration/Replacement

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 entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

5.Projects Involves Stream Crossings

☐ Project Involves Streams Crossings

□ **Massachusetts Department of Environmental Protection**
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Provided by MassDEP:
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If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

a. number of new stream crossings

b. number of replacement stream crossings

C. Other Applicable Standards and Requirements

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 of Endangered Species program (NHESP)?

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

b. Date of map:AUGUST 1, 2017

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18)....

c. Submit Supplemental Information for Endangered Species Review * (Check boxes as they apply)

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

3. ☐ Project plans for entire project site, including wetland resource areas and areas outside of wetland 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

c. ☐ MESA filing fee (fee information available at: <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/mass-endangered-species-act-mesa/mesa-fee-schedule.html>)

Make check payable to "Natural Heritage & Endangered Species Fund" 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

d. 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/eea/agencies/dfg/dfw/laws-regulations/cmr/321-cmr-1000-massachusetts-endangered-species-act.html#10.14>; 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 Number

b. Date submitted to NHESP

□ **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 #:
eDEP Transaction #:1179566
City/Town:ARLINGTON

3. ☐ Separate MESA review completed.

Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review...

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

a. ☒ Not applicable - project is in inland resource area only

b. ☐ Yes ☐ No

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

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

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 S. Rodney French Blvd
New Bedford, MA 02744

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930

If yes, it 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.

3. 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 DEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC Name

4. 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

5. 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

6. 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, Explain why the project is exempt:

1. Single Family Home

☐ **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 #:

eDEP Transaction #:1179566

City/Town:ARLINGTON

☐ 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

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 by regular mail delivery.

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. ☒
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. ☒

a. Plan Title:	b. Plan Prepared By:	c. Plan Signed/Stamped By:	c. Revised Final Date:	e. Scale:
SITE PLAN	RUSSEL S. RUCKER	DAVID L. FROTHINGHAM	3/4/2020	1" = 20'
CONSTRUCTION & EROSION CONTROL DETAILS	RUSSEL S. RUCKER	DAVID L. FROTHINGHAM	3/4/2020	N.T.S.

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. ☒

□ **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 #:
eDEP Transaction #:1179566
City/Town:ARLINGTON

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. Payer name on check: First Name	7. Payer name on check: Last Name

F. Signatures and Submittal Requirements

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

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

Sam D'Agostino	3/3/2020
1. Signature of Applicant	2. Date
Sam D'Agostino	3/3/2020
3. Signature of Property Owner(if different)	4. Date
Russell Barton	3/3/2020
5. Signature of Representative (if any)	6. Date

For Conservation Commission:

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

For MassDEP:

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

Other:

If the applicant has checked the "yes" box in Section C, Items 1-3, above, refer to that section and the Instructions for additional submittal requirements.

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

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
WPA Form 3 - Notice of Wetland Fee Transmittal
Form

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

Provided by MassDEP:
MassDEP File #:
eDEP Transaction #:1179566
City/Town:ARLINGTON

A. Applicant Information

1. Applicant:

a. First Name		b. Last Name	
c. Organization	P&D REALTY		
d. Mailing Address	109 REFLECTION DRIVE		
e. City/Town	SANDWICH	f. State	MA
g. Zip Code	02563		
h. Phone Number		i. Fax	
j. Email			

2. Property Owner:(if different)

a. First Name		b. Last Name	
c. Organization	P&D REALTY		
d. Mailing Address	109 REFLECTION DRIVE		
e. City/Town	SANDWICH	f. State	MA
g. Zip Code	02563		
h. Phone Number		i. Fax	
j. Email			

3. Project Location:

a. Street Address	1297 MASSACHUSETTS AVENUE	b. City/Town	ARLINGTON
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Are you exempted from Fee? ☐ (YOU HAVE SELECTED 'NO')

Note: Fee will be exempted if you are one of the following:

- City/Town/County/District
- Municipal Housing Authority
- Indian Tribe Housing Authority
- MBTA

State agencies are only exempt if the fee is less than \$100

B. Fees

Activity Type	Activity Number	Activity Fee	RF Multiplier	Sub Total
A.) WORK ON SINGLE FAMILY LOT; ADDITION, POOL, ETC.;	1	110.00		110.00
		City/Town share of filling fee	State share of filing fee	Total Project Fee
		\$67.50	\$42.50	\$110.00

Bylaw Filing Fees and Transmittal Form

Rules:

1. Fees are payable at the time of filing the application and are non-refundable.
2. Fees shall be calculated per schedule below.
3. Town, County, State, and Federal Projects are exempt from fees.
4. These fees are in addition to the fees paid under M.G.L. Ch. 131, s.40 (ACT).

Fee Schedule (ACC approved 1/8/15):

\$	No./Area	Category
		(R1) RDA - \$150 local fee, no state fee
\$200	1	(N1) Minor Project - \$200 (house addition, tennis court, swimming pool, utility work, work in/on/or affecting any body of water, wetland or floodplain).
		(N2) Single Family Dwelling - \$600
		(N3) Multiple Dwelling Structures - \$600 + \$100 per unit all or part of which lies within 100 feet of wetlands or within land subject to flooding.
		(N4) Commercial, Industrial, and Institutional Projects - \$800 + 50¢/s.f. wetland disturbed; 2¢/s.f. land subject to flooding or buffer zone disturbed.
		(N5) Subdivisions - \$600 + \$4/l.f. feet of roadway sideline within 100 ft. of wetlands or within land subject to flooding.
		(N6) Other Fees - copies, printouts; per public records law
		(N7) Minor Project Change - \$50
		(N8) Work on Docks, Piers, Revetments, Dikes, etc - \$4 per linear foot
		(N9) Resource Boundary Delineation (ANRAD) - \$1 per linear foot
		(N10) Certificate of Compliance (COC or PCOC) - No charge if before expiration of Order, \$200 if after that date.
		(N11) Amendments - \$300 or 50% of original local filing fee, whichever is less.
		(N12) Extensions -
		a. Single family dwelling or minor project - \$100.
		b. Other - \$150.
		(N13) Consultant Fee -per estimate from consultant
\$200	TOTAL	

Note: Submit this form along with the forms submitted for the ACT - the "Wetlands Filing Fee Calculations Worksheet," and the "Notice of Intent Fee Transmittal Form."

Bank of America

ERIN R LAMBERT

3/4/2020

54-49/114 NH
1675

Date

Pay Town of Arlington \$ 267.50
to the order of Two-hundred sixty-seven and 50/100 Dollars

Richard Curren

Bank of America



ACH R/T 011400495

Memo

NDI Fees

Erin R. Lambert

MP

Photo
Safe
Deposit®
Details on back

NOI for Site Remediation
1297 Massachusetts Avenue, Arlington, MA 02476

Map	Block	Lot	Property Owner	Mailing Address	Quantity
Owner/Applicant:					
59	1	10.D	P&D Realty	109 Reflection Drive Sandwich, MA 02563	1
Abutters:					
59	1	11	1309-1323 Mass Ave, LLC.	12 Pepper Hill Drive Winchester, MA 01890	2
59	1	12	30 Park Ave Associates, LLP.	PO Box 288 Arlington, MA 02476	3
59	1	7	Lacourt Enterprises, LLC.	30 College Avenue Somerville, MA 02144	4
59.A	1	1.1	Xiaohe Ma	1283 Massachusetts Avenue, Unit 1 Arlington, MA 02476	5
59.A	1	1.2	Gregory R. Josephs & Brian D. Stricker	1283-1285 Mass. Avenue, Unit 2 Arlington, MA 02476	6
59.A	1	1.3	Radhika Sriram	1283-1285 Mass. Avenue, Unit 3 Arlington, MA 02476	7
59	1	9	Sean Galvin Trustee	630 High Street Medford, MA 02115	8
59	1	19	30 Park Ave Associates, LLP.	PO Box 288 Arlington, MA 02476	Duplicate
170	2	1	Nigoghos & Carolyn Atinizian	545 Concord Avenue, Suite 400 Cambridge, MA 02138	9
170	2	2	Nicolas Perhandis Trustee	163 Hillside Avenue Arlington, MA 02476	10
170	2	3	Cambridge Savings Bank	1374 Massachusetts Avenue Cambridge, MA 02138	11
170	2	4	Cambridge Savings Bank	1374 Massachusetts Avenue Cambridge, MA 02138	Duplicate
170	3	5	John R. & Mark Wanamaker Trust	1298 Massachusetts Avenue Arlington, MA 02476	12
170	3	6	John R. Wanamaker	41 Dyer Street North Billerica, MA 01862	13
170	3	7	Eleanor Leclain & John Kevin Clark	1292-1294 Massachusetts Avenue Arlington, MA 02476	14
165.A	3	1288	Melissa Dolan	1288 Massachusetts Avenue, Unit 1 Arlington, MA 02476	15
165.A	3	1290	Jesse D. & Regina M. O'Brien	1290 Massachusetts Avenue, Unit 2 Arlington, MA 02476	16

Abutters List Verified: 03/04/2020

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 March 19, 2020, at 7:30 PM 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 from P&D Realty, for remediation of contaminated soils from a commercial kitchen, grease storage container spill at 1297 Massachusetts Avenue, within 200 feet of a Riverfront area, on Assessor's Property Map #59, Lot #10D.

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 781-756-8071, the project engineer manager at 603-369-4190 x502, 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: Thursday, March 19, 2020

Time: 7:30 PM

Affidavit of Service

(Please return to Conservation Commission)

I, Russel Rucker, being duly sworn, do hereby state as follows: on March 4, 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, 1994, and the Arlington Wetlands Protection Bylaw, Title V, Article 8 of the Town of Arlington Bylaws in connection with the following matter:

Remediation of contaminated soils from a commercial kitchen, grease storage container spill at 1297 Massachusetts Avenue, Arlington, MA.

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 4th day of March 2020.

_____

Name

7019 1120 0001 2181 8666

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT <i>Domestic Mail Only</i>	
For delivery information, visit our website at www.usps.com ®.	
ARLINGTON, MA 02476	
Certified Mail Fee \$3.55 \$0.00 Extra Services & Fees (check box, add fee as appropriate) <input type="checkbox"/> Return Receipt (hardcopy) \$0.00 <input type="checkbox"/> Return Receipt (electronic) \$0.00 <input type="checkbox"/> Certified Mail Restricted Delivery \$0.00 <input type="checkbox"/> Adult Signature Required \$0.00 <input type="checkbox"/> Adult Signature Restricted Delivery \$0.00	0301 14 Postmark Here 03/04/2020
Postage \$0.55 \$0.00 Total Postage and Fees \$4.10	
Sent To ELEANOR LECLAIN & JOHN KEVIN CLARK Street and Apt. No., or PO Box No. 1292-1294 MASSACHUSETTS AVE City, State, ZIP+4® ARLINGTON, MA 02476	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

2019 1120 0001 2209 5677

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For delivery information, visit our website at www.usps.com ®.	
ARLINGTON, MA 02476	
Certified Mail Fee \$3.55	Extra Services & Fees (check box, add fee as indicated) <input type="checkbox"/> Return Receipt (hardcopy) \$0.00 <input type="checkbox"/> Return Receipt (electronic) \$0.00 <input type="checkbox"/> Certified Mail Restricted Delivery \$0.00 <input type="checkbox"/> Adult Signature Required \$0.00 <input type="checkbox"/> Adult Signature Restricted Delivery \$0.00
Postage \$0.55	Total Postage and Fees \$4.10
Sent To JESSE D. & REGINA M. O'BRIEN Street and Apt. No., or PO Box No. 1290 MASSACHUSETTS AVE., UNIT 2 City, State, ZIP+4® ARLINGTON, MA 02476	

0898 1812 1000 0211 6102

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only		
For delivery information, visit our website at www.usps.com ®.		
SANDWICH, MA 02563		
Certified Mail Fee	\$3.55	0301 14
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	
<input type="checkbox"/> Adult Signature Required	\$0.00	
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	
Postage	\$0.55	03/04/2020
Total Postage and Fees	\$4.10	
Sent To P&D REALTY Street and Apt. No., or PO Box No. 109 REFLECTION DRIVE City, State, ZIP+4® SANDWICH, MA 02563		
PS Form 3800, April 2015 PSN 7530-02-000-9047		See Reverse for Instructions

2019 1120 0001 2181 8673

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT <i>Domestic Mail Only</i>	
For delivery information, visit our website at www.usps.com ®.	
ARLINGTON, MA 02476	
Certified Mail Fee \$ 3.55	0301 14
Extra Services & Fees (check box, add fee as appropriate) <input type="checkbox"/> Return Receipt (hardcopy) \$ 0.00 <input type="checkbox"/> Return Receipt (electronic) \$ 0.00 <input type="checkbox"/> Certified Mail Restricted Delivery \$ 0.00 <input type="checkbox"/> Adult Signature Required \$ 0.00 <input type="checkbox"/> Adult Signature Restricted Delivery \$	Postmark Here
Postage \$ 0.55	03/04/2020
Total Postage and Fees \$ 4.10	
Sent To MELISSA DOWN Street and Apt. No., or PO Box No. 1288 MASSACHUSETTS AVE., UNIT 1 City, State, ZIP+4® ARLINGTON, MA 02476	
PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions	

2017.9 17:20 0007. 27.87. 8692

<div>U.S. Postal Service™</div> <div>CERTIFIED MAIL® RECEIPT</div> <div>Domestic Mail Only</div>		
For delivery information, visit our website at www.usps.com ®.		
WINCHESTER, MA 01890		
Certified Mail Fee \$ 3.55	0301 14	
Extra Services & Fees (check box, add fee to appropriate) <input type="checkbox"/> Return Receipt (hardcopy) \$ 0.00 <input type="checkbox"/> Return Receipt (electronic) \$ 0.00 <input type="checkbox"/> Certified Mail Restricted Delivery \$ 0.00 <input type="checkbox"/> Adult Signature Required \$ 0.00 <input type="checkbox"/> Adult Signature Restricted Delivery \$ 0.00	Postmark Here	
Postage \$ 0.55	03/04/2020	
Total Postage and Fees \$ 4.10		
Sent To 1709 - 1323 MASS AVE, LLC. Street and Apt. No., or PO Box No. 12 PEPPER HILL DR. City, State, ZIP+4® WINCHESTER, MA 01890		
PS Form 3800, April 2015 PSN 7530-02-000-9047		

7019	1120	0001	2180	4980
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For delivery information, visit our website at www.usps.com ®.	
ARLINGTON, MA 02476	
Certified Mail Fee \$ 3.55	0301 14
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Legal Notice Charge Authorization

DATE: March 4, 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 March 11, 2020 for a public hearing with the Arlington Conservation Commission to review a project at the following location:
1297 Massachusetts Avenue, Arlington, MA

Thank you.

Signed: Guin Lambert

Send bill to:

Wilcox & Barton, Inc. (Address)
PO Box 1630
Derry, NH 03038
603-369-4190 x527 (Phone)

Project Narrative

Project: D'Agostino's Delicatessen Grease Remediation
Address: 1297 Massachusetts Avenue, Arlington, Massachusetts
Owner/Applicant: P&D Realty

The project involves the remediation of contaminated soil from a kitchen grease storage container spill at D'Agostino's Delicatessen. Grease in the storage container has spilled into the area at the top of the bank behind the grease container with some surface runoff on the bank. No spilled grease has impacted Mill Brook at the bottom of the bank, which runs through the project property. Construction activities include the removal and replacement of soil, planting two new trees to replace an existing tree that will be by the excavation, installation of two new traffic bollards behind the grease container, and restoration of areas disturbed during construction activities. An estimated 21 cubic yards of grease-contaminated soil is expected to be removed and replaced with 26 cubic yards of clean, compacted fill. Most of the excavation will take place within the vicinity of the grease container storage area and within the top of the bank behind the grease container. Some surface excavation is expected on the bank to remove grease from the topsoil. A summary of the expected excavation depths at the specified locations is tabulated below.

Excavation & Backfill Calculations

Excavation Volume			
Location	Area (sf)	Depth (ft)	Volume (cf)
Grease container	168	2.0	336
Top of bank	156	1.0	156
Bank	144	0.5	72
Total			564

Fill Volume

Fill Vol. = Excav. Vol. x Compaction Factor
Fill Vol. = 564 cf x 1.25
Fill Vol. = 705 cf
Fill Vol. = 26 cy

In order to complete removal of contaminated soil, an existing 12-inch diameter at breast height (DBH) deciduous tree near the top of the bank behind the grease container shall be removed prior to start of excavation. The base of the tree is in the expected excavation area, and a majority of its base roots are expected to be impacted by excavation activity. There shall be 2 new trees planted at the top of the bank during site restoration activities to replace the removed tree. Impacts to other trees on the bank are not expected given the shallow depth of exaction on the bank. However, the contractor shall notify the engineer immediately should excavation activities require the removal of additional tree roots. New trees planted to replace the removed tree shall be Red Maple (*Acer Rebrum*) of 2.5-inch to 3.5-inch caliper.

Stormwater Management and Erosion Control

The project property is 1.23-acres (53,736-square feet). Most of the ground cover on the property consists of impervious surfaces for two buildings with associated parking lots and driveways, resulting in a total 33,000-square feet of impervious cover (61% of total site area). A catch basin east of the project area captures most of the surface runoff on the property. The rest of the surface runoff is conveyed to Mill Brook, which runs through the northern section of the property. All of the property is within the 200-foot riverfront area, and approximately 36,500-square feet is within 100-feet of Mill Brook. The project area is limited to a 2,700-square foot area along the upper bank and is entirely within 100-feet of Mill Brook.

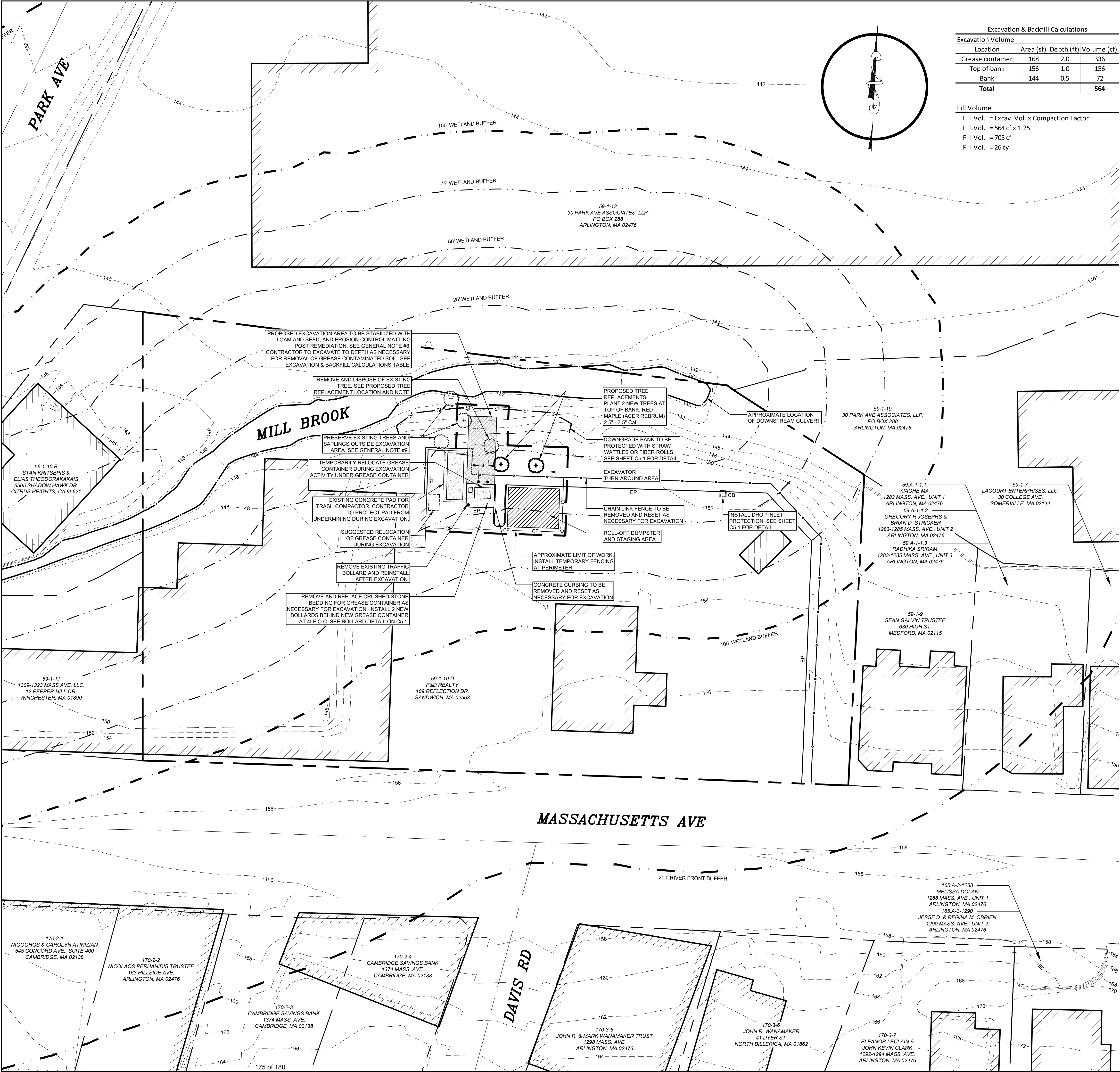
Most of the stormwater improvements post-construction shall be qualitative. No additional impervious area is proposed for the project, and all disturbed areas will be stabilized to a state equal to or better than their condition prior to construction. The existing bank in the project area is loose and uneven with some vegetative cover and slopes of 2:1 and greater. The contractor shall stabilize the bank with compacted fill at a slope of 2:1 or less where permitted, install erosion control matting, and reseed the disturbed areas. To replace the removal of the existing tree in the excavation zone of the project area, 2 new trees shall be planted at the top of the bank within the project area. Adding new trees and enhancing the vegetative cover on the slope further helps to protect Mill Brook from surface pollutants. Stormwater runoff from the project area will be at or below the current runoff rates due to the enhance vegetative cover.

Prior to any earth disturbance, temporary fencing, perimeter barriers, and inlet protections will be installed around the project area. Temporary fencing will be installed at the limits of disturbance for each phase of construction to prevent the expansion of disturbed areas beyond the limits of the phase. Fencing will be inspected weekly and replaced or repaired if damaged. For erosion control, fiber rolls will be placed down gradient of all disturbed areas. The fiber rolls will have a diameter of 9-inches or 12-inches and will be installed with 2-inch x 2-inch x 36-inch wooden stakes placed 10-feet on center. Existing and proposed storm drain inlets will also be protected from the discharge of sediment laden runoff by implementation of fiber rolls. See sheet C5.1 of attached Construction & Erosion Control Details for installation. The fiber rolls will be inspected weekly and after every rain fall event producing runoff. Fiber rolls that are dislodged or damaged will be replaced. Accumulated sediment will be removed when it reaches $\frac{1}{2}$ the exposed height of the fiber roll.

The contractor shall fill and compact excavated areas and restore all disturbed areas with loam and seed. All stockpiles will be encircled with silt fence or fiber rolls to prevent migration of sediment from the stockpile. Erosion control matting shall be installed on the bank to stabilize the slope. The erosion control matting will be inspected weekly and after every rain fall event producing runoff. All disturbed areas which have reached final grade will be seeded and mulched within 48 hours of completion. Seeded areas will be inspected weekly and within 24 hours of all rainfall events of 0.25-inches or greater. Any areas where runoff has displaced the topsoil, seed, or mulch will be repaired immediately. Restoration of the disturbed areas shall be considered stabilize after a minimum of 85% vegetated growth has been established. After the entire site has reached final stabilization, the remaining erosion control measures will be removed within 30 days.

Supporting evidence that the project has sufficient climate change resilience is as followed:

1. The project will not increase impervious area on the site and existing green spaces with sparse vegetation will be reseeded to increase the slope stability of the bank with more dense vegetation. New traffic bollards and planted trees shall help protect the bank as physical barriers.
2. New plantings and vegetation shall revitalize green spaces, decrease total surface runoff in the restored areas, and reduce the amount of common surface pollutants entering Mill Brook.
3. The existing tree to be removed will be replaced with 2 Red Maple trees (native, non-invasive), which are hardy trees, resilient to adverse growing conditions. Restoring disturbed areas with loam and seed also promotes long-lasting ground cover.
4. No new structures are proposed. The existing structures shall be unimpacted by proposed construction activities.



Excavation & Backfill Calculations			
Excavation Volume			
Location	Area (sf)	Depth (ft)	Volume (cf)
Grease container	168	2.0	336
Top of bank	156	1.0	156
Bank	144	0.5	72
Total			564

Fill Volume
Fill Vol. = Excav. Vol. x Compaction Factor
Fill Vol. = 564 cf x 1.25
Fill Vol. = 705 cf
Fill Vol. = 26 cy

LEGEND	
	PROPERTY LINE
	ABUTTER'S PROPERTY LINE
	MAJOR CONTOUR
	MINOR CONTOUR
	BUILDINGS
	ROADWAY CENTERLINE
	EDGE OF PAVEMENT
	CURB
	CONCRETE PAD
	CHAIN LINK FENCE
	EDGE OF WETLAND/WATERWAY
	200' RIVERFRONT BUFFER
	100' WETLAND/WATERWAY BUFFER
	WETLAND/WATERWAY BUFFER
	TEMPORARY FENCE
	FIBER ROLLS
	LIMIT OF WORK
	CATCH BASINS
	INLET PROTECTION
	DECIDUOUS TREES

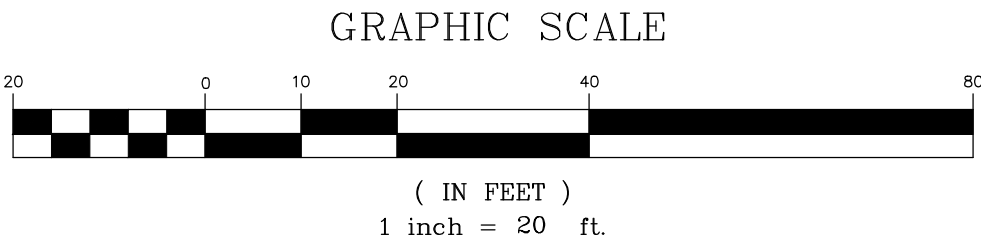
- GENERAL NOTES:
- EXISTING CONDITIONS, NORTH ORIENTATION, AND COORDINATE VALUES DEPICTED ON THESE DRAWINGS ARE BASED ON DATA COLLECTED AND PROVIDED BY THE BUREAU OF GEOGRAPHIC INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS, EXECUTIVE OFFICE OF TECHNOLOGY AND SECURITY SERVICES. 1.1. STRUCTURES LAYER UPDATED AUGUST 2019 1.2. TAX PARCELS LAYER UPDATED JANUARY 2020 1.3. ROAD CENTER LINES LAYER UPDATED NOVEMBER 2018
 - TOPOGRAPHICAL INFORMATION PROVIDED BY THE TOWN OF ARLINGTON, MA GIS DATA "2-FOOT ELEVATION CONTOURS" DATED 2018.
 - CONTRACTOR IS RESPONSIBLE FOR ADEQUATE BRACING OF WALLS AND/OR SHORING OF EXCAVATIONS DURING CONSTRUCTION.

- THE CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS AND SUBMITTALS BEFORE SUBMISSION TO THE ENGINEER. THUS, PROVIDING ANY INFORMATION REQUIRED OF THE FABRICATOR SUCH AS FIELD DIMENSIONS, ELEVATIONS, ETC. OTHERWISE THE SHOP DRAWINGS OR SUBMITTALS WILL BE REJECTED UNTIL SUCH INFORMATION IS FURNISHED BY THE CONTRACTOR.
- BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, ASTM D1557.
- THE CONTRACTOR SHALL CONTACT DIG-SAFE (1-888-DIG-SAFE) AT LEAST 48 HOURS AND LESS THAN 30 DAYS PRIOR TO STARTING CONSTRUCTION AND SHALL VERIFY ALL UTILITY LOCATIONS IN THE FIELD.
- CONTRACTOR WILL NOTIFY ENGINEERS IMMEDIATELY IF SITE CONDITIONS DIFFER FROM WHAT IS SHOWN ON PLAN.
- CONTRACTOR TO USE NORTH AMERICAN GREEN BONNET SC150BN MATTING FOR ALL EROSION CONTROL MATTING. 70% STRAW / 30% COCONUT FIBER MATRIX.
- CONTRACTOR SHALL PRESERVE AND PROTECT EXISTING TREE ROOTS. IF ADDITIONAL TREES NEED TO BE IMPACTED FOR REMEDIATION ACTIVITIES CONTACT ENGINEER IMMEDIATELY.

- LANDSCAPING NOTES:
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS
 - LANDSCAPING CONTRACTOR SHALL RECEIVE SITE GRADE TO +/- 0.10 FOOT.
 - ALL PLANT MATERIALS AND FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION
 - IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE FOR IMMEDIATE RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO THE OWNER'S REPRESENTATIVE WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE THE MATERIALS.
 - CONTRACTOR SHALL FURNISH PLANT MATERIALS FREE OF PESTS OR PLANT DISEASES. PRE-SELECTED OR "TAGGED" MATERIAL MUST BE INSPECTED BY THE CONTRACTOR AND CERTIFIED AS PEST AND DISEASE FREE. IT IS THE CONTRACTOR'S OBLIGATION TO WARRANTY ALL PLANT MATERIALS.
 - ALL GROUND COVERS SHALL BE TRIANGULARLY SPACED UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF ANY EXISTING MATERIALS DAMAGED DURING PLANTING OPERATIONS.
 - ALL LANDSCAPE AREAS SHALL BE COVERED WITH 2-INCHES OF ORGANIC BARK MULCH UNLESS OTHERWISE NOTED.
 - AREAS SHOWN AS GROUND COVER AT THE BASE OF TREE AND SHRUB MATERIALS MUST CONFORM TO THE FOLLOWING CRITERIA. THERE SHALL BE NO GROUND COVER PLANT MATERIAL AT THE BASE OF THE TREE OR SHRUB AS FOLLOWS: A) 4-FOOT RADIUS AROUND EVERGREEN TREES, B) 3-FOOT RADIUS AROUND DECIDUOUS TREES; AND C) 2-FOOT RADIUS AROUND LARGE SHRUBS.
 - FINAL PLACEMENT OF ALL PLANT MATERIALS SHALL BE SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE PRIOR TO FINAL PLACEMENT AND BACKFILL. CONTACT OWNER'S REPRESENTATIVE 24-HOURS PRIOR TO PLACEMENT FOR APPROVAL.
 - ALL DISTURBED AREAS, UNLESS OTHERWISE NOTED, TO BE LOAM, SEEDED, AND MULCHED.

EROSION CONTROL SEED		
SEED	BY % MASS	% GERMINATION (MIN)
WINTER RYE 80 (MIN)	80 (MIN)	85
RED FESCUE (CREEPING)	4 (MIN)	80
PERENNIAL GRASS	3 (MIN)	90
RED CLOVER	3 (MIN)	90
OTHER CROP GRASS	0.5 (MAX)	
NOXIOUS WEED SEED	0.5 (MAX)	
INERT MATTER	1.0 (MAX)	

PERMANENT SEED MIX		
SEED	BY % MASS	% GERMINATION (MIN)
RED FESCUE (CREEPING)	50	85
KENTUCKY BLUE	25	85
PERENNIAL RYE GRASS	10	90
RED TOP	10	85
LANDINO CLOVER	5	85



Wilcox & Barton INC.
CIVIL • ENVIRONMENTAL • GEOTECHNICAL

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603-369-4190
www.wilcoxandbarton.com

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P&D REALTY 109 REFLECTION DR SANDWICH, MA

D'AGOSTINO'S DELICATESSEN 1297 MASS. AVE. ARLINGTON, MA

Map/Block/Lot: 59/1/10D

Drawing Title

Site Plan

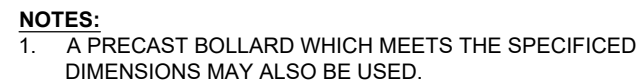
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Drafted By	RSR	Checked By	DLF
Project Mgr	RWB	Project Number	PDR0001
		Sheet Number	



ENGINEER: DAVID L. FROTHINGHAM III
MA P.E. #53592

C1.1

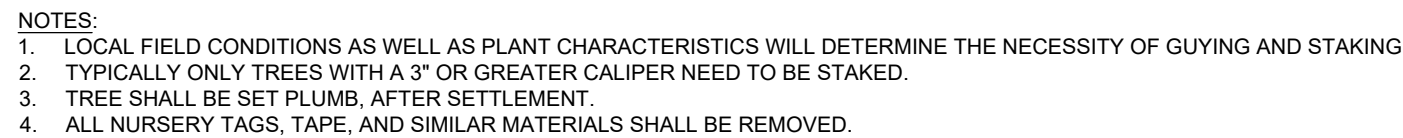
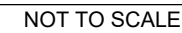
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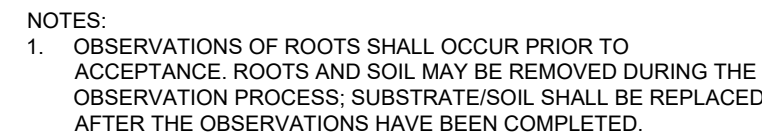
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***NOTE:**
In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.



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Owner

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SANDWICH, MA**

Site

**1297 MASS. AVE.
ARLINGTON, MA**

Drawing Title

Scale

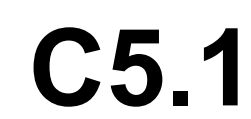
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Project Mgr

DLF

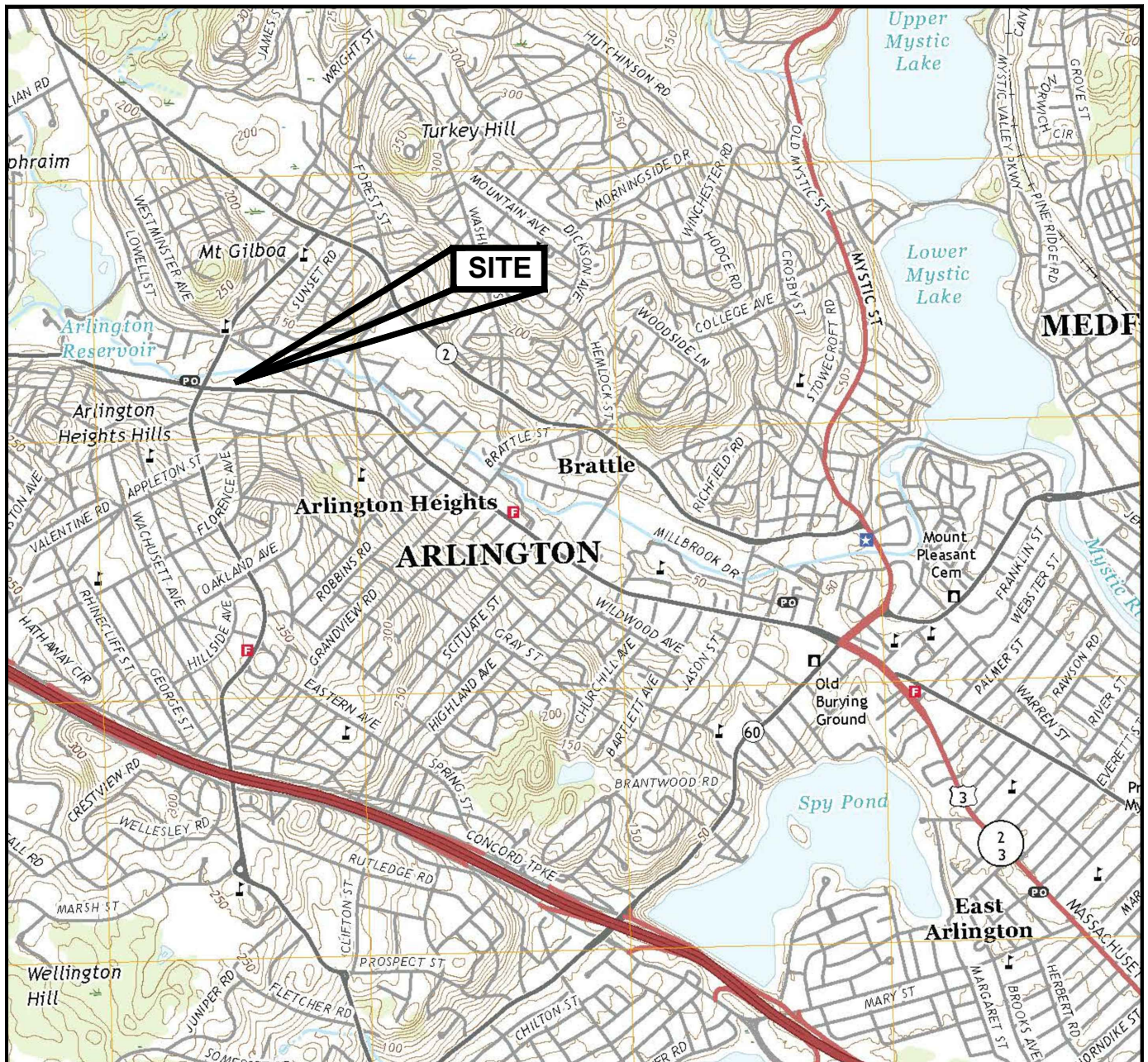
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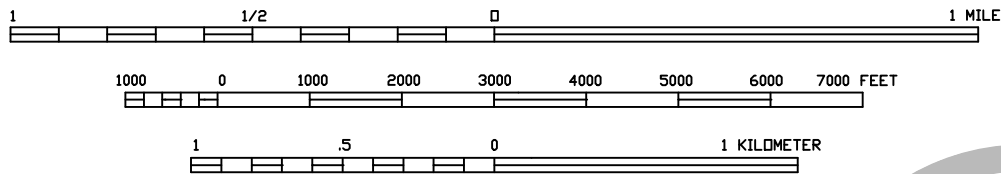


ENGINEER: DAVID L. FROTHINGHAM II
MA P.E. #53592

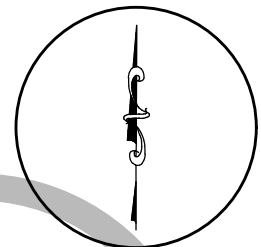
2 of 2



SCALE: 1:24,000



CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

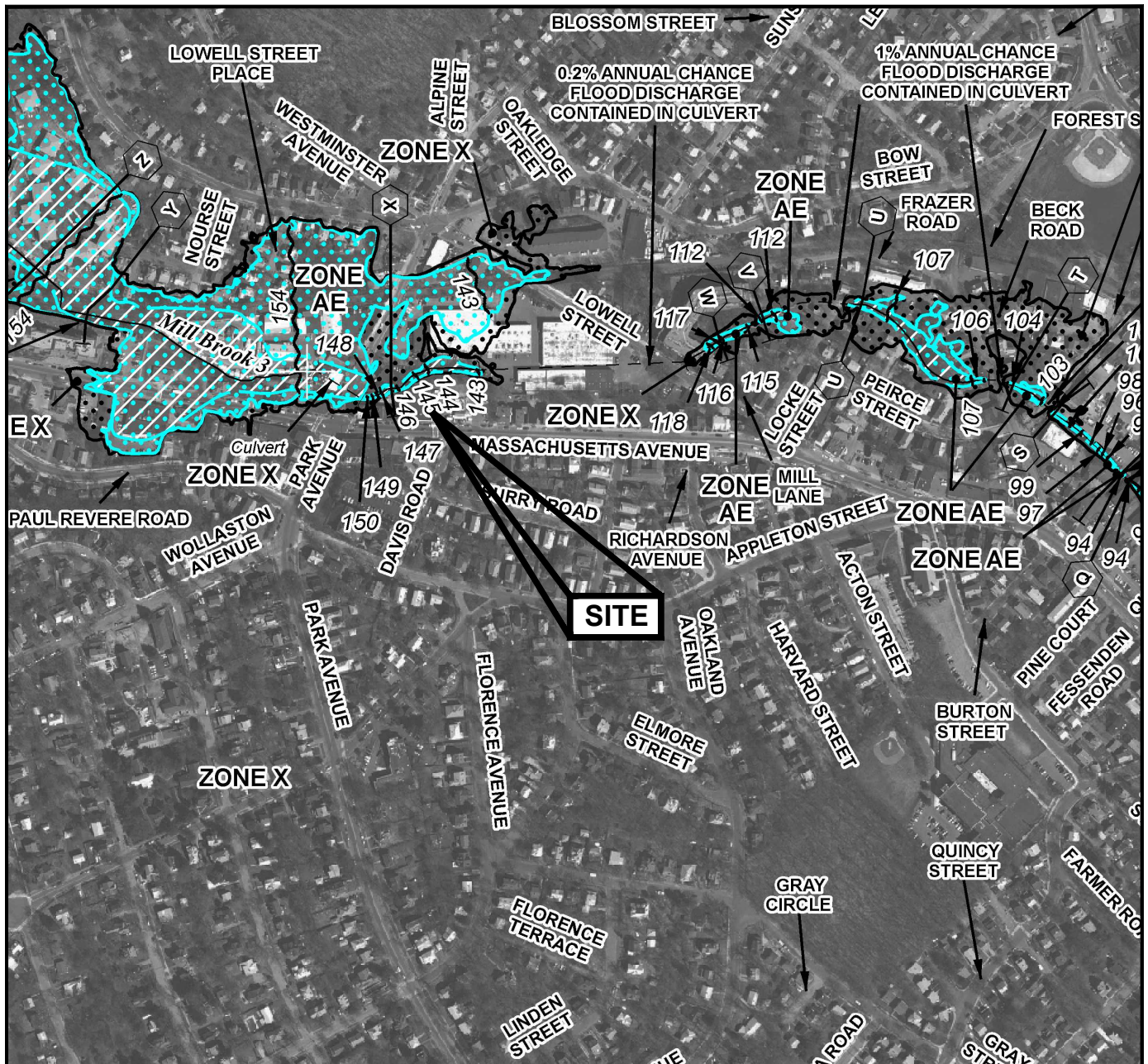


DATE MAR. 4, 2020	SCALE As shown	FILE Site Location Map
APPROVED BY RWB	DRAWN BY RSR	REVISED
CLIENT P&D Realty	JOB NUMBER PDRE0001	
LOCATION D'agostino's Food Store 1297 Massachusetts Ave. Arlington, MA 02476	MAP SOURCE Lexington, MA USGS QUAD 2018	

Wilcox & Barton INC.
CIVIL · ENVIRONMENTAL · GEOTECHNICAL

SITE LOCATION MAP

Figure 1



<div>LEGEND</div> <div><div><div></div><div>1% ANNUAL CHANCE FLOOD</div></div><div><div></div><div>ZONE AE</div></div><div><div></div><div>ZONE X</div></div></div>		<div>SCALE: 1" = 500'</div> <div><div><div>25005001000 FEET</div><div>1500150300 METER</div></div></div>		<div></div>
<div>DATE</div> <div>MAR. 04, 2020</div>	<div>SCALE</div> <div>As shown</div>	<div>FILE</div> <div>Floodplain Map</div>	<div><div><div>Wilcox & Barton INC.</div><div>CIVIL · ENVIRONMENTAL · GEOTECHNICAL</div><div>FLOODPLAIN MAP</div><div>Figure 2</div></div><div>178 of 180</div></div>	
<div>APPROVED BY</div> <div>ERL</div>	<div>DRAWN BY</div> <div>RSR</div>	<div>REVISED</div>		
<div>CLIENT</div> <div>P&D Realty</div>		<div>JOB NUMBER</div> <div>PDRE0001</div>		
<div>LOCATION</div> <div>D'agostino's Food Store 1297 Massachusetts Ave. Arlington, MA 02476</div>		<div>MAP SOURCE</div> <div>FIRM Flood Insurance Rate Map Map No.: 25017C0416E June 4, 2010</div>		

SITE PHOTOS



Figure 1: Northern view of front of grease trap and trash compactor.



Figure 2: Southern view of eastern side of trash compactor.



Figure 3: Northern view of front of grease trap.



Figure 4: Northeastern view of rear of grease trap.



Figure 5: Western view of top of bank behind grease trap.



Figure 6: Eastern view of top of bank behind grease trap.



Figure 7: Northern view of bank behind grease trap.



Figure 8: Southern view of bank behind grease trap.