SMMA

Permitting Application

Andover West Elementary and Shawsheen Preschool

58 Beacon Street | Andover, MA

December 7th, 2021

Prepared for Applicant

Andrew Flanagan
Town Manager, Town of Andover
36 Bartlet Street
Andover, MA 01810

Prepared by

SMMA
1000 Massachusetts Ave
Cambridge, MA 02138

Permitting Application

Andover West Elementary and Shawsheen Preschool
Andover, MA

Prepared by
SMMA

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Application Forms

ANDOVER PLANNING BOARD

APPLICATION FOR SITE PLAN REVIEW
(Section 9.5. of the Andover Zoning Bylaw)

APPLICATION MUST BE COMPLETE
(Please print or type)

This application, completed and signed, shall be submitted with 18 copies of the application and narrative, 12 copies of the plans, 1 CD with PDFs of the plans and 7 copies of any drainage report.

1. Applicant(s): Town Manager, Town of Andover
   Contact Name: Andrew Flanagan
   Mailing Address: 36 Bartlet Street, Andover MA 01810
   Telephone Number: 978-623-8210

2. Record Owner(s) Name: Town of Andover
   Mailing Address: 36 Bartlet Street, Andover MA 01810

3. Interest in Property: _____Owner x_____ Other
   (Describe): The engineer, SMMA, is submitting this application on behalf of the applicant

4. Engineer: Symmes, Maini, & McKee Associates (SMMA)
   Contact Name: Lorraine Finnegan
   Mailing Address: 1000 Massachusetts Avenue
   Telephone Number: 617-547-5400
   Name of Professional Surveyor: Nitsch Engineering PLS # 40768

5. Except as provided as in Section 10.0 for major non-residential projects and for new multifamily construction under Section 7.3, no building permit shall be issued for new construction or enlargement of a building in which commercial, industrial, institutional and/or multifamily use or uses are located unless and until a site plan review certificate of approval has been issued in conformance with this section. Said approval shall be required for the following projects(circle all that apply):

   a. Where the gross floor area of an existing building is increased up to two thousand square feet.

   b. Where the gross floor area of a proposed building or of all buildings proposed totals ten thousand square feet or less.

6. Property Address: 58 Beacon Street, Andover MA 01810

   Assessors Map 107 & 58 Lot(s) 6, 16 & 57A, 57, 58

   Zoning District(s) including overlay districts: Single Residence B (SRB)

   Deed recorded in North Essex Registry of Deeds in Book 747 Page 13

7. Lot square footage: 1,481,040± Gross floor area of existing building: 90,600±

   stories: 1 square footage per floor: _____ height: 29

8. Existing Use(s) Municipal facility (school) Proposed Use(s): No change

9. Increase amounts - gross floor area: 100,400 (191,000 SF total) stories: 3

   Square footage per floor: 1: 92,300±, 2: 55,500±, 3: 43,200± height: 44'-8"

10. Total gross floor area (existing + proposed): 191,000 SF

    Total building coverage percentage: 6.6% landscaping percentage: 77%

    Total coverage of impervious surfaces - square footage: 230,800 percentage: 16%±

11. Square footage of total land disturbance: ±16 acres (700,000 SF)

12. Parking required for proposed use(s) Elementary school: 2 sp./classroom = 116 spaces

13. The application shall include a site plan, prepared by a registered professional architect, registered civil engineer or a professional landscape architect, drawn at a scale of one inch equals forty (40) feet, containing the following information in both narrative and graphic detail:

    a. Date;
    b. North arrow;
    c. Name and address of owner;
    d. Name and address of designer;
    e. Locus plan;
    f. Lot lines and setbacks;
    g. Adjacent streets and ways;
    h. Owner and use of abutting lots;
    i. Zoning district boundaries;
    j. Wetlands and wetlands buffers, as shown on maps entitled "Wetlands Areas of Andover, Massachusetts" available from the Andover Conservation Commission;
    k. All existing and proposed topography at two-foot intervals;
    l. All test boring sites, keyed to accompanying documentation of results;

m. All existing and proposed buildings, structures, parking and loading areas (with dimensional notations), driveways, walkways, signs, fences, and refuse collection areas;

n. All existing structures and/or pavement to be removed or demolished;

o. All utilities, including waterline locations, sewer line locations and profiles, and storm drainage systems;

p. All areas designated as easements, conservation restriction area, or Open Space;

q. Elevation of building exterior;

r. A separate plan drawn at the same scale, showing landscaping and lighting details;

s. A written statement detailing the size of the lot, the proposed use, parking calculations, building footprint coverage, and calculations of volume of earth to be moved and removed.

Signature of Record Owner

Andrew Flanagan
Print Name

12/3/21
Date

Signature of Applicant

Andrew Flanagan
Print Name

12/3/21
Date

(REVISED 6/13)

SMMA

Memorandum

To:	Town of Andover Planning Board	Date:	12/07/2021
From:	SMMA	Project No.:	19146
Project:	Andover West Elementary and Shawsheen Preschool		
Re:	Waiver Request - Site Plan Review Fee		
Distribution:	Planning Board		

To the members of the Andover Planning Board,

In accordance with Section 9.5 of the Andover Zoning By-Law, an application for Site Plan Review with the Planning Board is being submitted for the proposed improvements to the West Elementary school. Pursuant to the Andover Planning Board's advertising and administrative fee schedule, the project is subject to the administrative and processing fee for "Site Plan Review Dover Use" of *$500.00 plus $0.10 per gross floor area*.

In correspondence with the Town Planner, we have received guidance to request a waiver for this fee, as the proposed project is a municipal use. We respectfully request that the Andover Planning Board vote to waive the fee.

Sincerely,

Erin Prestileo, P.E.

Jesse O'Donnell

1000 Massachusetts Avenue
Cambridge, MA 02138
617.547.5400

www.smma.com

Andover West Elementary and Shawsheen Preschool

List of Abutters

Note: The following list of abutters was generated from the Town of Andover's GIS webpage using the "Create a non-certified abutters list" web tool. The subject property was selected and the web tool was used to generate an abutters list for all abutting properties within 300' of the subject property.

88 0 38
58 HIGH PLAIN RD
ANDOVER, MA 01810

108 0 65
104 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 17
68 BEACON ST
ANDOVER, MA 01810

107 0 16
36 BARTLET ST
ANDOVER, MA 01810

107 0 10
34 DUSTON DR
METHUEN, MA 01844

107 0 11
79 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 3
2 SPENCER CT
ANDOVER, MA 01810

107 0 7
129 RESERVATION RD
ANDOVER, MA 01810

107 0 3 K
36 BARTLET ST
ANDOVER, MA 01810

107 0 6
36 BARTLET ST
ANDOVER, MA 01810

107 18 2003
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 5002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 3004
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 6003
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 7001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 3002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 2001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 1002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 7004
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 7002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 4002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 5004
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 2002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 1003
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 7003
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 3001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 6004
3 CRENSHAW LN
ANDOVER, MA 01810

107 0 18
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 5003
3 CRENSHAW LN
ANDOVER, MA 01810

This list is not to be considered official and should not be used for legal purposes. Any use of this data is at recipient's own risk.

107 18 6002
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 1004
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 1001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 4001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 3003
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 4003
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 5001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 6001
3 CRENSHAW LN
ANDOVER, MA 01810

107 18 2004
3 CRENSHAW LN
ANDOVER, MA 01810

88 0 40
57 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 12
75 HIGH PLAIN RD
ANDOVER, MA 01810

108 0 67
112 HIGH PLAIN RD
ANDOVER, MA 01810

108 0 52
84 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 54
44 BEACON ST
ANDOVER, MA 01810

107 0 15
65 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 5
101 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 44
33 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 3 C
8 SPENCER CT
ANDOVER, MA 01810

108 0 53
86 HIGH PLAIN RD
ANDOVER, MA 01810

88 105A 1301
43 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1302
41 CRENSHAW LN
ANDOVER, MA 01810

88 0 105 A
3 CRENSHAW LN
ANDOVER, MA 01810

88 105A 0801
13 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1202
3 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1002
22 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1103
26 CRENSHAW LN
ANDOVER, MA 01810

88 105A 0903
15 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1501
27 CRENSHAW LN
ANDOVER, MA 01810

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88 105A 0803
9 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1201
38 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1401
3 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1001
24 CHRENSHAW LN
ANDOVER, MA 01810

88 105A 1203
3981 SHEARWARTER DR
JUPITER, FL 33477

88 105A 0901
19 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1504
21 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1101
30 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1003
20 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1303
39 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1502
25 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1304
37 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1404
29 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1402
3 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1503
23 CRENSHAW LN
ANDOVER, MA 01810

88 105A 0802
3 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1102
28 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1403
3 CRENSHAW LN
ANDOVER, MA 01810

88 105A 1204
32 CRENSHAW LN
ANDOVER, MA 01810

88 105A 0902
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0203
11 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0404
29 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1604
8 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0403
27 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0402
25 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1602
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0202
9 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0301
15 MUIRFIELD CI
ANDOVER, MA 01810

This list is not to be considered official and should not be used for legal purposes. Any use of this data is at recipient's own risk.

88 106A 1703
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0502
24 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0204
13 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1601
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0302
17 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1702
3 CRENSHAW LN
ANDOVER, MA 01810

88 0 106 A
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0604
14 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0602
18 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0603
16 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0503
22 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0101
1 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0303
19 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0201
7 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1701
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0401
23 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1603
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0102
3 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0501
26 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0304
21 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 0601
20 MUIRFIELD CI
ANDOVER, MA 01810

88 106A 1704
3 CRENSHAW LN
ANDOVER, MA 01810

88 106A 0103
5 MUIRFIELD CI
ANDOVER, MA 01810

88 0 39
60 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 3 A
4 SPENCER CT
ANDOVER, MA 01810

108 0 63
5 ROLLING RIDGE RD
ANDOVER, MA 01810

88 0 57
36 BARTLET ST
ANDOVER, MA 01810

108 0 66
108 HIGH PLAIN RD
ANDOVER, MA 01810

This list is not to be considered official and should not be used for legal purposes. Any use of this data is at recipient's own risk.

88 0 55
48 BEACON ST
ANDOVER, MA 01810

88 0 41
53 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 3 N
5 SPENCER CT
ANDOVER, MA 01810

108 0 48
10 FAIRWAY DR
ANDOVER, MA 01810

107 0 3 B
6 SPENCER CT
ANDOVER, MA 01810

131 0 34
36 BARTLET ST
ANDOVER, MA 01810

107 0 14
69 HIGH PLAIN RD
ANDOVER, MA 01810

108 0 64
100 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 37
54 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 15 A
63 HIGH PLAIN RD
ANDOVER, MA 01810

108 0 56
4 ROLLING RIDGE RD
ANDOVER, MA 01810

88 0 56
52 BEACON ST
ANDOVER, MA 01810

107 0 3 M
7 SPENCER CT
ANDOVER, MA 01810

107 0 9
89 HIGH PLAIN RD
ANDOVER, MA 01810

107 0 4
107 HIGH PLAIN RD
ANDOVER, MA 01810

108 0 57
8 ROLLING RIDGE RD
ANDOVER, MA 01810

107 0 3 L
9 SPENCER CT
ANDOVER, MA 01810

88 0 36
48 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 58
36 BARTLET ST
ANDOVER, MA 01810

107 0 3 P
1 SPENCER CT
ANDOVER, MA 01810

108 0 49
10 TURNER CI
ANDOVER, MA 01810

108 0 54
2 ROLLING RIDGE
ANDOVER, MA 01810

88 0 57 A
36 BARTLET ST
ANDOVER, MA 01810

107 0 3 H
15 SPENCER CT
ANDOVER, MA 01810

107 0 3 J
11 SPENCER CT
ANDOVER, MA 01810

88 0 106
3 CRENSHAW LN
ANDOVER, MA 01810

88 0 43
39 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 42
47 HIGH PLAIN RD
ANDOVER, MA 01810

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88 0 43 B
39 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 43 A
39 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 42 A
43 HIGH PLAIN RD
ANDOVER, MA 01810

88 0 42 B
39 HIGH PLAIN RD
ANDOVER, MA 01810

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Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

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

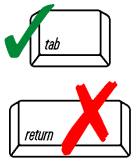
Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Andover
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):

58 Beacon Street — a. Street Address
Andover — b. City/Town
01810 — c. Zip Code

Latitude and Longitude:
42.664444 N — d. Latitude
71.171775 W — e. Longitude

107 & 58 — f. Assessors Map/Plat Number
6, 16 & 57A, 57, 58 — g. Parcel /Lot Number

2. Applicant:

Andrew — a. First Name
Flanagan — b. Last Name
Town Manager, Town of Andover — c. Organization
36 Bartlet Street — d. Street Address
Andover — e. City/Town
MA — f. State
01810 — g. Zip Code
978-623-8210 — h. Phone Number
i. Fax Number
andrew.flanagan@andoverma.us — j. Email Address

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

a. First Name
b. Last Name
Town of Andover — c. Organization
36 Bartlet Street — d. Street Address
Andover — e. City/Town
MA — f. State
01810 — g. Zip Code
978-623-8200 — h. Phone Number
i. Fax Number
j. Email address

4. Representative (if any):

Lorraine — a. First Name
Finnegan — b. Last Name
SMMA — c. Company
1000 Massachusetts Avenue — d. Street Address
Cambridge — e. City/Town
MA — f. State
02138 — g. Zip Code
617-547-5400 — h. Phone Number
i. Fax Number
lfinnegan@smma.com — j. Email address

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

N/A — a. Total Fee Paid
N/A — b. State Fee Paid
N/A — 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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Andover
City/Town

A. General Information (continued)

6. General Project Description:

The project proposes to remove and replace the existing 90,600 gross square foot elementary school building with the construction of a new 191,000± gross square foot school building (comprised of a two-story PreK wing and a three-story K-5 structure) in addition to other site improvements including landscaping, parking facilities, utilities, and a synthetic turf playing field.

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

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

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

1. ☐ Yes ☒ No

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

2. Limited Project Type

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

8. Property recorded at the Registry of Deeds for:

a. County	b. Certificate # (if registered land)
North Essex	
c. Book	d. Page Number
747	13

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

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

Andover
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. ☐ Bank	1. linear feet	2. linear feet
b. ☐ Bordering Vegetated Wetland	1. square feet	2. square feet
c. ☐ Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet

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

2. Width of Riverfront Area (check one):

   ☐ 25 ft. - Designated Densely Developed Areas only

   ☐ 100 ft. - New agricultural projects only

   ☐ 200 ft. - All other projects

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

4. Proposed alteration of the Riverfront Area:

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

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

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

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

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

Massachusetts Department of Environmental Protection
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

Andover
City/Town

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

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

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

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

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

4. ☐ Restoration/Enhancement

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

a. square feet of BVW

b. square feet of Salt Marsh

5. ☐ Project Involves Stream Crossings

a. number of new stream crossings

b. number of replacement stream crossings

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Provided by MassDEP:
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Andover
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 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 https://www.mass.gov/ma-endangered-species-act-mesa-regulatory-review).
Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

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

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

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

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

(d) ☐ Vegetation cover type map of site

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

(f) OR Check One of the Following

1. ☐ Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, https://www.mass.gov/service-details/exemptions-from-review-for-projectsactivities-in-priority-habitat; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

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

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

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

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

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

South Shore - 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@mass.gov

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@mass.gov

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

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

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

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

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

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

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

   b. ACEC

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

   a. ☐ Yes ☐ No

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

   a. ☐ Yes ☐ No

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

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

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

      2. ☐ A portion of the site constitutes redevelopment

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

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

      1. ☐ Single-family house

      2. ☐ Emergency road repair

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

D. Additional Information

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

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

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

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

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

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D. Additional Information (cont'd)

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

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

See attached list of plans
a. Plan Title

b. Prepared By

c. Signed and Stamped by

d. Final Revision Date

e. Scale

f. Additional Plan or Document Title

g. Date

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

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

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

8. ☒ Attach NOI Wetland Fee Transmittal Form

9. ☒ Attach Stormwater Report, if needed.

E. Fees

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

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

N/A
2. Municipal Check Number

3. Check date

N/A
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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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.

1. Signature of Applicant	2. Date: 12/3/21
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
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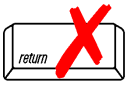
NOI Wetland Fee Transmittal Form

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:

58 Beacon Street	Andover
a. Street Address	b. City/Town
N/A	N/A
c. Check number	d. Fee amount

2. Applicant Mailing Address:

Andrew		Flanagan
a. First Name		b. Last Name
Town Manager, Town of Andover		
c. Organization		
36 Bartlet Street		
d. Mailing Address		
Andover	MA	01810
e. City/Town	f. State	g. Zip Code
978-623-8210		andrew.flanagan@andoverma.us
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

a. First Name		b. Last Name
Town of Andover		
c. Organization		
36 Bartlet Street		
d. Mailing Address		
Andover	MA	01810
e. City/Town	f. State	g. Zip Code
978-623-8200		
h. Phone Number	i. Fax Number	j. Email Address

B. Fees

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

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

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

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

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

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

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

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

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NOI Wetland Fee Transmittal Form

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

Step 5/Total Project Fee: N/A

Step 6/Fee Payments:

Total Project Fee: N/A
a. Total Fee from Step 5

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

City/Town share of filling Fee:
c. 1/2 Total Fee **plus** $12.50

C. Submittal Requirements

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

Department of Environmental Protection
Box 4062
Boston, MA 02211

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

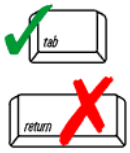
To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

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

Checklist for Stormwater Report

A. Introduction

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



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

The Stormwater Report must include:

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

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

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

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

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

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

Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

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

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

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

Standard 3: Recharge

☒ Soil Analysis provided.

☒ Required Recharge Volume calculation provided.

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

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

☒ Static ☐ Simple Dynamic ☐ Dynamic Field[1]

☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.

☐ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.

☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:

- ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
- ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
- ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
- ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.

☐ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.

☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

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

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

Checklist for Stormwater Report

B. Stormwater Checklist and Certification

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

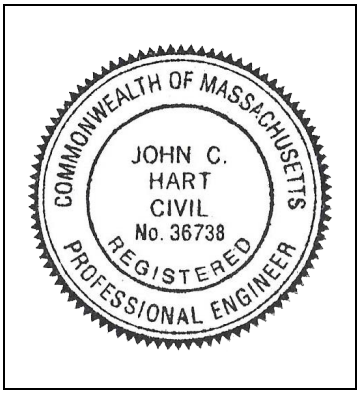
Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the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

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

Registered Professional Engineer's Certification

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

Registered Professional Engineer Block and Signature



12/2/2021
Signature and Date

Checklist

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

☐ New development

☒ Redevelopment

☐ Mix of New Development and Redevelopment

Checklist for Stormwater Report

Checklist (continued)

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

☒ No disturbance to any Wetland Resource Areas

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

☒ Reduced Impervious Area (Redevelopment Only)

☒ Minimizing disturbance to existing trees and shrubs

☐ LID Site Design Credit Requested:

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

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

☒ Bioretention Cells (includes Rain Gardens)

☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)

☐ Treebox Filter

☐ Water Quality Swale

☒ Grass Channel

☒ Green Roof

☒ Other (describe): Porous pavement

Standard 1: No New Untreated Discharges

☒ No new untreated discharges

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

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

Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

☐ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.

☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

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

- Good housekeeping practices;
- Provisions for storing materials and waste products inside or under cover;
- Vehicle washing controls;
- Requirements for routine inspections and maintenance of stormwater BMPs;
- Spill prevention and response plans;
- Provisions for maintenance of lawns, gardens, and other landscaped areas;
- Requirements for storage and use of fertilizers, herbicides, and pesticides;
- Pet waste management provisions;
- Provisions for operation and management of septic systems;
- Provisions for solid waste management;
- Snow disposal and plowing plans relative to Wetland Resource Areas;
- Winter Road Salt and/or Sand Use and Storage restrictions;
- Street sweeping schedules;
- Provisions for prevention of illicit discharges to the stormwater management system;
- Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
- Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
- List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.

☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.

☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:

- ☐ is within the Zone II or Interim Wellhead Protection Area
- ☐ is near or to other critical areas
- ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
- ☐ involves runoff from land uses with higher potential pollutant loads.

☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.

☒ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.

Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

☒ The BMP is sized (and calculations provided) based on:

- ☒ The ½" or 1" Water Quality Volume or
- ☒ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.

☐ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.

☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

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

☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.

☐ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted ***prior to*** the discharge of stormwater to the post-construction stormwater BMPs.

☐ The NPDES Multi-Sector General Permit does ***not*** cover the land use.

☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.

☐ All exposure has been eliminated.

☐ All exposure has ***not*** been eliminated and all BMPs selected are on MassDEP LUHPPL list.

☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.

☐ Critical areas and BMPs are identified in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:

- ☐ Limited Project
- ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
- ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
- ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
- ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.

☒ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.

☒ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

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

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

- Narrative;
- Construction Period Operation and Maintenance Plan;
- Names of Persons or Entity Responsible for Plan Compliance;
- Construction Period Pollution Prevention Measures;
- Erosion and Sedimentation Control Plan Drawings;
- Detail drawings and specifications for erosion control BMPs, including sizing calculations;
- Vegetation Planning;
- Site Development Plan;
- Construction Sequencing Plan;
- Sequencing of Erosion and Sedimentation Controls;
- Operation and Maintenance of Erosion and Sedimentation Controls;
- Inspection Schedule;
- Maintenance Schedule;
- Inspection and Maintenance Log Form.

☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.

Checklist for Stormwater Report

Checklist (continued)

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

☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has ***not*** been included in the Stormwater Report but will be submitted ***before*** land disturbance begins.

☐ The project is ***not*** covered by a NPDES Construction General Permit.

☒ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.

☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:

- ☒ Name of the stormwater management system owners;
- ☒ Party responsible for operation and maintenance;
- ☒ Schedule for implementation of routine and non-routine maintenance tasks;
- ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
- ☒ Description and delineation of public safety features;
- ☒ Estimated operation and maintenance budget; and
- ☒ Operation and Maintenance Log Form.

☐ The responsible party is ***not*** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:

- ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
- ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;

☒ An Illicit Discharge Compliance Statement is attached;

☐ NO Illicit Discharge Compliance Statement is attached but will be submitted ***prior to*** the discharge of any stormwater to post-construction BMPs.

Town of Andover
Town Offices, Conservation Division
36 Bartlet Street
Andover, MA 01810
(978) 623-8311
FAX (978) 623-8320

WAIVER

"Please complete this form, sign at the bottom and return by mail or fax to the address indicated above."

Date:

I, John C. Hart _____ hereby waive the twenty-one day time period for a public
Name of Applicant or Representative
hearing / meeting following receipt of my filing of;

- [x] Notice of Intent
- [ ] Request for Determination of Applicability
- [ ] Other _____

by the Andover Conservation Commission under Massachusetts General Laws, Ch. 131, sec. 40, and/or under Andover General Bylaws, Article XIV.

The request was submitted on: 12/07/2021 for work at: West Elementary School (58 Beacon Street)
Date Received in Conservation Dept. Location / Address of where work will be done

Please be advised that you will be notified of the meeting date, once this application has been assigned to a Conservation Meeting Agenda.

I am the:

- [ ] Applicant
- [x] Applicant's Representative (SMMA - Civil Engineer)
- [ ] Property Owner

John C Hart
_____
(Signature)

12/07/2021
_____
(Date)

West Elementary

BOARD OF ASSESSORS
TOWN OFFICES
36 BARTLET ST
ANDOVER, MA 01810
978-623-8930

BOARD OF ASSESSORS

CERTIFICATION OF ABUTTERS

PETITION # C-21-13

I hereby certify the attached list of abutters as they currently appear on the Assessors' Office records.

Patricia Sullivan
Senior Assessor

NOV 08 2021

85 HIGH PLAIN RD 107 0 10
LUC: 101
BERTRAM EDWARDS AND
CHERYL EDWARDS REVOC TRUST
8185 SANDPIPER GLEN DR
LAKE WORTH, FL 33467

79 HIGH PLAIN RD 107 0 11
LUC: 101
VAL TODD TRUST
YOUNG ERIC + VALOREE TRS
79 HIGH PLAIN RD
ANDOVER, MA 01810

75 HIGH PLAIN RD 107 0 12
LUC: 101
R+C TRUST
JACOBSON ROBERT+JOANN TRS
75 HIGH PLAIN RD
ANDOVER, MA 01810

69 HIGH PLAIN RD 107 0 14
LUC: 101
QIN YAN
DAI CHUNFENG TE
69 HIGH PLAIN RD
ANDOVER, MA 01810

65 HIGH PLAIN RD 107 0 15
LUC: 101
JJM/BAM REALTY TRUST
MANGANO J+B TRS
65 HIGH PLAIN RD
ANDOVER, MA 01810

63 HIGH PLAIN RD 107 0 15 A
LUC: 101
SULLIVAN CHRISTOPHER A
SULLIVAN TAYLOR M TE
63 HIGH PLAIN RD
ANDOVER, MA 01810

60 BEACON ST 107 0 16
LUC: 934
TOWN OF ANDOVER
WEST ELEMENTARY SCHOOL
36 BARTLET ST
ANDOVER, MA 01810

68 BEACON ST 107 0 17
LUC: 101
MOFFITT JOHN F
MOFFITT EUGENIE M TE
68 BEACON ST
ANDOVER, MA 01810

3 SPENCER CT 107 0 3 K
LUC: 932
TOWN OF ANDOVER
CONSERVATION COMMISSION
36 BARTLET ST
ANDOVER, MA 01810

9 SPENCER CT 107 0 3 L
LUC: 101
DALTON WILLIAM J
DALTON DANA H TE
9 SPENCER CT
ANDOVER, MA 01810

7 SPENCER CT 107 0 3 M
LUC: 101
RIGOLI RICHARD S
RIGOLI LISA M TE
7 SPENCER CT
ANDOVER, MA 01810

5 SPENCER CT 107 0 3 N
LUC: 101
COLEMAN DANIEL E
COLEMAN MARGUERITE H TE
5 SPENCER CT
ANDOVER, MA 01810

1 SPENCER CT 107 0 3 P
LUC: 101
LUTHER MICHAEL
LUTHER MARY RUTH TE
1 SPENCER CT
ANDOVER, MA 01810

101 HIGH PLAIN RD 107 0 5
LUC: 101
HIGH PLAIN ROAD REALTY TRUST
PICKETT+FERGUSON TRS
101 HIGH PLAIN RD
ANDOVER, MA 01810

0 HIGH PLAIN RD 107 0 6
LUC: 933
TOWN OF ANDOVER
WEST ELEMENTARY SCHOOL
36 BARTLET ST
ANDOVER, MA 01810

95 HIGH PLAIN RD 107 0 7
LUC: 961
WEST PARISH CHURCH
OF ANDOVER
129 RESERVATION RD
ANDOVER, MA 01810

89 HIGH PLAIN RD 107 0 9
LUC: 101
ELAM NATHAN M
ELAM LYNETTE M TE
89 HIGH PLAIN RD
ANDOVER, MA 01810

1 31 ROBERT DR 0 107 18 0
LUC: 996
CA INVESTMENT TRUST
59 CHANDLER CI
ANDOVER, MA 01810

1 ROBERT DR 1-1 107 18 1001
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

3 ROBERT DR 1-2 107 18 1002
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

5 ROBERT DR 1-3 107 18 1003
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

7 ROBERT DR 1-4 107 18 1004
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

2 ROBERT DR 2-1 107 18 2001
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

4 ROBERT DR 2-2 107 18 2002
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

6 ROBERT DR 2-3 107 18 2003
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

8 ROBERT DR 2-4 107 18 2004
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

16 ROBERT DR 3-1 107 18 3001
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

14 ROBERT DR 3-2 107 18 3002
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

12 ROBERT DR 3-3 107 18 3003
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

10 ROBERT DR 3-4 107 18 3004
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

9 ROBERT DR 4-1 107 18 4001
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

11 ROBERT DR 4-2 107 18 4002
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

13 ROBERT DR 4-3 107 18 4003
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

15 ROBERT DR 4-4 107 18 4004
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

17 ROBERT DR 5-1 107 18 5001
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

19 ROBERT DR 5-2 107 18 5002
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

21 ROBERT DR 5-3 107 18 5003
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

23 ROBERT DR 5-4 107 18 5004
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

25 ROBERT DR 6-1 107 18 6001
LUC: 999
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

27 ROBERT DR 6-2 107 18 6002
LUC: 999
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

29 ROBERT DR 6-3 107 18 6003
LUC: 999
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

31 ROBERT DR 6-4 107 18 6004
LUC: 999
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

18 ROBERT DR 7-1 107 18 7001
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

20 ROBERT DR 7-2 107 18 7002
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

22 ROBERT DR 7-3 107 18 7003
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

24 ROBERT DR 7-4 107 18 7004
LUC: 102
CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

50 JUNIPER RD 131 0 34
LUC: 930
TOWN OF ANDOVER
CONSERVATION COMMISSION
36 BARTLET ST
ANDOVER, MA 01810

9 43 CRENSHAW LN 88 0 105 A
LUC: 996
CORMIER-ANDOVER GREENBELT CORP
3 CRENSHAW LN
ANDOVER, MA 01810

1 33 MUIRFIELD CI 88 0 106 A
LUC: 996
THE LEGENDS CONDOMINIUM
PHASE I
3 CRENSHAW LN
ANDOVER, MA 01810

58 HIGH PLAIN RD 88 0 38
LUC: 101
MCCARTHY CHRISTOPHER J
MCCARTHY SANDRA L TE
58 HIGH PLAIN RD
ANDOVER, MA 01810

60 HIGH PLAIN RD 88 0 39
LUC: 101
ANNE R HEMMER TRUST
HEMMER ANNE RHODES TR
60 HIGH PLAIN RD
ANDOVER, MA 01810

57 HIGH PLAIN RD 88 0 40
LUC: 101
JENNEY ALAN
JENNEY KIMBERLY A TE
57 HIGH PLAIN RD
ANDOVER, MA 01810

53 HIGH PLAIN RD 88 0 41
LUC: 101
SLAUZIS CYNTHIA A
SLAUZIS ROBERT M TE
53 HIGH PLAIN RD
ANDOVER, MA 01810

43 HIGH PLAIN RD 88 0 42 A
LUC: 101
BENCIVENGA NICHOLAS E
BENCIVENGA SAMANTHA BRITTANY TE
43 HIGH PLAIN RD
ANDOVER, MA 01810

41 HIGH PLAIN RD 88 0 42 B
LUC: 132
HIGH PLAIN RD HOMEOWNERS' ASSO
39 HIGH PLAIN RD
ANDOVER, MA 01810

39 HIGH PLAIN RD 88 0 43
LUC: 101
GIBSON SCOTT M
GIBSON JO ANNE TE
39 HIGH PLAIN RD
ANDOVER, MA 01810

39 R HIGH PLAIN RD 88 0 43 A
LUC: 132
GIBSON SCOTT M
GIBSON JO ANNE TE
39 HIGH PLAIN RD
ANDOVER, MA 01810

33 HIGH PLAIN RD 88 0 44
LUC: 101
MEHO TIMOTHY
MEHO MARINA TE
33 HIGH PLAIN RD
ANDOVER, MA 01810

27 HIGH PLAIN RD 88 0 45
LUC: 101
RYAN LISA M
CARSON MARY BETH TC
16 HOBBS RD
NORTH HAMPTON, NH 03862

21 HIGH PLAIN RD 88 0 46
LUC: 101
LOWE ROBIN D
LOWE SHEILA M TE
21 HIGH PLAIN RD
ANDOVER, MA 01810

17 HIGH PLAIN RD 88 0 48
LUC: 101
REGHITTO WILLIAM M
REGHITTO JUDITH T TE
8 ROLLING RIDGE RD
ANDOVER, MA 01810

36 BEACON ST 88 0 51
LUC: 101
BUCKLEY FRANK P
CUNIO CATHERINE M TC
36 BEACON ST
ANDOVER, MA 01810

40 BEACON ST 88 0 53
LUC: 101
PANNETON ELAINE M
PANNETON MICHAEL J TE
40 BEACON ST
ANDOVER, MA 01810

44 BEACON ST 88 0 54
LUC: 101
KYI STANLEY B
44 BEACON ST
ANDOVER, MA 01810

48 BEACON ST 88 0 55
LUC: 101
BEHARA RAJ
BEHARA SUMANA TE
48 BEACON ST
ANDOVER, MA 01810

52 BEACON ST 88 0 56
LUC: 101
SILVA SARA
LANDRY GREG TE
52 BEACON ST
ANDOVER, MA 01810

54 R BEACON ST 88 0 57
LUC: 930
TOWN OF ANDOVER
WEST ELEMENTARY SCHOOL
36 BARTLET ST
ANDOVER, MA 01810

54 BEACON ST 88 0 57 A
LUC: 936
TOWN OF ANDOVER
WEST ELEMENTARY SCHOOL
36 BARTLET ST
ANDOVER, MA 01810

58 60 BEACON ST 88 0 58
LUC: 930
TOWN OF ANDOVER
WEST ELEMENTARY SCHOOL
36 BARTLET ST
ANDOVER, MA 01810

13 CRENSHAW LN 1 88 105A 0801
LUC: 102
HACKETT JAMES A
HACKET SHARON ATWOOD TE
13 CRENSHAW LN
ANDOVER, MA 01810

11 CRENSHAW LN 2 88 105A 0802
LUC: 102
11 CRENSHAW LANE RT
SIMONS RICHARD+SUSAN TRS
11 CRENSHAW LN
ANDOVER, MA 01810

9 CRENSHAW LN 3 88 105A 0803
LUC: 102
A M MACLELLAN REALTY TRUST
MACLELLAN ANN+JOHN TRS
9 CRENSHAW LN
ANDOVER, MA 01810

19 CRENSHAW LN 1 88 105A 0901
LUC: 102
MUNI INDU
MUNI GITA I TE
19 CRENSHAW LN
ANDOVER, MA 01810

17 CRENSHAW LN 2 88 105A 0902
LUC: 102
TULLY TIMOTHY M JR
TULLY TRISH A TE
17 CRENSHAW LN
ANDOVER, MA 01810

15 CRENSHAW LN 3 88 105A 0903
LUC: 102
DANIEL J MASSIELLO LIVING TR
NORA E MASSIELLO LIVING TR
15 CRENSHAW LN
ANDOVER, MA 01810

24 CRENSHAW LN 1 88 105A 1001
LUC: 102
REICHLEN 2018 FAMILY TRUST
REICHLEN WARREN+DIANE TRS
24 CHRENSHAW LN
ANDOVER, MA 01810

22 CRENSHAW LN 2 88 105A 1002
LUC: 102
ZACHARIAS NIKOLAOS
BACHARIDOU MAROULA TE
22 CRENSHAW LN
ANDOVER, MA 01810

20 CRENSHAW LN 3 88 105A 1003
LUC: 102
ANDOVER-BACOS TRUST
BACOS CHRISTOS+LORRAINE TRS
20 CRENSHAW LN
ANDOVER, MA 01810

30 CRENSHAW LN 1 88 105A 1101
LUC: 102
CLARK WILLIAM D
CLARK SIGITA K TE
30 CRENSHAW LN
ANDOVER, MA 01810

28 CRENSHAW LN 2 88 105A 1102
LUC: 102
BUSHASHIA DOREEN M
28 CRENSHAW LN
ANDOVER, MA 01810

26 CRENSHAW LN 3 88 105A 1103
LUC: 102
TENNEY MAURICE H
TENNEY TRACEY F TE
26 CRENSHAW LN
ANDOVER, MA 01810

38 CRENSHAW LN 1 88 105A 1201
LUC: 102
ELIZABETH C DAHER TR 1997 REV
DAHER ELIZABETH+CHARLES TRS
38 CRENSHAW LN
ANDOVER, MA 01810

36 CRENSHAW LN 2 88 105A 1202
LUC: 102
PESATURO AUGUSTINE
PESATURO DEBRA TE
36 CRENSHAW LN
ANDOVER, MA 01810

34 CRENSHAW LN 3 88 105A 1203
LUC: 102
34 CRENSHAW LANE RT
TAGLIARINO VINCENT+LESLIE TRS
3981 SHEARWARTER DR
JUPITER, FL 33477

32 CRENSHAW LN 4 88 105A 1204
LUC: 102
YI HYUN JUNG
CHO SUNG CHAN TE
32 CRENSHAW LN
ANDOVER, MA 01810

43 CRENSHAW LN 1 88 105A 1301
LUC: 102
STANVICK STEPHEN M
STANVICK DAWN RINEHART TE
43 CRENSHAW LN
ANDOVER, MA 01810

41 CRENSHAW LN 2 88 105A 1302
LUC: 102
BARRETT FAMILY TRUST
BARRETT WILLIAM+DORIS TRS
41 CRENSHAW LN
ANDOVER, MA 01810

39 CRENSHAW LN 3 88 105A 1303
LUC: 102
PELLEGRINI DARLENE F
39 CRENSHAW LN
ANDOVER, MA 01810

37 CRENSHAW LN 4 88 105A 1304
LUC: 102
WANZEK KENT D
WANZEK LORI J TE
37 CRENSHAW LN
ANDOVER, MA 01810

35 CRENSHAW LN 1 88 105A 1401
LUC: 102
CROCKETT CHARLES E
CROCKETT MARGARET B TE
35 CRENSHAW LN
ANDOVER, MA 01810

33 CRENSHAW LN 2 — 88 105A 1402 — LUC: 102
HELEN HASSETT REVOC TRUST
HASSETT HELEN TR
33 CRENSHAW LN
ANDOVER, MA 01810

31 CRENSHAW LN 3 — 88 105A 1403 — LUC: 102
DENOVELLIS DONATO A
DENOVELLIS ROSEANNE M TE
31 CRENSHAW LN
ANDOVER, MA 01810

29 CRENSHAW LN 4 — 88 105A 1404 — LUC: 102
MALOUF LAURA
29 CRENSHAW LN
ANDOVER, MA 01810

27 CRENSHAW LN 1 — 88 105A 1501 — LUC: 102
MAUREEN SAN CARTIER
27 CRENSHAW LN
ANDOVER, MA 01810

25 CRENSHAW LN 2 — 88 105A 1502 — LUC: 102
WEISS GERRI B
WEISS JEFF A TE
25 CRENSHAW LN
ANDOVER, MA 01810

23 CRENSHAW LN 3 — 88 105A 1503 — LUC: 102
CROATTI CAROL
23 CRENSHAW LN
ANDOVER, MA 01810

21 CRENSHAW LN 4 — 88 105A 1504 — LUC: 102
ANNA SAVANI LIVING REVOC TRUST
SAVANI ANNA TR
21 CRENSHAW LN
ANDOVER, MA 01810

1 MUIRFIELD CI 1 — 88 106A 0101 — LUC: 102
ANNE T LACOURSE REVOC TRUST
LACOURSE ANNE TR
1 MUIRFIELD CI
ANDOVER, MA 01810

3 MUIRFIELD CI 2 — 88 106A 0102 — LUC: 102
ROBERT A MONGELL REV TRUST
CHERYL E MONGELL REV TRUST
3 MUIRFIELD CI
ANDOVER, MA 01810

5 MUIRFIELD CI 3 — 88 106A 0103 — LUC: 102
L AND B WOLFF FAM RL EST LP
6323 STEFANI DR
DALLAS, TX 75225

7 MUIRFIELD CI 1 — 88 106A 0201 — LUC: 102
PETER J MCCARTHY 2018 REV TR
SANDRA MCCARTHY 2018 REV TR
7 MUIRFIELD CI
ANDOVER, MA 01810

9 MUIRFIELD CI 2 — 88 106A 0202 — LUC: 102
SMITH JEFFEREY
SMITH KIMBERLY TE
9 MUIRFIELD CI
ANDOVER, MA 01810

11 MUIRFIELD CI 3 — 88 106A 0203 — LUC: 102
TINSLEY E PAUL
TINSLEY KATHLEEN A TE
11 MUIRFIELD CI
ANDOVER, MA 01810

13 MUIRFIELD CI 4 — 88 106A 0204 — LUC: 102
SANTAGATI RICHARD J
SANTAGATI MARILYN A TE
13 MUIRFIELD CI
ANDOVER, MA 01810

15 MUIRFIELD CI 1 — 88 106A 0301 — LUC: 102
SEBASKY NOMINEE TRUST
SEBASKY ELLEN TR
15 MUIRFIELD CI
ANDOVER, MA 01810

17 MUIRFIELD CI 2 — 88 106A 0302 — LUC: 102
KAUL ANKUSH
KAUL NISHA TE
17 MUIRFIELD CI
ANDOVER, MA 01810

19 MUIRFIELD CI 3 — 88 106A 0303 — LUC: 102
JILL M MCCONNELL REVOC TRUST
MCCONNELL JILL M TR
19 MUIRFIELD CI
ANDOVER, MA 01810

21 MUIRFIELD CI 4 — 88 106A 0304 — LUC: 102
VENGOECHEA ROBERTO
21 MUIRFIELD CI
ANDOVER, MA 01810

23 MUIRFIELD CI 1 — 88 106A 0401 — LUC: 102
23 MUIRFIELD CIRCLE RT
NAHILL MICHAEL J TR
23 MUIRFIELD CI
ANDOVER, MA 01810

25 MUIRFIELD CI 2 — 88 106A 0402 — LUC: 102
CHANDLER NT OF AUGUST 26 2013
SLOAN SAMUEL+CARYN TRS
25 MUIRFIELD CI
ANDOVER, MA 01810

27 MUIRFIELD CI 3 — 88 106A 0403 — LUC: 102
SAVAGE JEANNE
SAVAGE ROBERT F TE
27 MUIRFIELD CI
ANDOVER, MA 01810

29 MUIRFIELD CI 4 — 88 106A 0404 — LUC: 102
ROBERT C LERNER AND
DIANE L LERNER 2018 TRUST
29 MUIRFIELD CI
ANDOVER, MA 01810

26 MUIRFIELD CI 1 — 88 106A 0501 — LUC: 102
MAB MUIRFILED CIRCLE TRUST
BARENBOIM JAMES+MAUREEN TRS
26 MUIRFIELD CI
ANDOVER, MA 01810

24 MUIRFIELD CI 2 — 88 106A 0502 — LUC: 102
LEUZZI PAUL
LEUZZI SHARON TE
24 MUIRFIELD CI
ANDOVER, MA 01810

22 MUIRFIELD CI 3 — 88 106A 0503 — LUC: 102
K+B HIGH PLAIN REALTY TRUST
HYSLIP KENNETH+BONNIE TRS
22 MUIRFIELD CI
ANDOVER, MA 01810

20 MUIRFIELD CI 1 — 88 106A 0601 — LUC: 102
FAULK RALPH H JR
FAULK KATHY A TE
20 MUIRFIELD CI
ANDOVER, MA 01810

18 MUIRFIELD CI 2 — 88 106A 0602 — LUC: 102
KILPATRICK BRIAN
KILPATRICK SARAH TE
18 MUIRFIELD CI
ANDOVER, MA 01810

16 MUIRFIELD CI 3 — 88 106A 0603 — LUC: 102
FOTI PAUL C JR
FOTI LINDA TE
16 MUIRFIELD CI
ANDOVER, MA 01810

14 MUIRFIELD CI 4 — 88 106A 0604 — LUC: 102
CIOFFI C STEVE
CIOFFI RITA A TE
14 MUIRFIELD CI
ANDOVER, MA 01810

2 CRENSHAW LN — 88 106A 1601 — LUC: 102
LEVIS BRIAN M
2 CRENSHAW LN
ANDOVER, MA 01810

4 CRENSHAW LN — 88 106A 1602
LUC: 102

LIGHTNER CAROLYN M
4 CRENSHAW LN
ANDOVER, MA 01810

6 CRENSHAW LN — 88 106A 1603
LUC: 102

SULLIVAN KEVIN ARTHUR
6 CRENSHAW LN
ANDOVER, MA 01810

8 CRENSHAW LN — 88 106A 1604
LUC: 102

BATCHELDER BRAD P
BATCHELDER JENNIFER TE
8 CRENSHAW LN
ANDOVER, MA 01810

1 CRENSHAW LN — 88 106A 1701
LUC: 999

CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

3 CRENSHAW LN — 88 106A 1702
LUC: 999

CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

5 CRENSHAW LN — 88 106A 1703
LUC: 999

CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

7 CRENSHAW LN — 88 106A 1704
LUC: 999

CA INVESTMENT TRUST
Y CORMIER + D ENXING TRS
3 CRENSHAW LN
ANDOVER, MA 01810

TOWN OF ANDOVER

MASSACHUSETTS

Town Offices
36 Bartlet Street
Andover, MA 01810
978-623-8600
Building 978-623-8620
www.andoverma.gov

DESIGN REVIEW BOARD (DRB) APPLICATION

Please review the Town of Andover Zoning By-Law, Article VIII,
Section 5.2 for SIGN REGULATIONS and DESIGN GUIDELINES

FOR OFFICE USE ONLY

File Number: _____ Date Filed: _____

DRB Approval Date: _____ Hearing Date: _____

Not Approved (Date): _____ Comments: _____

1) Business Name _____

2) Business Owner _____ Tel. No. _____

3) Site Address 58 Beacon Street, Andover, MA 01810

4) Building Owner Town of Andover Tel. No. _____

5) Applicant (If not Business Owner) Andrew Flanagan, Town Manager, Town of Andover Tel. No. 978-623-8210

6) Total Number of Signs _____

7) Attachments required with application: original and five (5) copies *(Incomplete applications will not be reviewed)*

a) Photographs of Building
b) Material Sample(s)
c) Color Sample(s)
d) Site or Plot Plan (required for all freestanding signs)
e) Graphic Depiction of Proposed Sign(s) including Dimensions
f) Graphic Depiction of Proposed Sign(s) at Proposed Location(s) to Scale
g) Other, Specify: _____

NOTE: Town of Andover Zoning By-Law, Article VIII, Section 9.6.3 Mandatory Review states: "…the DRB shall review all applications for building permits, special permits or variances for proposals located in areas zoned for General Business and Mixed Use if involving new construction, exterior alteration or a sign larger than four (4) square feet." No Building Permits for Signs in the General Business and Mixed Use Districts will be issued without the appropriate DRB Review. A Building Permit is required prior to installation of any sign. Municipal projects shall be reviewed by DRB prior to issuance of a Building Permit.

Signature of Applicant _____ Date 12/3/21

Mailing Address 36 Bartlet Street Andover, MA

E-Mail Address Andrew.Flanagan@andoverma.us Tel. No. 978 623 8210

No sign application will be reviewed without the Business Owner or his Authorized Agent present at the DRB review.

8) Location of Proposed Sign Southerly portion of site along Beacon Street frontage (see attached Site Plans)

9) Sign Support Structure (Description) Granite Posts

10) Type of Sign
- ☐ Attached
- ☐ Projecting
- ☒ Freestanding
- ☐ Awning
- ☐ Other _____

11) Size of Sign _____

12) Illumination: ☒ Not Illuminated ☐ Internal Illumination ☐ Separate Service

If illuminated, what type of bulb and intensity? _____

13) Proposed Color(s)/Material(s)

Background Blue

Lettering Gold

Border See attached

Sign Support Structure Granite posts

Other _____

14) Is Zoning Board of Appeals (ZBA) decision required? ☐ Yes ☒ No

Per meeting with Town staff on August 23, 2021, ZBA decision is not required; a sign permit is required.

15) Will Sign overhang any public right-of-way? No

16) If Yes, Name of Agency that will provide Liability Insurance _____

NOTE: Andover Zoning By-Law, Article VIII, Section 5.2.3.5 states: "Any Sign projecting over a public right-of-way shall be covered by Liability Insurance in the amount of two million dollars ($2,000,000.00) as verified by a Certificate of Insurance filed with the Town Clerk."

IMPORTANT: This form must be completed before the Design Review Board can consider the application. Six (6) sets (original & 5 copies) of this form, along with supporting documents (in color where required), must be filed with the Inspector of Buildings in the Department of Community Development and Planning at the Town Offices, 36 Bartlet Street, Andover, MA 01810. You will be notified of the time, date and location of the meeting.

2.

Project Overview

- Introduction
- Existing Conditions
- Proposed Conditions
- Schedule & Construction Phasing

2. Project Overview

Introduction

Project Description

The new Andover West Elementary and Shawsheen Preschool achieves the goals of Andover Public Schools to relieve the overcrowding of the elementary schools, accommodate projected growth in elementary enrollment, provide appropriate space to support positive learning environments to meet the educational needs of West Elementary School's student population, and to relocate the existing Shawsheen Preschool program from an aging inadequate facility and incorporate it into the new Andover West Elementary and Shawsheen Preschool.

This report is being submitted to obtain all local permits for the proposed West Elementary and Shawsheen Preschool, on behalf of the Town of Andover. The project proposes the construction of a new 191,000± gross square foot school building, comprised of a three-story K-5 structure and a two-story PreK wing. Outdoor learning and gathering areas, accessible walkways, new synthetic playfields, parking, and new underground utilities are also proposed.

The project is proposed to be completed over the course of several phases of construction which will enable the existing school's program and curriculum to be maintained on-site throughout the duration of construction. Once the new school building is constructed occupied by district, the abatement and demolition of the existing school building will occur, in addition to other site improvements and utility upgrades on the subject property as discussed herein. The project will be delivered through Construction Manager at Risk and Gilbane Construction Company was selected as the Construction Manager in June 2021.

Permitting

The design of the proposed building and site development program was guided by the Andover Zoning By-Law. A meeting was held with the planner, building inspector, engineering team, facilities team, and other town staff on August 23, 2021 to review the project and develop a consensus on which permit applications applied to the proposed project. During the meeting, it was determined that Site Plan Review with the Planning Board, a Notice of Intent with the Conservation Commission, and a review by the Design Review Board were required for the project.

The following applications are being submitted in support of the project:

- Site Plan Review via the Planning Board pursuant to Section 9.5 of the Andover Zoning By-Law;
- Notice of Intent (NOI) via the Conservation Commission pursuant to the Massachusetts Wetlands Protection Act (M.G.L. c. 131, s.40) and the Andover Wetlands Protection By-law pursuant to Article XIV of the Andover By-Laws;
- Review by the Design Review Board pursuant to Section 9.6 of the Andover Zoning By-law, inclusive of an application for one (1) signage permit via the Design Review Board, pursuant to Section 5.2.4 of the Andover Zoning By-law.

As the proposed project is a municipal use, it is requested that the applicable Planning Board Site Plan Review Dover Use fee of *$500.00 plus $0.10 per gross floor area* be waived for this project, subject to the Planning Board's vote. Due to the proximity of the proposed development program to the on-site wetlands, the NOI application will be submitted to the Conservation Commission to protect on-site resource areas to the maximum extent practicable and in accordance with the local and state regulations. Engagement with the Design Review

Board will enable for the proposed development program of the site to better align with the vision of the Board; additionally, sign permit applications are being submitted for the DRB's review relative to one (1) municipal school sign proposed along the Beacon Street frontage of the site.

Existing Conditions

The existing Andover West Elementary School is located at 58 Beacon Street in Andover Massachusetts, further identified as five contiguous lots by the assessor comprising of approximately 34.0 acres: Map 107, Lots 6 and 16; and Map 88, Lots 57A, 57, and 58. A USGS Site Locus map is included as Figure 2.1. The parcel is within the Single Residence B (SRB) zoning district, per the Andover Zoning Map as amended through 2015, refer to Figure 2.2. Municipal buildings are permitted by-right in the SRB zoning district.

The site is accessed from Beacon Street via multiple driveways. There is a connection from the site to High Plain Road that has been blocked by jersey barriers and concrete planters. The site layout includes the existing school building with associated driveways and parking facilities, a loop road around the building, grassed play fields to the west of the building, and wetlands proximate to the west, northwest, and southeast portions of the property. The existing building is not within the buffer zone of the wetland resource areas. Some of the playground areas, recreation field area, and paved areas are within the 100' wetland buffers. Playground areas exist to the southeast and northwest of the building. Recreation fields exist in the grassed area west of the building. Refer to Figure 2.3 for the Aerial Map and Section 6 for an in-depth discussion of the on-site wetland resource areas. The entirety of the site is located outside of the 500-year floodplain, and is thus categorized as an area of minimal flood hazard; refer to Figure 2.4 for the FEMA Flood Insurance Rate Map.

The main parking areas are located to the north and south of the building, and a smaller parking lot is located along the Beacon Street frontage to the east of the building. There is a total of 154 striped parking spaces on the site. Wooded areas exist along the perimeter of most of the site beyond the playground areas and paved areas. The property is bounded by a residential development to the north, High Plain Road and single-family homes to the south, Beacon Street and a golf course to the east, and wooded area to the west.

The existing single-story school building is approximately 90,600± square feet and is located near the Beacon Street frontage in the easterly portion of the site. The building was constructed in 1951, with a smaller addition completed shortly thereafter in 1956 and a final larger addition that was built in 1969. All of the occupied space is located on a single story with two differing floor elevations, one for each vintage of the two original 1950s structures that have a grade differential of approximately three feet. Several more recent renovation projects were completed subsequent to the construction of the 1969 addition. These included the walling in of classroom spaces in the two pods that were originally built as single large open classroom environments, as well as interior renovations to the library to create a separate computer lab. In addition to the changes listed above, a portion of the building roof was replaced in 2010. While a sloped hallway reconciles the three-foot grade differential inside the building at one location, an interior cross-corridor stair connects the two levels at the second end which renders the main circulation path through the school inaccessible. The main entrance to the school is accessible from the drop-off area. In the interior there are no platform lifts, elevators or ramps connecting the two levels making the building non-MAAB/ADA compliant. Through an evaluation of the existing conditions most building systems have been determined to have exceeded their useful life.

The existing site conditions pose several notable challenges to the proposed development program; maintaining full operation of the existing school building while constructing the new building requires a large portion of the site's area to be occupied. Minimizing encroachment to the on-site wetland buffer zones was thus deemed to be an imperative design consideration. Additionally, the seasonal high groundwater table was measured to be shallow in many regions on-site, as identified in the soil logs of the Geotechnical Report prepared by Nobis Group (Appendix A). A shallow groundwater table limits the ability to implement stormwater recharge facilities.

The design efforts to address these site development constraints are further discussed below and in the Stormwater Report (Section 4).

According to the USDA Natural Resources Conservation Service (NRCS) Soil Survey of Essex County, the on-site soils beneath the developed portion of the site (inclusive of the recreation fields) are categorized as smoothed udorthents (HSG A). The large on-site wooded area to the west of the recreation fields is categorized as very stony canton fine sandy loam (HSG B) with 0 to 8 percent slopes (see Figure 2.5). A copy of the USDA Soil Survey Report is included in Appendix A.

Two rounds of subsurface explorations have been completed to analyze the existing geotechnical qualities of the site. The preliminary explorations were completed in February 2020; test pit data was observed and logged by SMMA and boring data was observed and logged by Nobis Group. The final explorations were completed in August 2021; borings and test pits were observed and logged by Nobis Group. In summary, glacial till was encountered in the developed portion of the site generally five to fifteen feet below existing grade. Bedrock was encountered several feet below grade in limited portions to the west of the existing building. The estimated seasonal high groundwater table (ESHWT) was observed to be shallow in regions across the site and range from approximately 1 to 5 feet below existing grade. Refer to Appendix A for final geotechnical report logs, prepared by Nobis Group.

Proposed Conditions

Building

The project proposes the construction of a new 191,000± gross square foot building, comprised of a three-story K-5 structure and a two-story PreK wing. The proposed student enrollment, inclusive of the Shawsheen Preschool program, is 925 K-5 students and 130 PreK students. The new building will be located to the west of the existing school, enabling the phased construction of the new building and subsequent abatement and demolition of the existing building while maintaining school operations on-site throughout the duration of construction.

The combined elementary and preschool facility is comprised of all new construction and will be constructed to the west of the existing West Elementary school structure. The plan configuration for the new facility is made up of three classroom wings and a gymnasium wing organized around a central core that contains shared program spaces serving the school. The building features a mix of single story high-bay spaces for the Music and PE curriculums, two story construction incorporating the main entry and Media Center as well as the Shawsheen Pre-K wing, and three-story construction that incorporates all the K-4 grade level classroom spaces in two three-story wings with the 5th grade classrooms oriented around a roof garden on the third floor of the central core. During after-school hours, the cafetorium and gymnasium can be closed off from the rest of the school while remaining accessible for use by community groups

Site

The site will have two access driveways along Beacon Street and one on High Plain Road. Vehicular ingress to the site for parents, staff, and visitors will be limited to Beacon Street. The High Plain Road driveway connection will be utilized by buses for student pick-up and drop-off. Accessible routes for pedestrian access to the building have been designed to connect to both Beacon Street and High Plain Road walkways. Bicycle racks will be provided along the exterior of the building in the easterly plaza.

The proposed site layout has been designed to accommodate 266 parking spaces (inclusive of 7 accessible spaces). Two large parking lots are proposed proximate to the Beacon Street frontage, on the northerly and southerly portions of the site. An additional row of parking to provide accessible and visitor spaces is proposed along the loop road in front of the building. Driveway access has been provided around the perimeter of the

building for emergency vehicles. The east portion of the building's loop road will be utilized by parents, staff, and visitors; the west portion of the loop road providing access to the rear of the building is only proposed to be utilized by buses and emergency vehicles. Accordingly, two gates to the north and south of the building will restrict visitor access to the rear loop road. Refer to the Proposed Site Plan in Figure 2.6.

A loading dock has been designed along the northerly portion of the building for deliveries, loading, and waste removal. Trucks will enter and leave the site via the northerly Beacon Street curb cut to isolate deliveries from student pick-up and drop-off points. Deliveries are expected to occur outside of peak hours.

A 112,000± square foot synthetic turf field is proposed on-site along the Beacon Street frontage. The field has been designed to include a 90-foot baseball diamond (with overlay striping to accommodate a 60' baseball diamond), a separate 60-foot softball diamond, and a 300-foot-long rectangular playing field for soccer, field hockey, and lacrosse. Various overlay striping configurations will be available on the rectangular field to accommodate additional fields with smaller dimensions. The synthetic turf surface is proposed to contain a coconut husk infill and a perimeter drain to detain and convey stormwater runoff. Accessible walkways are proposed around the perimeter of the field; accessible seating is proposed along the westerly side of the field, where terraced seat walls have been designed to seat an audience. Shade sails are proposed along the west and south edges of the playing fields.

Outdoor play areas and classrooms are proposed around the perimeter of the building. A nature area, sensory garden, and play area have been designed proximate to the southeast portion of the building for the Shawsheen PreK students. Playgrounds for the West Elementary students are proposed proximate to the northeast wing of the building and within the rear plaza. An outdoor classroom has been designed north of the building, nestled between the northwest and northeast building wings. This outdoor classroom will provide accessible pedestrian access across the vehicular loop road to an educational wetland boardwalk area.

Sustainability

The Andover West Elementary and Shawsheen Preschool will be designed and constructed in accordance with the principles and criteria of the LEED V4.0 for BD+C for Schools: New Construction and Major Renovations for Schools. The project will strive to meet the threshold of 50-59 points, equivalent to a Silver rating. The building will be fully electric and will be constructed to the standards of a Net Zero Ready (NZR) building with an energy use goal not to exceed 30 EUI (Energy Use Intensity). The roof will be designed to support photovoltaic (PV) panels, and these panels will be included in the design and construction of the new school project. Notable sustainable features proposed on-site include, but are not limited to, the following: electric charging stations for vehicles, a light-colored roof membrane, porous pavements, low-impact-development stormwater features, low flow urinals, toilets, showerheads, and faucets, high-performance all electric heating and cooling systems, long-life and energy saving LED lighting fixtures, among many others.

Circulation & Traffic

The proposed site layout has been designed to separate parent pick-up and drop-off from bus pick-up and drop-off circulation. The main West Elementary bus fleet will navigate the site in a clockwise manner by entering the site from the south via High Plain Road and staging along the rear side of the building, prior to exiting the site along the northeast corner at Beacon Street. Buses transporting Shawsheen Preschool students to and from the school will enter the site via the northerly Beacon Street curb cut, navigate counterclockwise along the front loop road to the lay-by lane provided proximate to the dedicated Shawsheen building entrance, and will exit the site via the southerly Beacon Street curb cut. Vans designated for specific student accommodations, such as the Bridge program, will follow a similar site circulation to the Shawsheen buses. A lay-by lane has also been provided to these designated vans for ease of access to the main West Elementary School entrance on the easterly side of the building.

All parents will enter the site for pick-up and drop-off via the southerly curb cut on Beacon Street and will travel in a counterclockwise manner to the front side of the building. The front loop road has two separated one-way travel driveways; a median containing a sidewalk and a fence separates the two driveways. The inner driveway closest to the building is restricted to Shawsheen buses and other designated vans as described above. The outer driveway closest to the proposed playing fields provides two (2) one-way travel lanes for parent queuing and contains a row of 90-degree parking spaces. Fencing will be installed along the median and will be interrupted only at the two (2) designated crosswalks to guide students in a safe manner toward the building and to limit potential conflicts between crossing students and vans travelling along the inner loop road. The two (2) crosswalks to be utilized by students will have an alternative surface treatment to distinguish the crossing points from the asphalt driveway surface. Parents will continue to leave the site via the southerly curb cut along the Beacon Street frontage.

Brennan Consulting has prepared the Traffic Impact study for the project (see Appendix B); the project is projected to significantly increase the vehicle trips to the site during the AM and PM peak hours (as listed below); this is primarily due to the increased enrollment at the school resulting from introducing the Shawsheen Preschool to the site. This project is classified as Elementary School (LUC 520) with peak hours in the AM (7-9AM) and PM (2-4PM) time periods. Consequently, all conditions analyzed by Brennan Consulting were analyzed for these two peak hour periods.

- AM Peak Hour
    - Existing Conditions: 255 vehicle trips to the site and 163 trips leaving the site
    - Proposed conditions: 447 vehicle trips to the site and 286 trips leaving the site
- PM Peak Hour
    - Existing Conditions: 36 vehicle trips to the site and 171 trips leaving the site
    - Proposed Conditions: 300 trips entering the site and 63 trips leaving the site

The proposed site circulation layout and parking have been designed to accommodate the increased traffic to the site. The proposed parking count will increase the total spaces to provide parking for the new school and its programs. Parking will be provided for staff and visitors; staff parking is expected to primarily be designated in the parking lot north of the proposed playing fields, and visitor parking is expected to primarily be designated along the loop road in front of the building. Electric charging stations and designated spaces for fuel efficient vehicles has been included in the design (refer to the enclosed site plans). The queue length for the West Elementary bus fleet has increased from approximately 350± feet to 800± feet. Total queuing provided at the existing school for parent pick-up and drop-off is one lane and aggregates to approximately 60± vehicles for all grades; the proposed site layout accommodates two-lane queuing for up to 95± vehicles in the parent pick-up and drop-off queue.

The Traffic Impact Study prepared by Brennan Consulting contains four (4) recommendations as listed below:

A. Reassign the Beacon Street southbound approach lanes to the Lowell Street intersection (as described further in the Traffic Impact Study). This will alleviate the delay created by the project-generated traffic. This work is being developed by the Town's traffic consultant.
B. The south [Beacon Street] driveway exit will need to increase from one lane to two lanes.
C. The school's three driveways should be reviewed during the project design phase to provide a clear and comprehensible access and egress.
D. The Lowell Street/Beacon Street/Shawsheen Road [intersection] requires a more comprehensive analysis including corridor design for Lowell Street (Route 133). The town is aware of this condition.

The town, in coordination with its traffic consultant, is understood to be contemplating recommendations A and D. The proposed site design has addressed recommendation B for an additional exit lane at the south Beacon Street driveway; Brennan Consulting was consulted with during the implementation of this driveway to the

enclosed site plans. The site ingress, egress, and circulation was extensively reviewed with town staff and the SMMA civil engineering team which has led to a clear and comprehensible design in accordance with recommendation C.

Schedule & Construction Phasing

The current projected construction schedule aims to complete the full site development for the 2025-2026 school year. The schedule allows for occupancy of the new school building in fall of 2024. The project team anticipates more than three (3) years of construction, starting with a construction of the new school (Phase I) in June of 2022, followed by abatement and demolition of the existing school (Phase 2A), and concluding with the development of the remaining site features including the playing fields, utilities, permanent parking areas, and retaining walls (Phase 2B). The Town has hired a Construction Manager to assist throughout the span of the project's design, planning, scheduling, construction, and close-out. The Construction Manager has prepared the Construction Management Plan in Appendix D to address construction logistics.

We have met with the school and district several times to review construction phase logistics to ensure that the site will provide safe and accessible access to students, accommodate vehicular movement through the site for both buses and parents, and adequate parking for teachers, staff, and visitors. We have developed preliminary circulation routes but all phases will be solidified with the school prior to the start of the next construction phase.

Phase 1 Construction

Phase 1 includes the construction of the new school building and associated utilities to support the school, refer to Figure 2.8. Phase 1 is projected to begin at the end of June 2022, with completion projected for the start of school in the fall of 2024 for occupancy of the new building. Erosion controls will be installed first to protect the on-site wetland resource areas. A new construction entrance and associated construction access road will be installed along the northerly property line; existing curb cuts along Beacon Street will not be impacted during this phase of construction.

A closed construction fence is proposed to fully surround the work area for the new structure. Due to the proximity of the proposed building to the existing building, the enclosed construction fence will be installed close to the westerly portion of the existing building. Temporary walkways will be installed to create a fully accessible path around the existing building. Existing play equipment will be relocated, and temporary parking areas will be constructed to accommodate the existing parking count during construction. Student drop-off and pick-up will be either at the main entrance off Beacon Street or at a staging area to the southeast of the existing school.

Phase 2A Construction

Phase 2A construction is projected to begin in the summer of 2024, beginning with abatement and demolition of the existing building. Construction fencing will first be installed around the perimeter of the existing structure to contain abatement and demolition; refer to the Phase 2A Circulation Plan for the site layout (Figure 2.9). The construction entrance will move to one of the existing central curb cuts along the Beacon Street frontage. Parking during this phase of construction will meet the existing site's parking count. The temporary parking in the southeast portion construction in Phase 1 will be maintained during Phase 2A.

Phase 2B Construction

Phase 2B construction is projected to begin following demolition of the existing building. Finishing Phase 2B will mark substantial completion of the project, which is anticipated for the start of the school year in 2025. The main focus of this phase is construction is the synthetic turf and associated retaining walls, refer to Figure 2.10. Temporary parking previously used will be demolished along with the remainder of existing site elements and utilities.

3.

Site Utilities

- Water
- Sewer
- Drainage
- Gas
- Electric
- Fire Protection & Life Safety

3. Site Utilities

Water

Under existing conditions, the primary water service pipe on-site extends from the water main beneath Beacon Street at the northerly portion of the site and runs below paved surfaces along the westerly side of the building to the water main beneath High Plain Road to the south. Water services connect to the building at two (2) locations: at the front side of the building directly from the Beacon Street main, and a second connection at the southeasterly corner of the building that extends from the main water service pipe discussed above. Two hydrants exist on-site to the west and south of the building. Three hydrants are located in the right-of-way along the frontage of the site. Refer to the Existing Conditions Plan for existing water services.

The new school building will be serviced by a 6-inch domestic water supply service and an 8-inch fire protection service. Both services will be fed from a new 8" on-site water main that will form an enclosed loop around the new building with connections to both Beacon Street and High Plain Road water mains with three-way valve assemblies. Four (4) new hydrants will be placed at relatively equal distances around the perimeter of the new building. The two existing hydrants on-site will be removed.

Sewer

There is currently one (1) municipal sewer service connection to the existing building, located at the northern portion of the building. The gravity service conveys wastewater from the building north to the Beacon Street sewer main. Another sanitary sewer pipe from the High Plain Road sewer main runs through the site from south to north and conveys wastewater to the Beacon Street main. Refer to the enclosed Existing Conditions Plan for existing sewerage.

Two 8-inch gravity PVC sanitary sewer service pipes will convey wastewater from the new school to the Beacon Street sewer main. The sanitary sewer service connections will be located along the south side of the Shawsheen Preschool wing and on the north side of the building west of the loading dock. An exterior grease trap will be installed for the connection on the north of the building to process kitchen flow. The tank will be sized per Title V guidelines and will be reviewed by the applicable Town departments.

Drainage

Several existing roof drain connections convey stormwater directly from the existing building to the Beacon Street drainage main to the north. Stormwater collection and conveyance is currently managed on-site via a series of catch basins and drainage manholes which connect to Beacon Street. Both low-lying wetlands on-site have existing outfall pipes (proposed to remain) that convey stormwater during storm events to the Beacon Street drainage main. For more information of existing drainage conditions, refer to the enclosed Existing Conditions Plan and the Stormwater Report in Section 4.

The proposed stormwater management infrastructure on-site is comprised of corrugated polyethylene piping, deep sump hooded catch basins, drainage manholes, water quality units, porous bituminous concrete, porous concrete, bioretention areas, and lined subsurface detention systems. Relative to existing conditions, the total impervious area on-site is to be reduced in the proposed condition, which classifies the site as a redevelopment project per Standard 7 of the MADEP Stormwater Handbook. Accordingly, post-development peak flows (for the 2-, 10-, 25-, and 100-year storm events) and recharge to groundwater have been designed to meet or improve the existing conditions to the maximum extent practicable. Roof drainage conveyance has been separated from conveyance of paved surface drainage; runoff from paved surfaces is proposed only to mix with roof runoff after it is treated. Refer to Appendix C for stormwater calculations and Section 4 for the stormwater report.

Gas

There are three (3) gas service connections to the existing building; two (2) are located at the southern portion of the building near the loading dock, and one (1) is located on the front face of the building facing Beacon Street. Each gas service pipe extends from a dedicated connection to the Beacon Street gas main. Of the two connections at the south portion of the building, one runs under the access driveway to the east of the building out to Beacon Street, and the other runs along the west and north of the building out to Beacon Street. The service connection to the front face of the building extends directly out to the Beacon Street main along the center of the parcel's Beacon Street frontage.

The project will not be served by gas and therefore does not include any new services. All existing gas piping on the site will be removed.

Electric

Electricity is provided to the existing building via underground lines fed from an existing on-site utility pole south of the building to a transformer located along the southern portion of the building. Several utility poles exist along the site's north property line; two convey electricity via overhead wires to the abutting residence to the north, and the remaining poles are abandoned. The abandoned poles will be removed during construction, and coordination with the utility company is underway to address the connection to the abutting residence.

The new school will be an all-electric building. The proposed connection point for underground telecommunications and electric lines will be at the north of the new building, along the side of the building west of the loading dock. The underground lines are serviced by Utility Pole #5938 12 in the Beacon Street right-of-way. A diesel-fueled standby generator is proposed across the loop road to the north of the proposed building connection, and a pad-mounted transformer is located immediately adjacent to the connection point in the grassed area beside the building. The existing utility poles located in the southerly portions of the site and serviced by the infrastructure along High Plain Road are proposed to be removed. The existing utility poles along the northern property line are also proposed to be removed, pending coordination with the utility provider and abutter. The site will have pole-mounted and bollard pedestrian lights placed around the driveways and parking areas to optimize footcandle spread while minimizing the trespassing of light onto adjacent residential properties.

Fire Protection & Life Safety

The proposed site plan has been reviewed by the Andover Fire Rescue Department and will provide 360° vehicular access via paved drive with striped fire lanes. The new building has been provided with four (4) proposed hydrants spaced along the perimeter. Two manually operated gates are proposed to restrict public access to the rear of the site during off-hours.

4.

Stormwater Management

- Overview
- Existing Hydrology
- Proposed Hydrology
- Best Management Practices
- Consistency with the DEP Stormwater Standards
- Pipe Sizing
- Construction Phase Erosion and Sediment Controls
- Town of Andover Regulations

4. Stormwater Management

Overview

Introduction

The stormwater management system for the proposed project is designed to minimize the impacts of the project to adjacent areas by limiting impervious area, attenuating peak flows during storm events, and providing treatment of stormwater runoff. The proposed stormwater management system was designed to comply with the Massachusetts Department of Environmental Protection Stormwater Handbook and the Andover Stormwater Management & Erosion Control Bylaw. Existing conditions drainage patterns were maintained to the extent possible.

Hydrology Analysis Methodology

Hydrologic analyses of the pre- and post-development conditions were conducted using HydroCAD – software based on the Soil Conservation Service TR-20 routing program. The program uses ground cover and soil type (based on TR-55 methodology), catchment area, and routing diagrams to accurately model stormwater runoff. The HydroCAD routing methods have been set to *Dynamic Storage-Indication* to allow nodes to respond to changes in tailwater conditions. For the determination of curve numbers, all existing and proposed subcatchment areas are assumed to be in the *good* condition.

Times of concentration were calculated as the longest time of travel for flow within a catchment area to reach the catchment area's outlet point, based on characteristics such as the flow type, land cover, and slope. In accordance with industry standards, a minimum time of concentration of five (5) minutes was input into the model for any subcatchment area that were calculated to have a time of concentration less than five (5) minutes. In calculating time of concentration, runoff flow was categorized as sheet flow for the first 50-feet.

Rainfall data was gathered from the National Oceanic and Atmospheric Administration's (NOAA) online database. The model was run for the 2, 10, 25, and 100-year storm events. See Appendix C for the hydrological reports of both the existing and proposed conditions. Refer to Figures 4.1 and 4.2, respectively, for the existing and proposed hydrology plans.

Existing Hydrology

The site is located in the western portion of the Shawsheen River Watershed which has a drainage area of approximately 78 square miles. Flow discharging on or near the site generally flows northeast into Hussey Brook, which flows eastward into the Shawsheen River. The Shawsheen River is approximately 25 miles long and flows northward into the Merrimack River.

The stormwater and hydrologic analysis for the project identifies an analysis area of approximately 21.1 acres, which considers the developed portions of the site in addition to the areas up-gradient of these developed areas. Refer to Figure 4.1 for the Existing Hydrology Plan. Under existing conditions, runoff generated by the catchment areas on-site flows to one of four (4) Design Points (DPs).

Design Point 1 (DP-1) is identified as the piped connection to the drainage main beneath Beacon Street at the northerly portion of the site. The existing building's roof drains (subcatchment E-1.0) and the paved areas north of the building (subcatchment E-1.1) are conveyed via existing drainage infrastructure to DP-1. A large portion of the grassed and wooded area to the west of the building discharges to the wetland resource area located on the northerly portion of the site (identified as subcatchments E-1.2 and E-1.3). An existing inlet pipe within this

wetland conveys stormwater collected by the wetland eastward directly to DP-1 (see image below). Accordingly, the wetland has been categorized as an intermediate location contributing to DP-1 and peak flows to the wetland have been monitored in the HydroCAD model.

Photograph 4.1: North wetland—Outfall pipe conveying wetland flows to DP-1 (taken in July 2021)

Design Point 2 (DP-2) is identified as the existing catch basin along the southerly side of Beacon Street, located in the right-of-way near the southeast corner of the site. The outlet invert of the catch basin flows north across Beacon Street and discharges directly into the vegetated area on the north side of Beacon Street. Areas contributing stormwater flow to this design point (identified as E-2.0 in the Existing Hydrology Plan) include a portion of the paved driveway southeast of the building, the paved walkways, grassed, and playground areas southeast of the building, and the paved parking and grassed areas east of the building along the Beacon Street frontage.

Design Point 3 (DP-3) is identified as the wetland resource area in the southeast portion of the site. Areas contributing stormwater flow to this design point (identified as E-3.0 in the Existing Hydrology Plan) include a portion of the paved driveway southeast of the building and the grassed areas south of this driveway. The wetland is relatively flat and most of the land cover contributing flow to DP-3 is grassed. A wetland outfall pipe exists on the north side of the wetland abutting Beacon Street as shown in photograph 4.2 below. The pipe conveys overflows during large storm events to the drainage infrastructure beneath Beacon Street.

Photograph 4.2: Southeast wetland—Outfall pipe conveying storm overflow from DP-3 (taken on 9/29/2021)

Design Point 4 (DP-4) is identified as the grassed and wooded region abutting the north property line of the site, which receives a small portion of the overland runoff generated by subcatchment E-4.0, which is comprised mostly of grassed area adjacent to the paved parking area north of the building.

Table 4.1 below contains a summary of the characteristics of the existing drainage areas to each design point.

Design Point	Impervious Area (SF)	Pervious Area (SF)	Total Area (SF)	Weighted Runoff Curve Number	2-Year Peak (cfs)	10-Year Peak (cfs)	25-Year Peak (cfs)	100-Year Peak (cfs)
DP-1	244,744	463,831	708,575	62	16.09	32.37	43.74	62.54
DP-2	41,442	94,569	136,011	57	0.6	4.14	7.12	12.34
DP-3	**7,978**	44,640	52,618	53	0.08	1.21	2.3	4.26
DP-4	3,001	19,938	22,939	47	0	0.35	0.82	1.74

Table 4.1: Existing Design Point Summary

Proposed Hydrology

The subcatchment areas flowing to each of the four (4) Design Points under proposed conditions are described below. Refer to Figure 6.2 for the Proposed Hydrology Plan.

Proposed subcatchments generating flow to DP-1 are identified as S-1.0 through S-1.11. These subcatchments consist of woods, grass, pavement, porous pavement, synthetic turf, and rubber safety surfaces and comprise of the majority of the analyzed watershed area, which contains the proposed building, synthetic turf field, landscaped and wooded areas west and north of the proposed building, concrete plazas adjacent to the building, the loop road proposed around the building, and parking areas to the east and north of the building. The proposed subcatchments contributing runoff to DP-1 have been designed to flow either to the the wetland outfall shown in photograph 4.1 above, or piped directly to DP-1. The existing 12-inch diameter concrete pipe conveying flows from the wetland outfall is proposed to be replaced; the path of the existing pipe runs below the proposed generator enclosure, which would have induced considerable loading to the existing pipe if it were to remain. The 12-inch diameter replacement outfall pipe will be located outside of the proposed generator footprint; please refer to the enclosed Utilities Plan to view the proposed pipe. Litter found in or proximate to the perimeter of the wetland will be removed prior to completion of the proposed site work. The best Management Practices (BMPs) utilized in subcatchments S-1.0 through S-1.9 include porous bituminous concrete pavement, porous concrete pavement, deep sump hooded catch basins, water quality units, a bioretention area, and a lined subsurface detention basin. For further discussion of these BMPs and their performance relative to the MADEP Stormwater Standards, refer to the *Best Management Practices* and *Consistency with the DEP Stormwater Standards* sections below.

Proposed subcatchments generating flow to DP-2 are identified as S-2.0 through S-2.3. These subcatchments consist of woods, grass, pavement, porous pavement, and rubber safety surfaces, and are contained by the area south of the proposed building and synthetic turf playing field, in addition to the on-site area east of the synthetic turf playing field. The best Management Practices (BMPs) utilized in subcatchments S-2.0 through S-2.3 include porous bituminous concrete pavement, porous concrete pavement, deep sump hooded catch basins, water quality unit, and subsurface detention basins. For further discussion of these BMPs and their performance relative to the MADEP Stormwater Standards, refer to the *Best Management Practices* and *Consistency with the DEP Stormwater Standards* sections below.

Proposed subcatchments generating flow to DP-3 are identified as S-3.0 and S-3.1. These subcatchments consist of pavement, grass, and wooded surfaces in the southeasterly portion of the site near the wetland resource area. The best Management Practices (BMPs) utilized in subcatchments S-3.0 and S-3.1 include a water quality swale and a detention/infiltration basin. For further discussion of these BMPs and their performance relative to the MADEP Stormwater Standards, refer to the *Best Management Practices* and *Consistency with the DEP Stormwater Standards* sections below.

Subcatchment S-4.0 contains grassed and wooded area and contributes overland runoff flow to DP-4 to the north of the site.

Table 4.2 below contains a summary of the characteristics of the proposed drainage areas to each design point.

Table 4.3 compares existing and proposed peak flows to each design point for the analyzed storm events.

Design Point	Impervious Area (SF)	Pervious Area (SF)	Total Area (SF)	Weighted Runoff Curve Number	2-Year Peak (cfs)	10-Year Peak (cfs)	25-Year Peak (cfs)	100-Year Peak (cfs)
DP-1	**220,042**	**478,955**	**698,997**	73	15.85	28.36	36.50	50.01
DP-2	**57,865**	**108,201**	**166,066**	73	0.31	1.35	2.18	9.73
DP-3	**5,698**	**32,268**	**37,966**	52	0	0.03	0.17	1.83
DP-4	0	17,114	17,114	47	0	0.26	0.61	1.30

Table 4.2: Proposed Design Point Summary

Design Point	2-Year Peak (cfs)		10-Year Peak (cfs)		25-Year Peak (cfs)		100-Year Peak (cfs)	
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed
DP-1	16.09	15.85	32.37	28.36	43.74	36.50	62.54	50.01
DP-2	0.6	0.31	4.14	1.35	7.12	2.18	12.34	9.73
DP-3	0.08	0	1.21	0.03	2.3	0.17	4.26	1.83
DP-4	0	0	0.35	0.26	0.82	0.61	1.74	1.30

Table 4.3: Existing and Proposed Peak Flow Comparison

Best Management Practices

A variety of Best Management Practices (BMPs) have been utilized to achieve the stormwater management design.

Catch Basins

The proposed catch basins are structural pretreatment BMPs that have deep sumps and hoods on the outlet to remove some suspended solids in the stormwater prior to pipe conveyance. Catch basins are proposed within the driveways and parking areas and will remove trash, debris, and coarse sediment from runoff, and will serve as temporary still containment devices for oil and grease.

Water Quality Units

Water quality units are structural BMPs that incorporate hydrodynamic separation to further remove total suspended solids from stormwater. These structures are located underground and receive piped stormwater conveyance from catch basins.

Porous Pavement

Two types of porous pavements are proposed: porous bituminous concrete and porous concrete. Porous pavement is a low impact development (LID) feature with a higher-than-normal percentage of air voids to allow water to pass through and infiltrate into the subsoil. When placed in lieu of traditional pavement, porous pavement allows runoff to seep into the air voids, and percolate through several layers with varying grain sizes to remove total suspended solids and treat the stormwater. All porous paving systems consist of a durable, load-

bearing, pervious surface overlaying a stone bed that acts to store stormwater before it recharges into the subsoil. Porous pavements on-site will have the capacity to hold the 1" water quality volume. The porous pavement design is discussed further in Standard 3 of the *Consistency with the DEP Stormwater Standards* section below.

Subsurface Detention Systems

Subsurface detention systems are located underground and consist of a series of perforated chambers within a volume of crushed stone. The systems receive piped, pretreated runoff from the site's catch basins. All proposed subsurface detention systems will be wrapped with an impermeable liner to restrict infiltration due to the high presence of groundwater observed throughout the site. All subsurface detention systems have been designed with an outlet control structure to mitigate peak flows for the analyzed storm events.

Bioretention Areas

Three (3) bioretention areas have been proposed on-site as low impact development (LID) measures. Each area has been designed to detain and treat stormwater runoff generated from a portion of the adjacent paved area. Each area has been sized to detain the 1" water quality volume generated by upstream impervious surfaces. A bioretention area is a shallow depression filled with sandy soil, topped with a thick layer of mulch, and planted with dense native vegetation. These media act as a filter to treat percolating runoff. Underdrains are placed below the soil to capture the percolating runoff and direct the runoff to an outlet control structure for discharge to a selected design point. Due to the high seasonal groundwater conditions on-site, an impermeable liner will be placed below the underdrains to prevent groundwater from entering each area and to restrict infiltration within the footprint of each bioretention area. To pretreat runoff prior to entrance into each bioretention area, the following features were incorporated into the design: a grassed channel with stone check dams, or a sediment forebay.

Isolation of Roof Drainage

As a best management practice, piped conveyance of roof drainage has been separated from the piped conveyance of runoff from paved surfaces. Runoff from paved surfaces will only converge with roof drainage after it has been treated by a water quality unit.

Consistency with the DEP Stormwater Standards

Standard 1 – Untreated Stormwater

Standard 1 states that "No new stormwater conveyances (e.g. outfalls) will discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth."

There will be no new stormwater conveyances discharging untreated stormwater to any wetlands or waters of the MWPA Jurisdiction or to the Andover municipal drainage system. The Project maintains existing drainage patterns to the maximum extent practicable, while providing additional treatment and infiltration where possible. The proposed impervious area is being treated by deep sump catch basins, water quality units, porous pavement, and bioretention areas. Discharges have been designed to prevent scouring and erosion of downstream surfaces. Therefore, the Project complies with Standard 1.

Standard 2 – Post Development Peak Discharge Rates & Volumes

Standard 2 of the Handbook states that "Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates."

The proposed stormwater system was designed to mitigate peak discharge rates for each of the analyzed storm events. The best management practices included in the design successfully attenuate peak rates of runoff for each of the storm events analyzed and at all four design points, and therefore comply with Standard 2.

Standard 3 – Recharge to Groundwater

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

The required recharge volume per Standard 3 is calculated based on a new development's increase in impervious area relative to existing conditions. As a redevelopment project, the post-development conditions propose to reduce impervious area on-site relative to existing conditions. Accordingly, recharge is not required.

As observed in the soil logs of the Geotechnical Report prepared by Nobis Group (Appendix A), the estimated seasonal high groundwater table (ESHWT) was measured to be extremely shallow in several locations on-site (ranging from 1 to 5 feet below existing grade). A large portion of the proposed site is in a cut condition and the design of infiltration BMPs requires a two-foot separation from the bottom of the infiltration BMP to groundwater. Accordingly, the site conditions pose a notable hardship to recharge groundwater in full compliance with Standard 3. Each of the proposed subsurface detention systems and bioretention areas have been designed to be wrapped in an impermeable liner, as each of the proposed systems will be below the observed ESHWT.

While full compliance with Standard 3 is not required due to the proposed reduction in impervious area, an alternatives analysis was completed during the design to investigate methods by which groundwater recharge could be achieved to the extent practicable. Porous pavement was identified as a BMP that could treat stormwater while being minimally invasive to the high seasonal groundwater conditions on-site. Nearly two acres of porous pavement has been incorporated into the site design.

While 2-feet of separation to groundwater is not anticipated in all areas where porous pavement is proposed, the porous pavement has been placed among native soils identified as HSG A by the National Resources Conservation Service (NRCS) Soil Survey. Refer to the NRCS Soil Map in Figure 4.1. In accordance with the Massachusetts Stormwater Handbook, the Rawl's Rate of 2.41 inches per hour for HSG A soils was used to model infiltration. The design intent for the porous pavement is to manage high seasonal groundwater by utilizing the fast-draining properties of the HSG A soils in combination with underdrains placed at the bottom of the porous pavement cross section to convey water horizontally to the proposed stormwater management network. The Massachusetts Stormwater Handbook incorporates leading research from the University of New Hampshire's Stormwater Center (UNHSC) in its BMP design recommendations. UNHSC recommends using a large time of concentration to model the percolation of runoff through porous pavement media. Accordingly, porous bituminous concrete pavement in parking areas has been designed in HydroCAD to have a time of concentration of 100 minutes. These porous pavement areas are directed to a pond mode in the model, which contains a storage volume with layers containing the media gradation specified in the Massachusetts Stormwater Handbook.

Standard 4 – Removal of 80% Total Suspended Solids (TSS)

Standard 4 states that "Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when: (a) Suitable practices for source control and pollution prevention are identified in long-term pollution prevention plan, and

thereafter implemented and maintained; (b) Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and (c) Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook."

Pretreatment and removal of Total Suspended Solids (TSS) is proposed for the paved parking and access drive areas for the project. The site is not classified as a land use with high potential for pollutant loads (LUHPPL). A minimum 80% TSS removal will be accomplished by the combination of the following structural and non-structural BMPs:

- Deep Sump Hooded Catch Basins
- Grassed channels
- Water Quality Units
- Porous pavement
- Bioretention areas

Each of the BMPs listed above must be maintained routinely to ensure long-term performance of TSS removal; an Operation and Maintenance manual has been provided in Appendix E. Each of the proposed stormwater treatment trains will provide TSS at a rate greater than 80% per the TSS removal regulations; therefore, the project complies with Standard 4. See the TSS Removal Worksheet in Appendix C.

Due to the presence of rapidly infiltrating HSG A soils beneath most of the site, the proposed BMPs accepting flows from paved areas are required by Standard 4 to provide 1" of water quality volume. To meet the water quality volume requirements of Standard 4 to the maximum extent practicable in accordance with the site's classification as a redevelopment project, the water quality units on-site have been sized to treat a water quality flow equivalent to 0.5 inches of water quality volume. This is an improvement on existing conditions, where much of the site's runoff is currently piped directly to the Beacon Street drainage main where no treatment BMPs are present to remove TSS.

Standard 5 – Land Uses with Higher Potential Pollutant Loads

Standard 5 states that "For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook."

The site is not considered a land use with a high potential for pollutant loads (LUHPPL), as it does not fall within the use categories outlined in 310 CMR 10.04 and 314 CMR 9.02 and fewer than 1,000-vehicle trips per day are projected to the site per the Traffic Impact Study prepared by Brennan Consulting. Standard 5 is not applicable to the project.

Standard 6 – Critical Areas

Standard 6 states that "Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply and stormwater discharges near or to any other critical area require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas as provided in the Massachusetts Stormwater Handbook."

The project site is not within any wellhead protection zones, public water supply zones, critical areas, or Water Supply Protection as delineated on the current Town Zoning Map. Standard 6 is not applicable to the project.

Standard 7 - Redevelopment

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

The proposed site layout is contained by the previously developed portion of the existing site and proposes approximately 6.6± acres of impervious area, which is a 0.2-acre reduction compared to the existing site's impervious area of 6.8± acres. Therefore, the project is defined as a redevelopment per Volume 2, Chapter 3 of the Massachusetts DEP Stormwater Handbook; accordingly, Standards 2, 3, and the pretreatment and structural stormwater BMP requirements of Standards 4, 5, and 6 may be met to the maximum extent practicable. Note that a large portion of the porous pavement in the proposed hydrology model (Appendix C) has been modeled with a Curve Number (CN) of 98; while porous pavement is *not* considered to be an impervious surface, the porous pavement modeling included a CN of 98 used in tandem with a pond node to model the percolation of stormwater into the porous pavement. The proposed design fully meets the requirements of Standards 2, 5, and 6, and meets the requirements of Standard 3, and the pretreatment requirements of Standard 4, to the maximum extent practicable.

Standard 8 – Erosion and Sedimentation Controls

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

Short term water quality impacts are related to construction activities for the proposed development. Potential soil erosion and sedimentation to both on-site and downstream areas are of primary importance in this stage of development. The major cause of these construction impacts is the erosion of exposed soils caused by precipitation events before stabilization can take place.

Several erosion control measures will be implemented during construction phase of the project to minimize impacts. Straw wattles with silt fence will be installed at the down gradient perimeter of the construction area, silt sacks will be placed in catch basins on and near the site, and a stone construction entrance to prevent tracking of sediment onto local roads will be placed. Additionally, a Stormwater Pollution Prevention Plan (SWPPP) will be developed in accordance with the National Pollutant Discharge Elimination System Construction General Permit.

The proper implementation of these erosion and sedimentation control measures will enable the project to comply with Standard 8.

Standard 9 – Operation and Maintenance Plans

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

- Water Quality over the long term can be protected by appropriate operational and maintenance activities including
- Semi-annual sweeping/vacuuming of all paved areas

- Periodic inspection of all catch basins and area drains including grates, sumps, oil separation hoods and outlets
- Periodic inspection and maintenance of the bioretention areas.
- Periodic inspection of the Water Quality Units
- Semi-annual inspection of all drainage outfalls on the site
- A Long-Term Pollution Prevention Plan is also a critical element to maintaining stormwater runoff quality. These measures include:
    - Good housekeeping practices
    - Spill prevention and response
    - Appropriate landscaping maintenance procedures
    - Proper storage and use of fertilizers, herbicides, and pesticides
    - Appropriate snow management.

An Operation and Maintenance Plan is included in Appendix E of this report in compliance with Standard 9.

Standard 10 – Illicit Discharges to Drainage System

Standard 10 states: "All illicit discharges to the stormwater management system are prohibited."

There are no known or suspected illicit discharges to the stormwater management system at the project site. An Illicit Discharge Statement is provided in Appendix G.

Pipe Sizing

Pipe sizing for the proposed drainage pipes was completed using the Rational Method for the 25-year, 24-hour storm design storm. An intensity-frequency-duration curve was used from data provided by the Northeast Regional Climate Center, included in Appendix C. Total area contributing to each catch basin, runoff coefficient, and time of concentration was entered for all proposed pipe runs. Flow from rooftop areas was also used to size downstream pipes using flow data taken from the 25-year HydroCAD analysis. Pipe sizes were designed to keep the hydraulic grade lines below the proposed finished grade.

Construction Phase Erosion and Sediment Controls

An erosion and sedimentation control program will minimize the risk of impacts to wetland resource areas during construction of the Project. The program incorporates Best Management Practices specified in the guidelines developed by the DEP and the United States Environmental Protection Agency (US EPA) and complies with the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges from Construction Activities. These measures include the installation of temporary erosion and sedimentation controls and construction sequencing. Areas of exposed soil will be kept to a minimum, and permanent vegetative cover (or binder coat of pavement) will be established after final grading or as soon as practicable. Erosion and sediment control measures proposed for site preparation and development phases will include the following components.

Temporary Construction Entrance

A temporary construction entrance consisting of 6 inches of gravel over filter fabric will be installed to minimize the migration of sediment on and off the site by construction equipment.

Straw Wattles with Silt Fence

Straw wattles with silt fence will be installed around the perimeter of the site to prevent the migration of sediment on and off the site from overland flow.

Sediment Bag at Catch Basins

Sediment bags will be installed in existing and newly constructed catch basins to capture and remove sediment in stormwater runoff prior to discharge from the site.

Temporary Sediment Basin

Temporary sediment basins will be installed at strategic locations of the site to collect runoff from portions of the site under construction. EPA recommends that temporary sediment basins have a minimum volume of 3,600 cubic feet for each acre contributing drainage area.

Town of Andover Regulations

The purpose of the Andover Stormwater Management & Erosion Control Bylaw is to "prevent or diminish the impacts of sedimentation and polluted stormwater from land disturbance, land development, and redevelopment activities by controlling runoff and preventing soil erosion and sedimentation from site construction and development." The vision of the bylaw is demonstrably consistent with the MassDEP stormwater regulations and the US EPA's NPDES General Permit regulations. The proposed design's consistency with the ten (10) MassDEP Stormwater Standards and the proposed soil erosion and sediment control measures discussed above reflect the purpose and intent of the Andover Stormwater Management & Erosion Control Bylaw, which has the following ten (10) objectives:

1. Protecting water resources
2. Controlling the volume and rate of stormwater
3. Requiring practices to manage and treat stormwater runoff generated from new development and redevelopment
4. Protecting groundwater and surface water from degradation of depletion
5. Promoting infiltration and recharge of the groundwater
6. Preventing pollutants from entering the municipal and private storm drain system
7. Preventing flooding and erosion to abutting properties
8. Ensuring that soil erosion and sedimentation control measures and stormwater runoff management practices are incorporated into site planning and design process and are implemented and maintained
9. Ensuring adequate long-term operation and maintenance of stormwater best management practices
10. Requiring practices to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at construction sites that may cause adverse impacts to water quality

The enclosed site plans, HydroCAD model, stormwater calculations, Operations and Maintenance Plan, and the narratives contained in this stormwater report all support the ten (10) objectives of the Andover Stormwater Management & Erosion Control Bylaw.

5.

Wetlands

- Resource Area Review
- Existing Resource Area Conditions
- Propose Resource Area Conditions and Mitigation

5. Wetlands

Resource Areas

The Town of Andover issued an Order of Resource Area Delineation (ORAD) on January 22, 2021 (DEP #316-1346) approving the delineation of all wetland resources subject to jurisdiction under the Massachusetts Wetlands Protection Act (WPA, MGL Ch. 131 S. 40) and the Town of Andover Wetlands Protection Bylaw within and adjacent to the project site. The resource limits shown on the site plans and described in this report reflect the approved wetland boundaries per the ORAD plans, included as Appendix I.

The wetland resources present on the site consist of Bordering Vegetated Wetlands (BVW) and Isolated Vegetated Wetlands (IVW) and associated buffer zones. There are six areas of BVW and two areas of IVW, see Figure 5.1 for the overall site's resource areas. The project site is not located within Estimated Habitat of Rare Wetlands Wildlife or Priority Habitat and does not contain certified or potential vernal pools as determined both by field inspection and by reference to the most recently available data provided by the Mass. Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program available on MassGIS.

The Massachusetts Wetlands Protection Act Regulations (310 CMR 10) has jurisdiction over BVW and IVW and their associated 100' buffer zone. The Town of Andover has a local Wetlands Protection Bylaw, Article XIV of the town's Bylaws, as well as the Andover Conservation Commission Wetland Protection Regulations, which work in tandem to provide design standards and processes by which activities affecting areas subject to protection under the bylaw are regulated. The local regulations place an additional protective zone around wetlands, specifically a 25' vegetated buffer zone. Minimum setbacks are also required to certain site features, including building and structures (50'), parking lots (50'), driveways (30'), retaining walls (30').

For the intent of the report, only the wetlands and buffer zones impacted by the project limit of work are discussed. The balance of the resource areas on site will remain in their current conditions after construction of the project.

Existing Resource Area Conditions

Existing resource buffer zones that will be impacted by development are BVW series A, F, and G as shown on Figure 5.2. The buffer zones consist of natural vegetated areas as well as previous disturbance. A majority of the disturbance is outside of the 25' buffer and includes mowed lawn, wood-chip play areas, and bituminous walkway and driveway.

However, there are some areas of disturbance within the 25' buffer zone, specifically for Wetland F. Roughly half of the 25' buffer zone for this wetland is currently not naturally vegetated, with portions of wood chips and mowed lawn because the area is used for recreation. There is also a portion within the BVW flagged limits that has also been historically mowed. Refer to the following photographs for examples of existing conditions within the site resource areas.

In terms of stormwater management for the resource areas, the wetlands currently receive runoff from lawn and hardscape areas within no pretreatment. The wetlands are at relative low points around the site, however there are limited stormwater controls in place to help with water quality for the wetlands.

Photograph 5.1: Wood Chips and Maintained Lawn within Wetland F 25' Buffer Zone (taken 11/16/2021)

Photograph 5.2: Maintained Lawn for Play Fields within Wetland F 25' Buffer Zone (taken 11/16/2021)

Photograph 5.3: Play Structures and Wood Chip/Dirt Areas Adjacent to Wetland A (taken 11/16/2021)

Proposed Resource Area Conditions and Mitigation

The proposed project involves a new building, parking, drives, and artificial turf field situated on the site to maximize land efficiency to the extent possible and decrease impact to the existing building during construction. Even after careful study of how to locate the building, field, parking, and other features on the site there are still aspects of the development that will impact the wetland buffer zones. The only work proposed within a flagged resource area on-site is the proposed replacement of the wetland outfall pipe associated with Wetland A. The existing outfall connects to a 12-inch diameter concrete pipe which conveys flows out to the drainage system beneath Beacon Street. The path of this existing pipe runs below the proposed generator enclosure, which would have induced considerable loading to the existing pipe if it were to remain. The proposed 12-inch diameter replacement outfall pipe will run outside of the proposed generator footprint; please refer to the enclosed Utilities Plan to view the proposed pipe. The replacement pipe will support the long-term functionality of the proposed drainage system, and impacts to Wetland A to replace the outfall pipe will be conducted in such a manner that is minimally invasive to the resource area. Refer to Figure 5.3 for an overlay of the proposed development over the existing aerial, the resource areas, and where the project proposes mitigation.

The project will meet the required setbacks set forth by the Andover Bylaws for all features except for driveways and retaining walls. Bituminous concrete driveways are proposed within the 25' vegetated buffer in Wetland A, F, and G. The driveways around the site are designed to provide safe circulation for cars and pedestrians around the site and accommodate emergency vehicles and deliveries. The driveway encroachment within the buffer zone has been limited to the extent possible while providing safe and accessible access throughout the site. In addition to the driveways, the two modular block retaining walls are needed to help mitigate grade change around the site will maintaining accessibility to the building. The walls will also help to limit grading farther into the buffer zones. Approximately half of the proposed impacts to the vegetated buffer zone are within previously disturbed areas of Wetland F.

To help mitigate the project's impacts to the wetland resources, the project will restore the currently non-vegetated 25' buffer zone of Wetland F to a more natural state. The proposed restored area is about five times more than the undisturbed vegetated buffer area that will be affected by the proposed development. Refer to Table 5.1 for a breakdown of the existing and proposed work within the 25' buffer zones.

The restored 25' buffer will help to protect the BVW from future maintenance by creating a visual barrier. This restoration work will be accomplished using native wetland and meadow seed mixes and native tree and shrub plantings which will blend with the existing landscape to reestablish the 25' vegetated buffer zone.

Table 5.1 – Existing vs Proposed Impacts to BVW 25' Vegetated Buffer Zones

	Wetland A	**Wetland F**	**Wetland G**	**Total**
Existing Non-Naturally Vegetated/Maintained Area	0 sf	18,750 sf	0 sf	18,750 sf
Restored Buffer	0 sf	17,040 sf	0 sf	17,040 sf
Proposed Non-Naturally Vegetated/Maintained Area	1,430 sf	1,710 sf	490 sf	3,630 sf

In addition to this restoration work to Wetland F, the project is also incorporating Low Impact Design (LID) measures to the stormwater management design to mitigate development impacts. Multiple bioretention areas are proposed adjacent to Wetland A and G and are designed to receive overland flow and provide water quality treatment and remove TSS prior to the runoff entering the wetlands. These areas will replace previously disturbed areas of lawn and play structures with natural vegetation and grading. All runoff upstream of resources areas will be controlled and treated to comply with Massachusetts Stormwater Standards, specifically Standard 1 for discharges to wetlands. For additional information on stormwater treatment, discharge, and outlets of BVW refer to Section 4 Stormwater Management.

The final mitigation piece of the project is a proposed boardwalk and observation deck that will be installed to the west of Wetland A. The boardwalk and deck are designed to minimally impact the wetlands buffer zone and will provide educational opportunities for the school and community. The wetland deck will have bench seating and will be supported from below. The boardwalk and deck will be constructed with composite lumber. Access to this area will be via accessible paths from the school, with the area being surrounded by native meadow, shrub, and tree plantings. Educational signage will be posted along the paths and at the deck. The observation deck is sized to accommodate a classroom and will allow up-close and hands-on review of wetland functions and vegetation from a safe and accessible area.

The proposed restoration, stormwater management, and wetland engagement programming will be an improvement to the current conditions of the wetland areas being impacted by this project. The restored buffer will provide protection for wetland areas that have previously been open to disturbance. The new stormwater management system will provide better water quality for runoff entering the wetlands, which will help vegetation growth and improve the groundwater supply. Lastly, the boardwalk and associated programming will provide educational opportunities for students and the community to learn about the benefits of wetlands and be more aware of the value that these resources provide.

6.

Compliance with Zoning

- Overview
- Dimensional Requirements
- Parking
- Landscaping
- Earthwork

6. Compliance with Zoning

Overview

The Table of Use Regulations in Appendix A, Table 1 of the Andover Zoning By-Law lists *municipal facilities* as a permitted use in the underlying Single Residence B (SRB) Zoning District. The proposed project is deemed to be allowed by-right. At this time, there are no requests for variances or other substantial relief is included as part of this application package to the Planning Board, Conservation Commission, and the Design Review Board.

The Planning Board's Site Plan Review process determines whether the proposed development meets the intent and provisions of the Zoning By-law and ensures it will not result in detriment to the town or the neighborhood in which it is located. In support of its review, the Planning Board considers staff comments and the following:

- The proposed placement of buildings;
- Major topographical changes;
- Surface and ground water drainage and erosion control;
- Protection against flooding and inundation;
- Prevention of water and pollution and environmental damage;
- Provision for adequate utility services;
- Provisions of off-street parking and loading;
- Location of intersections of driveways and streets;
- The effect of additional traffic created by the development on intersections and streets likely to be affected by the proposed development.
- Provision for pedestrian/bicycle accessways connecting to adjacent open space, neighborhoods, schools, recreation areas or transportation facilities and for alternative transit programs.
- Provisions for landscaping and adequate screening and buffering.

These items have been fundamental considerations throughout the site design process. Please refer to the various sections of this project report for further discussion of the above-listed items.

Dimensional Requirements

Bulk dimensional requirements are established in Appendix A, Table 2 of the Zoning By-Law and are as follows for the SRB Zoning District:

	Required	**Existing**	**Proposed**
Min. Area	30,000 sq. ft.	34.0 ac.	No change
Min. Frontage	150 ft.	706.4 ft.	No change
Min. Front Yard Depth	40 ft.	90.8 ft.	348.5 ft.
Min. Side Yard Depth	25 ft.	120.5 ft.	58.1 ft.
Min. Rear Yard Depth	30 ft.	984.0 ft.	612.6 ft.
Max. Building Height	45 ft.	29 ft.	44 ft. 8 inches

- (1) Per Section 4.1.3.3, building in residential districts for educational purposes by be three (3) stories and 45 feet
- (2) The limitation on height of buildings shall not apply in any district to chimneys, ventilators, towers, silos, spires, or other ornamental features of buildings which are not used living purposes and do not constitute more than 25% of the ground floor area of the building.

The project meets the above criteria as described.

To determine the proposed building height of **44'-8"**, grades along the building perimeter were identified to calculate the *mean grade elevation*, or the datum from which the building's height is measured. Approximately one-third of the building's perimeter will have a 6-inch foundation reveal meeting exterior grade (equating to a finished grade elevation of 161'-6") which applies to landscaped surfaces abutting the building, and roughly two-thirds of the building's exterior perimeter will be flush with the finish floor elevation (FFE elevation 162'-0") which applies to impervious surfaces abutting the building. Therefore, to calculate the mean grade of the building, the above data was weighted to compute a final *mean grade elevation* (MGE) of 161'-10" around the exterior of the building. Elevations of the building features that are subject to the maximum height requirements are provided below to clarify the final proposed building height of **44'-8":**

- Highest top of steel elevation = 43'-6" above MGE (43'-4" above FFE)
- Roof Decking: 3" = 43'-9" above MGE (43'-7" above FFE)
- Top of 11" thick roof assembly = **44'-8"** above MGE (44'-6" above FFE)

The building does propose ornamental features (as defined above in Note 2) that are exempt from building height requirements; these features constitute less than 25% of the ground floor area of the building in accordance with the zoning by-law.

Parking

Appendix A, Table 3 of the Zoning By-Law provides off-street parking requirements. For elementary and secondary schools, two (2) parking spaces per classroom are required.

Under existing conditions, the main parking areas are located to the north and south of the building, and a smaller parking lot is located along the Beacon Street frontage to the east of the building. There is a total of 154 striped parking spaces on-site.

The proposed school will consist of 58 total classrooms (inclusive of the elementary and preschool) which results in 116 required parking spaces per the Andover Zoning By-Law. As currently designed, 266 parking spaces are proposed on-site. The proposed parking accommodation exceeds the quantity required. During schematic design, the town and school carefully considered the quantity of parking needed to meet the new program of the school. The increase in parking is due not only to providing for an expanding student population within the elementary school but also accommodating a higher staff need for the preschool due to the younger student age and the focus on special education services.

Landscaping

The proposed landscaping design emphasizes native trees, shrubs, grasses, and perennials, and also utilizes native wetland and meadow seed mixes as appropriate. The plant palette does not include any plants classified as invasive. The plantings are designed to be low maintenance and drought tolerant, allowing the landscape to

function without permanent irrigation. The plantings also emphasize all season interest, including plants that feature flowers, non-toxic berries, decorative bark, and colorful fall foliage.

As the 58 Beacon Street parcel is in the Single Residence B (SRB) Zoning District, there are no specific landscape treatment requirements for the parcel. However, as the school is surrounded to the north and south by typical residential use parcels, the project includes buffer treatment where the project proposes a vehicular use close to the property lines. At the north property line a vegetated buffer for screening that includes evergreen trees that will be more than 4' height at the time of planting for screening. This vegetative buffer is approximately 10' wide. The reactivated driveway connecting High Plain Road to the site includes a 4' height solid board fence along the residential property lines to both sides of the driveway.

The proposed design includes three fenced playgrounds: one for the pre-K program and two for the elementary school, and hard surface play areas that will be concentrated near the building. The elementary age play areas will include a basketball hoop and wall ball. An artificial turf play field suitable for Baseball, Softball, and Soccer with backstops and perimeter fencing and netting, as well as bleacher seating, will be included in the middle of the vehicular loop between the new school building and Beacon Street. A boardwalk to a deck gathering area with benches will be located adjacent to the north wetland resource area. Access to the wetland area will also include connecting stone dust paths and native seeded meadow and native shrub and tree plantings, as well as educational signage. A fenced sensory garden and an outdoor classroom included in the site plan. An area of lawn play fields will remain in the rear western portion of the site but will be reduced in size by the new building.

Earthwork

Earthwork operations for the project have been analyzed for each of the proposed phases of construction. Please refer to Section 2: Project Overview for more information relative to each of the construction phases. Site earthwork outside of the building envelope during Phase 1 of the project is anticipated to result in a net cut condition; approximately 8,000 cubic-yards of cut is anticipated and 6,500 cubic-yards of fill. Cut material will be used for fill areas where appropriate, but due to the limited site area, excess material will be disposed of off-site. Site earthwork for Phase 2 construction is expected to yield a cut of approximately 20,000 cubic-yards and a fill of 12,000 cubic-yards, resulting in an export of roughly 8,000 cubic-yards. The town is currently investigating whether an off-site property is available for temporary stockpiling of excess cut material.

Removal of a modest quantity of bedrock is anticipated to be required to accommodate the proposed building foundations and below ground utilities in the southern portion of the development. Rock removal will be accomplished through mechanical means only.

The Phase II Environmental Site Assessment (Appendix F) completed by ADS Environmental Engineering reported no indication of the presence of contamination in on-site soils that would require special management during construction. Topsoil samples showed only trace concentrations of petroleum hydrocarbons, well below the reportable concentration threshold. There was no detection of other contaminants that would indicate a release of hazardous materials to the environment.

No permits relative to earth movement are required for the project; per Section 6.3 of the Andover Zoning By-Law, land in public use is exempt from the special and other permit requirements detailed further in Section 6.3 of the By-Law.

7.

Project Design

- Overview
- Building Architecture
- Site Signage

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7. Project Design

Overview

An application to the Design Review Board (DRB) is being submitted pursuant to Section 9.6 of the Andover Zoning By-Law, which requires new structures built for municipal uses to be reviewed by the board prior to receiving a building permit. The proposed site sign along the Beacon Street frontage also requires review by the DRB pursuant to Section 5.2.4 of the Andover Zoning By-law. Proposed features to be presented to the DRB for its review include the exterior design of the building, inclusive of selected materials and colorways, and the site sign as further discussed below.

Building Architecture

The majority of the building will be clad in combination of a stone and calcium silicate masonry water table base topped with brick veneer in a warm palette of red and brown alternating bands. The brick veneer will extend to the roof line at the stair towers at each wing. Secondary rain screen cladding materials such as Phenolic or Composite Metal will be used on the two upper levels at the center of the Elementary School and at the preschool multipurpose room, to introduce color to the classroom wings and provide a distinct identity to the two schools. Multicolored metal and glass reading nooks will project out slightly from each classroom. Sloping, metal-clad roof forms will help to highlight major entry areas and unique program components such as the Media Center and Gymnasium.

Below are images of various views of the proposed building.

Image 7.1: Front Plaza and parking

Image 7.2: Shawsheen Preschool Main Entrance

Image 7.3: Rear Plaza

Site Signage

The project includes one freestanding 6’ long by 3’ high, 2” thick, rectangular wood sign with scooped corners, with 7” square granite support posts. Granite post to have a thermal finish and slight pyramidal top. Sign height is to be 5’6”. Sign is to be double faced. Sign field color is to be blue (Benjamin Moore 2066-30 Big Country Blue) and gold text and 3/8” border (Benjamin Moore 2019-20 Golden Nugget) is to be carved in a ½ deep “V” indent. Sign is to say “West Elementary School and Shawsheen Preschool, 58 Beacon Street”. Text is to be “Optima Standard Extra Black” font; main text is to be 2” high, address text is to be 1” high.

The sign is to be located at the south vehicular entrance on Beacon Street and will be sited to ensure safe sight lines for vehicles entering and existing the site. Refer to drawings L-121 for the sign location and refer to Figure L1.0 for the sign cutsheet.

8.

List of Figures

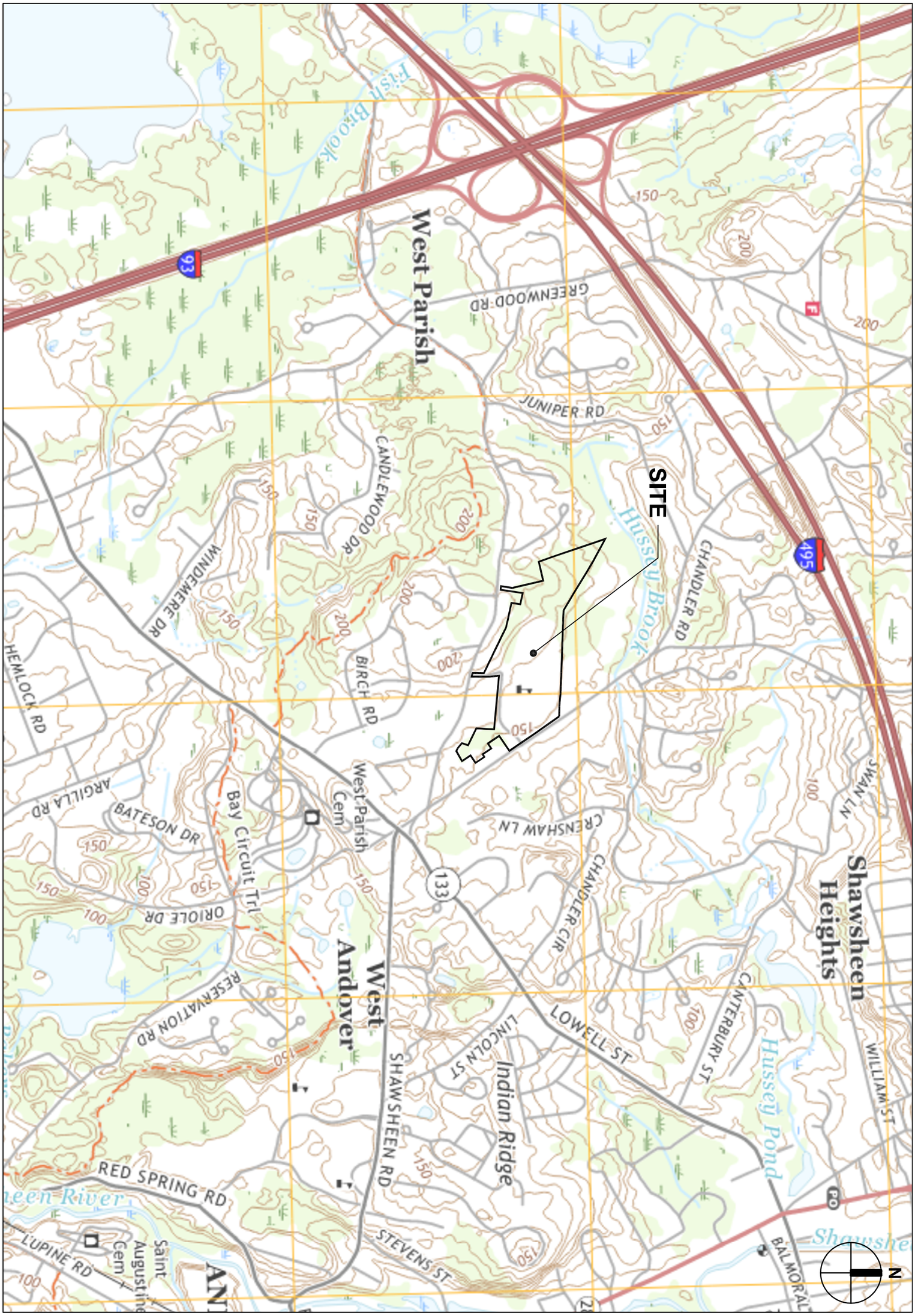

FIG 2.1

USGS LOCUS MAP

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=1000'
REF:	
DR BY:	JLO
CK BY:	

ANDOVER WEST ELEMENTARY SCHOOL AND SHAWSHEEN PRESCHOOL

58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

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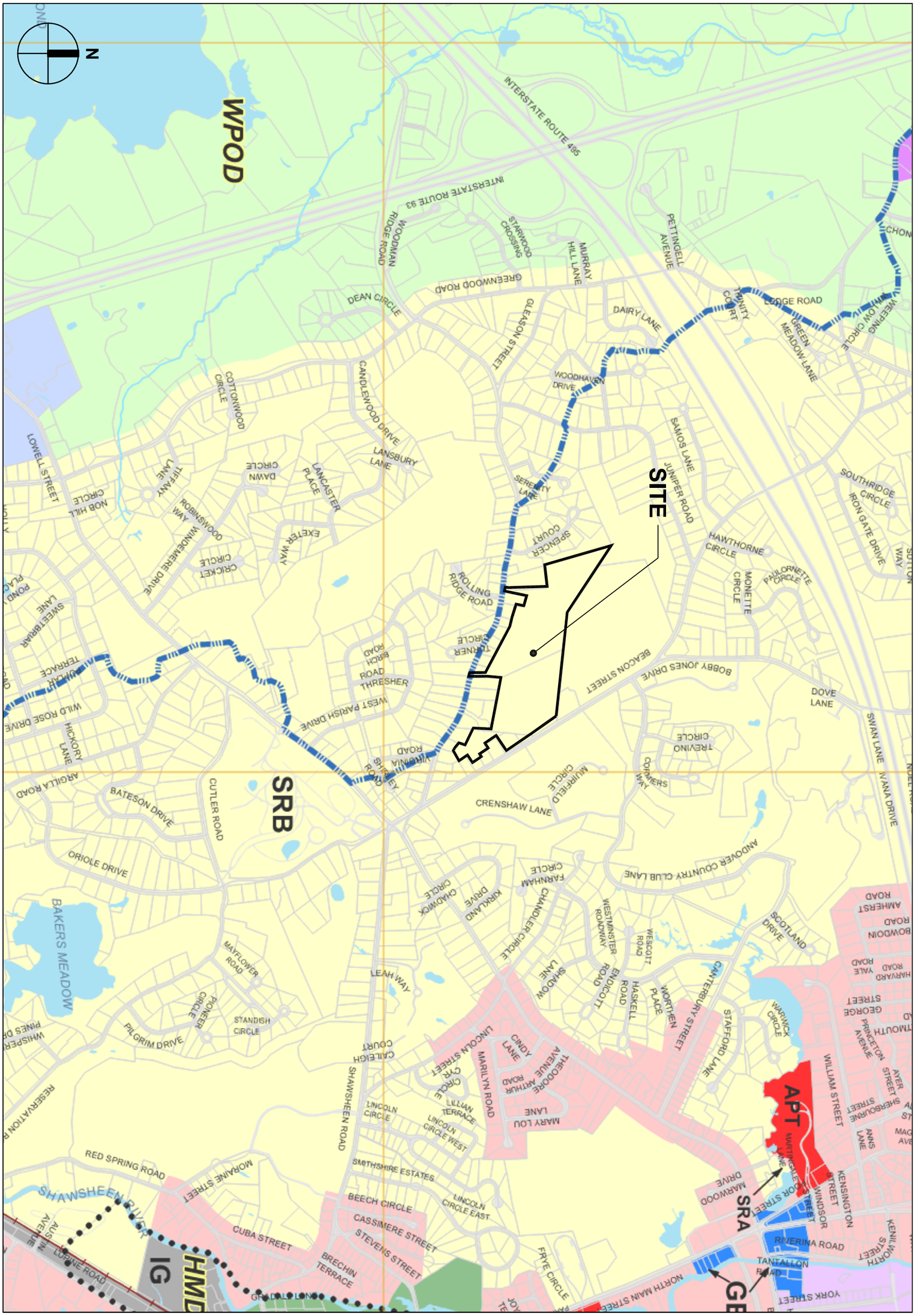

FIG 2.2

ANDOVER ZONING MAP

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=1000'
REF:	
DR BY:	JLO
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FIG 2.3

AERIAL MAP

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=200'
REF:	
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NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Massachusetts State Plane Mainland Zone (FIPS zone 2001). The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was derived from digital orthophotography provided by the Massachusetts Geographic Information System. This information was created from photography dated 2005.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

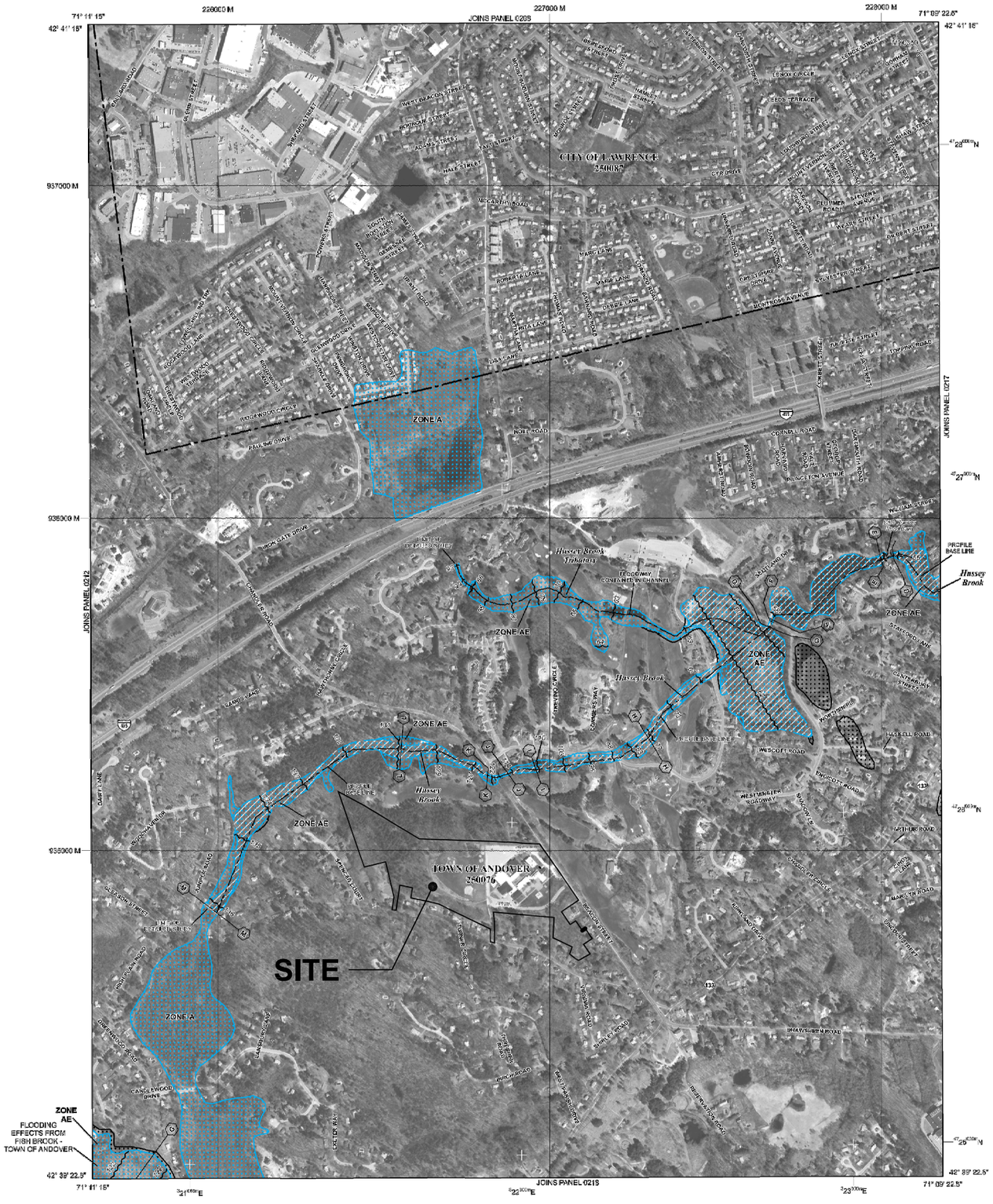
Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations** and **floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables for multiple streams in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on the map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, A1, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL. 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- Culvert
- Bridge
- 45° 02' 30", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 4988000 M — 1000-meter ticks: Massachusetts State Plane Mainland Zone (FIPS Zone 2001), Lambert Conformal Conic projection
- 5000000 mN — 1000-meter Universal Transverse Mercator grid values, zone 19N
- DX5990 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
July 3, 2012

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP — NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0216F

FIRM

FLOOD INSURANCE RATE MAP

ESSEX COUNTY, MASSACHUSETTS
(ALL JURISDICTIONS)

PANEL 216 OF 600
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ANDOVER, TOWN OF	250076	0216	F
LAWRENCE, CITY OF	250087	0216	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
25009C0216F
EFFECTIVE DATE
JULY 3, 2012

Federal Emergency Management Agency

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ANDOVER WEST ELEMENTARY SCHOOL AND SHAWSHEEN PRESCHOOL

58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

DATE:	12/7/2021
ISSUE:	
SCALE:	AS NOTED
REF:	
DR BY:	JLO
CK BY:	

FIG 2.4

FLOOD INSURANCE RATE MAP

Soil Map—Essex County, Massachusetts, Northern Part
(Andover West NRCS Soils)

Map Scale: 1:2,920 if printed on B landscape (17" x 11") sheet.

Meters: 0 40 80 160 240

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

N

USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
32A	Wareham loamy sand, 0 to 3 percent slopes	2.2	6.7%
51A	Swansea muck, 0 to 1 percent slopes	0.0	0.1%
253B	Hinckley loamy sand, 3 to 8 percent slopes	0.6	1.8%
254B	Merrimac fine sandy loam, 3 to 8 percent slopes	1.2	3.7%
256A	Deerfield loamy fine sand, 0 to 3 percent slopes	0.6	1.9%
260B	Sudbury fine sandy loam, 3 to 8 percent slopes	0.6	1.8%
276B	Ninigret fine sandy loam, 3 to 8 percent slopes	0.5	1.4%
411B	Sutton fine sandy loam, 0 to 8 percent slopes, very stony	0.7	2.1%
420C	Canton fine sandy loam, 8 to 15 percent slopes	0.9	2.6%
421B	Canton fine sandy loam, 0 to 8 percent slopes, very stony	8.6	26.3%
651	Udorthents, smoothed	16.9	51.5%
Totals for Area of Interest		**32.8**	**100.0%**

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ANDOVER WEST ELEMENTARY SCHOOL
AND SHAWSHEEN PRESCHOOL

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JOB NO. 19446

DATE: 12/7/2021
ISSUE:
SCALE: AS NOTED
REF:
DR BY: JLO
CK BY:

FIG 2.5

NRCS SOILS MAP

FIG 2.6

PROPOSED SITE PLAN

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=150'
REF:	
DR BY:	JLO
CK BY:	

ANDOVER WEST ELEMENTARY SCHOOL
AND SHAWSHEEN PRESCHOOL

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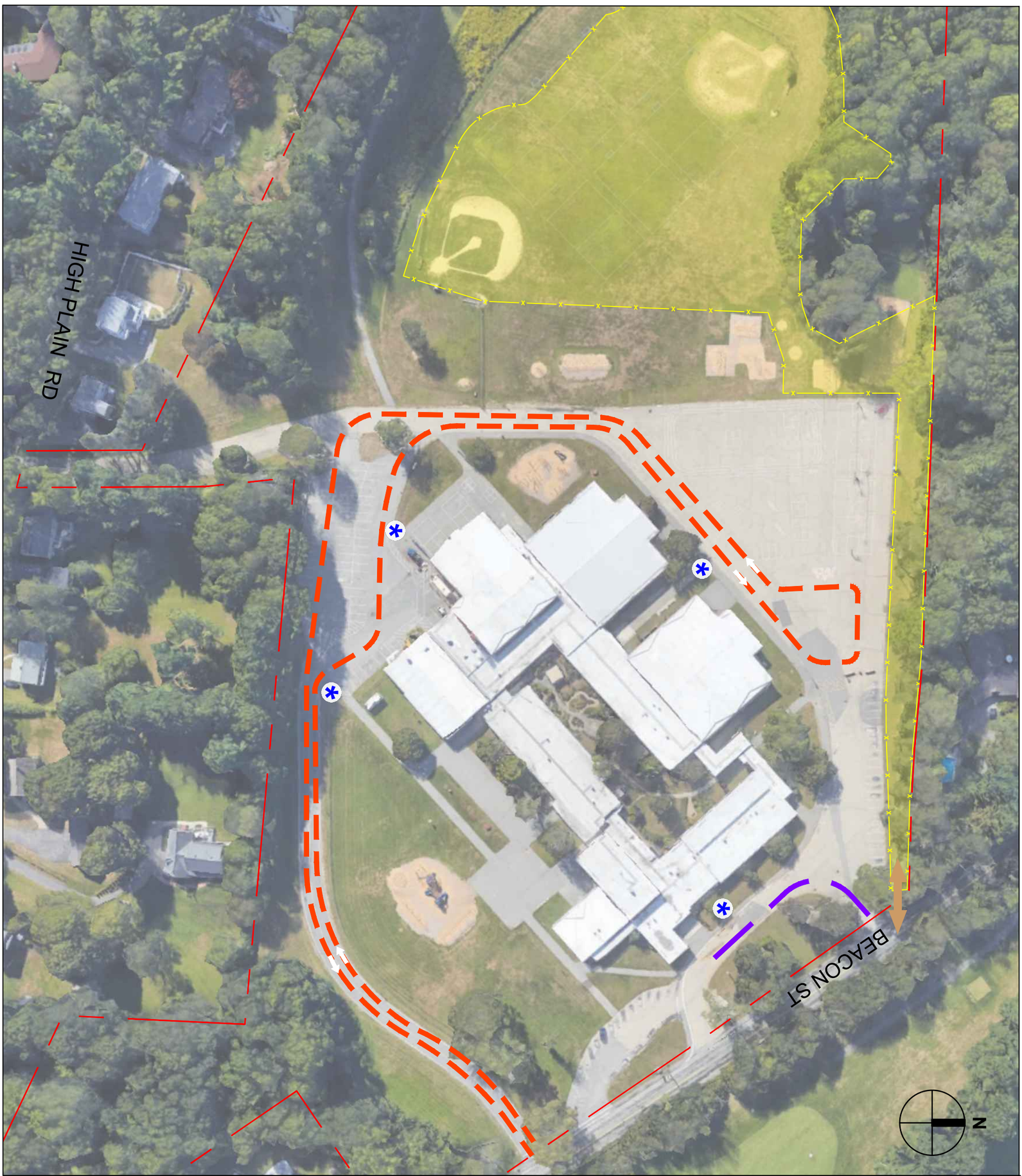

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LEGEND
PROPERTY LINE
CAR QUEUE LINE
BUS QUEUE LINE
VEHICULAR TRAFFIC FLOW
STUDENT STAGING
LOADING AREA
FENCED CONSTRUCTION ZONE
CONTRACTOR ACCESS

PHASE TIMELINE
SPRING 2022 - JULY 2022

FIG 2.7

CONSTRUCTION
PRE-PHASE 1

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=100'
REF:	
DR BY:	JLO
CK BY:	

ANDOVER WEST ELEMENTARY SCHOOL AND SHAWSHEEN PRESCHOOL

58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

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0
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TIMELINE
SUMMER 2022 - SUMMER 2024

PARKING SUMMARY
154 SPACES EXISTING CONDITIONS
154 SPACES PHASE 1

QUEUE SUMMARY
1520 LF QUEUE LENGTH
60 CARS ACCOMMODATED

LEGEND
PROPERTY LINE
PROPOSED NEW BUILDING
SIDEWALK
PLAYGROUND AREA
STUDENT STAGING AREA
CAR QUEUE LINE
BUS QUEUE LINE
BUILDING ACCESS POINTS
VEHICULAR TRAFFIC FLOW
STUDENT STAGING
LOADING AREA
FENCED CONSTRUCTION ZONE
CONTRACTOR ACCESS

FIG 2.8

CONSTRUCTION PHASE 1

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=100'
REF:	
DR BY:	JLO
CK BY:	

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58 BEACON STREET
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TIMELINE

JUNE 2024 - SEPTEMBER 2024

PARKING SUMMARY

154	SPACES	EXISTING CONDITIONS
154	SPACES	PHASE 2

QUEUE SUMMARY

1772 LF	CAR QUEUE LENGTH
767 LF	BUS QUEUE LENGTH
71	CARS ACCOMMODATED

- PROPERTY LINE
- PROPOSED NEW BUILDING
- SIDEWALK
- PLAYGROUND AREA
- STUDENT STAGING AREA
- CAR QUEUE LINE
- BUS QUEUE LINE
- BUILDING ACCESS POINTS
- VEHICULAR TRAFFIC FLOW
- STUDENT STAGING
- LOADING AREA
- FENCED CONSTRUCTION ZONE
- CONTRACTOR ACCESS

0 100

FIG 2.9

CONSTRUCTION PHASE 2A

ANDOVER WEST ELEMENTARY SCHOOL AND SHAWSHEEN PRESCHOOL

58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

DATE: 12/7/2021
ISSUE:
SCALE: 1"=100'
REF:
DR BY: JLO
CK BY:

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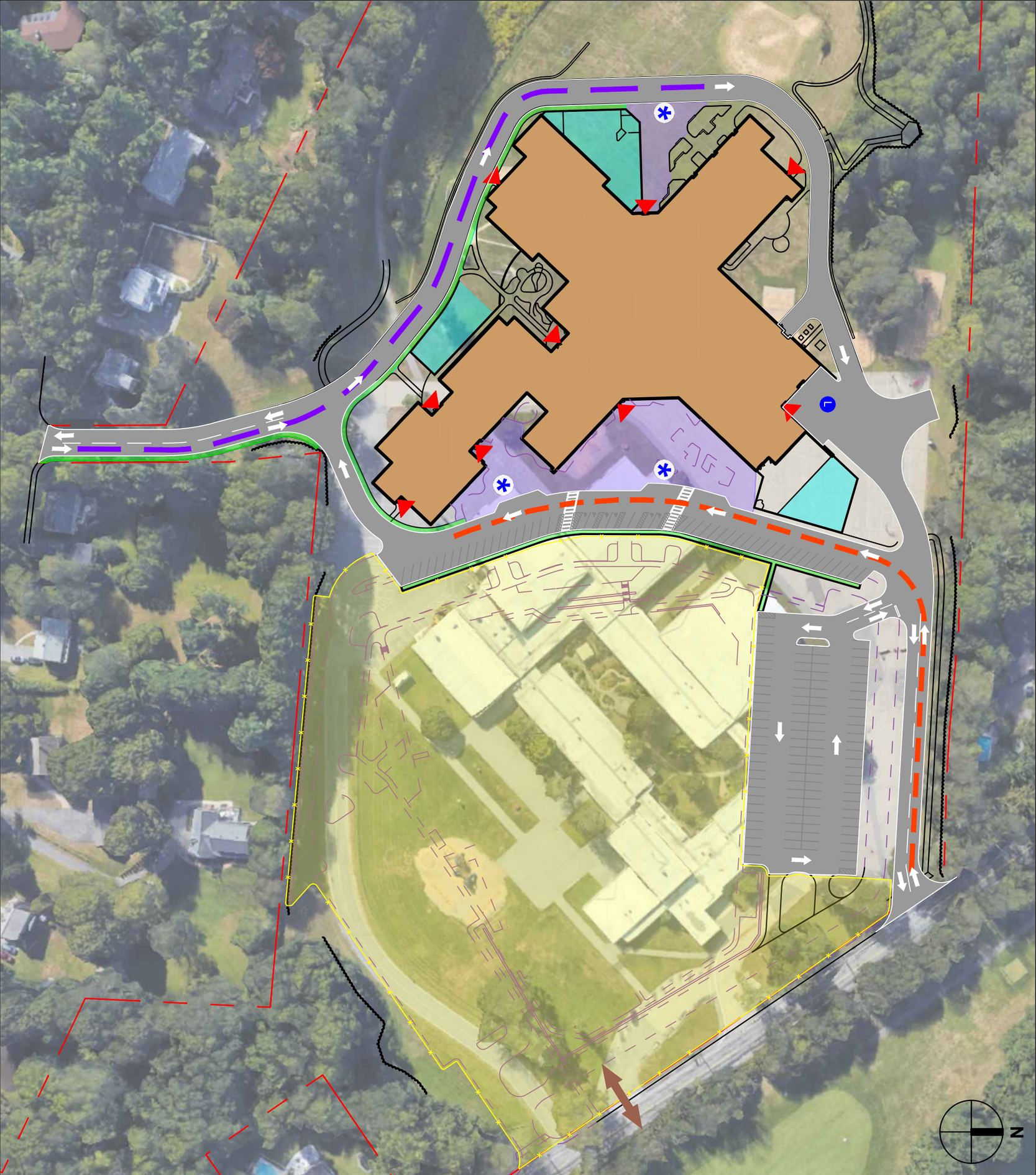

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TIMELINE
JANUARY 2025 - MAY 2025

PARKING SUMMARY
154 SPACES EXISTING CONDITIONS
154 SPACES PHASE 2B

QUEUE SUMMARY
800 LF CAR QUEUE LENGTH
895 LF BUS QUEUE LENGTH
32 CARS ACCOMMODATED

LEGEND
PROPERTY LINE
PROPOSED NEW BUILDING
SIDEWALK
PLAYGROUND AREA
STUDENT STAGING AREA
CAR QUEUE LINE
BUS QUEUE LINE
BUILDING ACCESS POINTS
VEHICULAR TRAFFIC FLOW
STUDENT STAGING
LOADING AREA
FENCED CONSTRUCTION ZONE
CONTRACTOR ACCESS

FIG 2.10

CONSTRUCTION PHASE 2B

DATE:	12/7/2021
ISSUE:	
SCALE:	1"=100'
REF:	
DR BY:	JLO
CK BY:	

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58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

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NOTES:
1. TIME OF CONCENTRATION FLOW PATHS WERE ASSUMED TO TERMINATE AT LIMITS OF ANALYSIS AREA

E-4.0
DP-4
DP-1
E-1.1
E-1.3
E-1.0
E-1.2
E-2.0
DP-2
DP-3
E-3.0

241 FT SHALLOW CONCENTRATED FLOW; WOODS S=0.056
233 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.006
151 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.007
99 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.163
50FT SHEET FLOW; WOODS S=0.09
50 FT SHEET FLOW; WOODS S=0.12
94 FT SHALLOW CONCENTRATED FLOW; GRASS S=.138
306 FT SHALLOW CONCENTRATED FLOW; GRASS S=.013
87 FT SHALLOW CONCENTRATED FLOW; GRASS S=.048
121 FT PIPE FLOW S=0.003
108 FT PIPE FLOW; ASSUMED 18" DIA. AND S=0.020
211 FT PIPE FLOW S=0.0075
307 FT PIPE FLOW S=0.013
237 FT PIPE FLOW S=0.007
50 FT SHEET FLOW; GRASS S=0.025
240 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.016
260 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.038
21 FT SHALLOW CONCENTRATED FLOW; PAVED S=0.047
50FT SHEET FLOW; WOODS S=0.04
162 FT SHALLOW CONCENTRATED FLOW; WOODS S=0.086

HSG A
HSG B
HSG B/D
HSG A/D

BEACON STREET
HIGH PLAIN ROAD

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andover PUBLIC SCHOOLS

ANDOVER WEST ELEMENTARY AND SHAWSHEEN PRESCHOOL

58 Beacon St, Andover, MA 01810

NOT FOR CONSTRUCTION

SCALE	
DRAWN BY	JJO
CHECK BY	
PROJ.ARCH/ENGR.	EFP
PROJ. MRG.	LBF
JOB NO.	19146.00

EXISTING HYDROLOGY PLAN

FIG. 4.1

N

DP-4

DP-1

DP-2

DP-3

S-1.0
S-1.1
S-1.2
S-1.3
S-1.4
S-1.5
S-1.6
S-1.7
S-1.8
S-1.9
S-1.10
S-1.11
S-2.0
S-2.1
S-2.2
S-2.3
S-3.0
S-3.1
S-4.0

12" WETLAND OUTLET; PIPED CONNECTION TO DP-1

241 FT SHALLOW CONCENTRATED FLOW; WOODS S=0.056

233 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.008

151 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.007

99 FT SHALLOW CONCENTRATED FLOW; GRASS S=0.163

50FT SHEET FLOW; WOODS S=0.09

88 FT SHALLOW CONCENTRATED FLOW; GRASS, S=0.187

32 FT SHALLOW CONCENTRATED FLOW; WOODS, S=0.125

50FT SHEET FLOW; WOODS, S=0.09

50FT SHEET FLOW; WOODS S=0.04

162 FT SHALLOW CONCENTRATED FLOW; WOODS S=0.086

HSG A
HSG B
HSG B/D

100' WETLAND BUFFER ZONE
50' PARKING & STRUCTURE SETBACK
25' VEGETATION BUFFER ZONE

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

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TOWN OF ANDOVER INCORPORATED MAY 6, 1646 MASSACHUSETTS

andover PUBLIC SCHOOLS

ANDOVER WEST ELEMENTARY AND SHAWSHEEN PRESCHOOL

58 Beacon St, Andover, MA 01810

NOT FOR CONSTRUCTION

SCALE	1"=40'
DRAWN BY	JCH
CHECK BY	
PROJ.ARCH/ENGR.	JCH
PROJ. MRG.	LBF
JOB NO.	19146.00

PROPOSED HYDROLOGY PLAN

FIG. 4.2

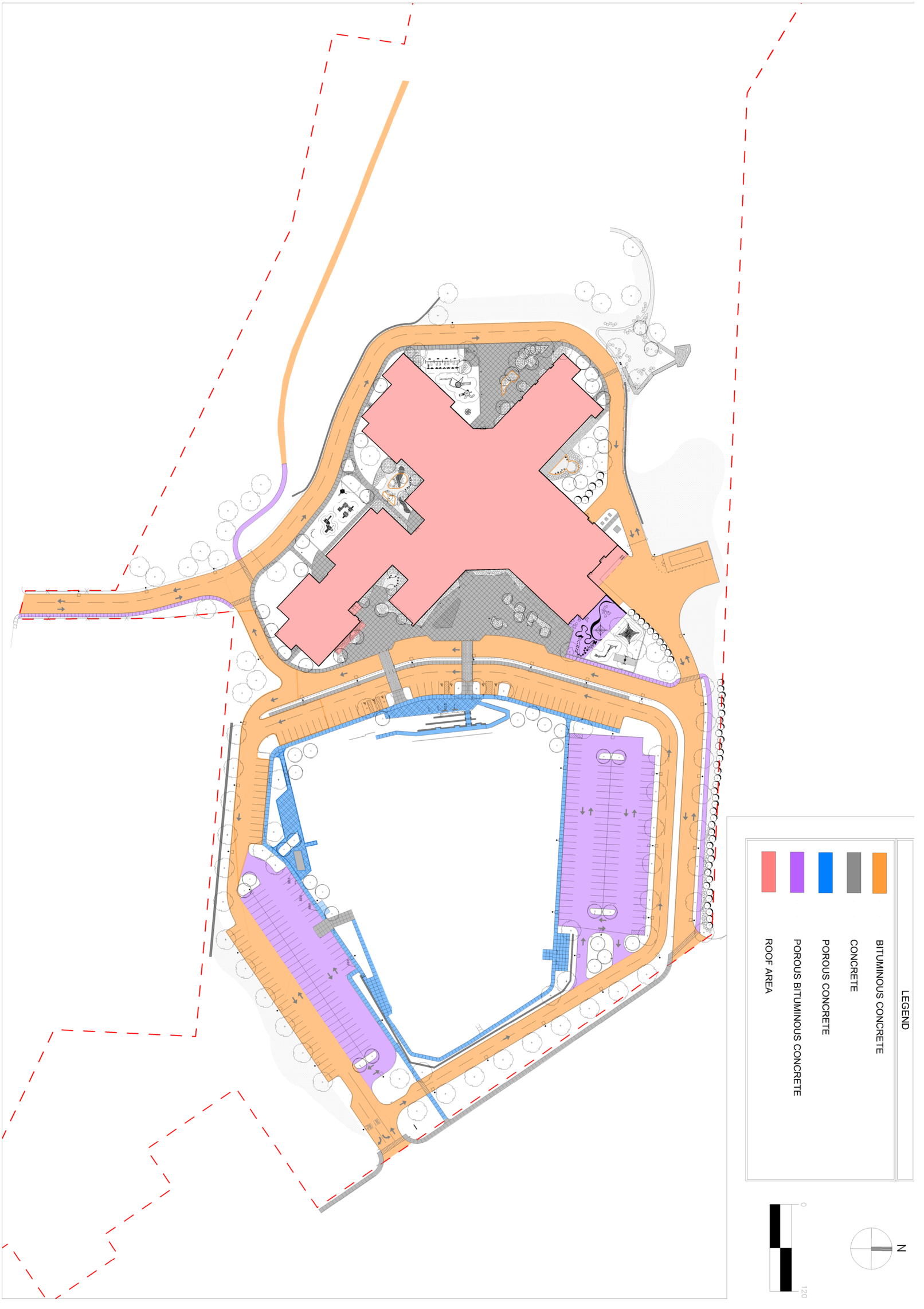

FIG 4.3

HARDSCAPE AREA
DELINEATION

DATE:	11/15/2021
ISSUE:	
SCALE:	1"=120'
REF:	
DR BY:	TPA
CK BY:	

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JOB NO.: 19146

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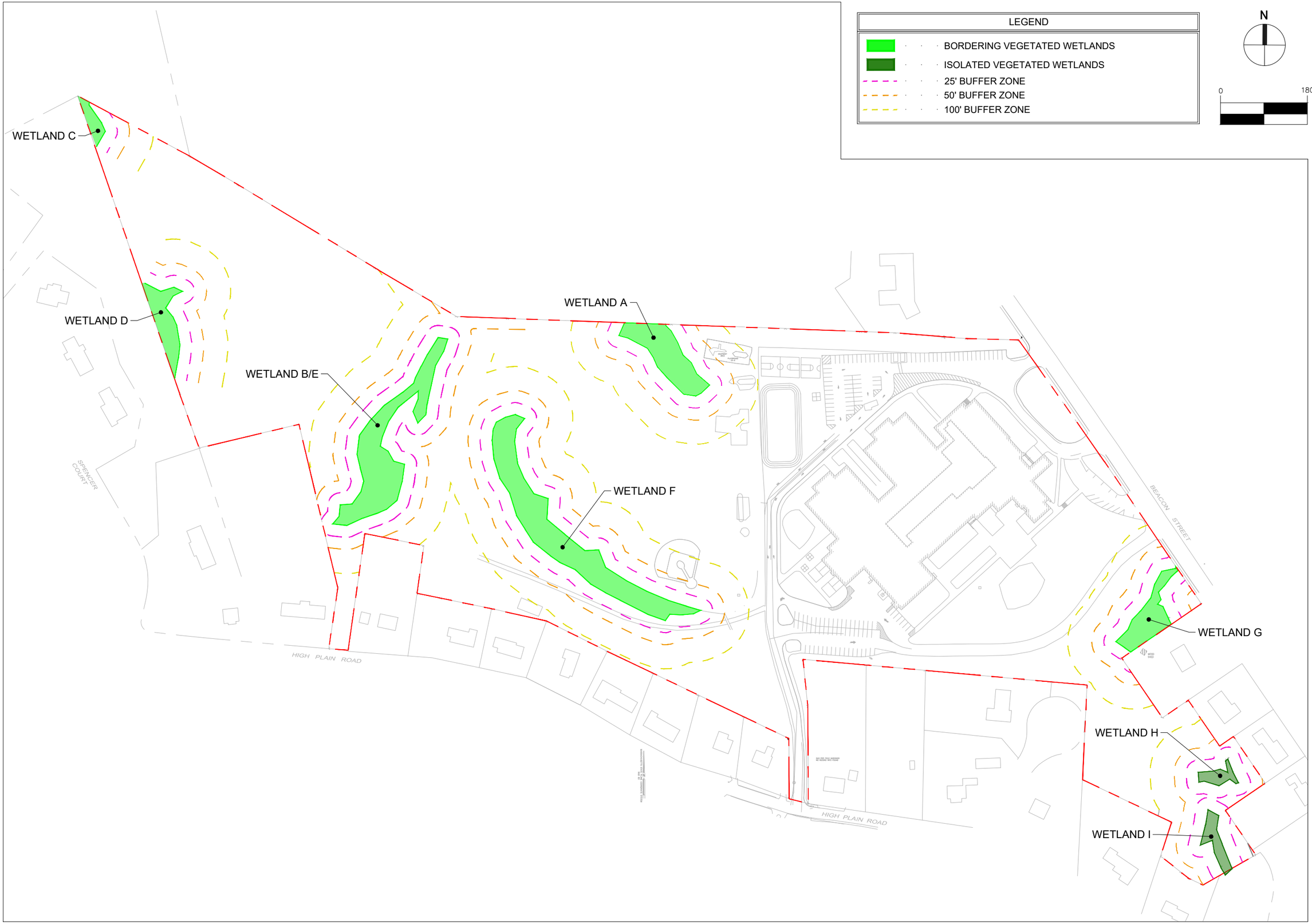

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ANDOVER WEST ELEMENTARY SCHOOL
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58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

DATE: 11/15/2021
ISSUE:
SCALE: 1"=120'
REF:
DR BY: PRR
CK BY:

FIG 5.1

OVERALL EXISTING
RESOURCE AREAS

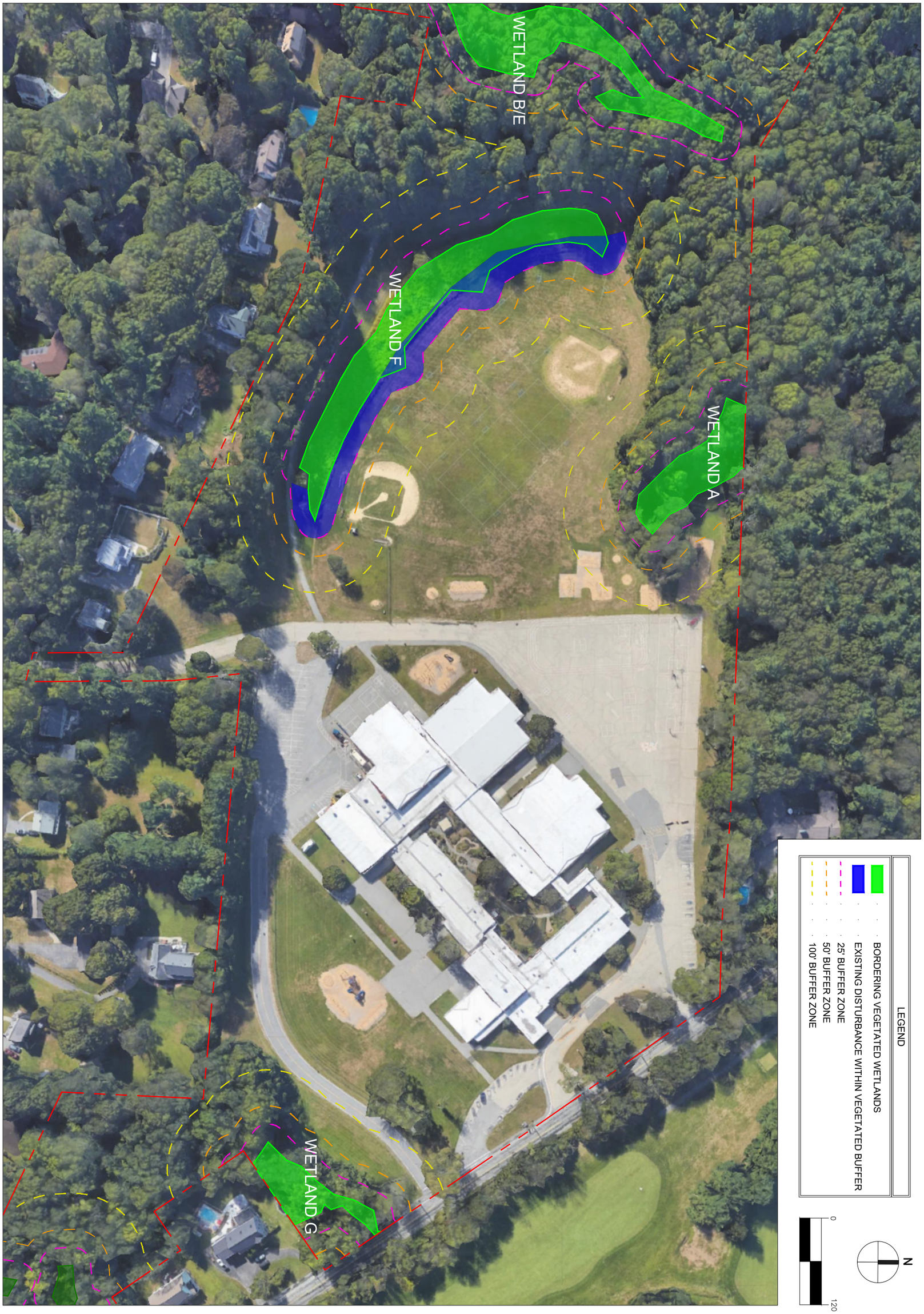

FIG 5.2

WETLAND RESOURCE
EXISTING CONDITIONS

DATE:	11/15/2021
ISSUE:	
SCALE:	1"=120'
REF:	
DR BY:	PRR
CK BY:	

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JOB NO.: 19146

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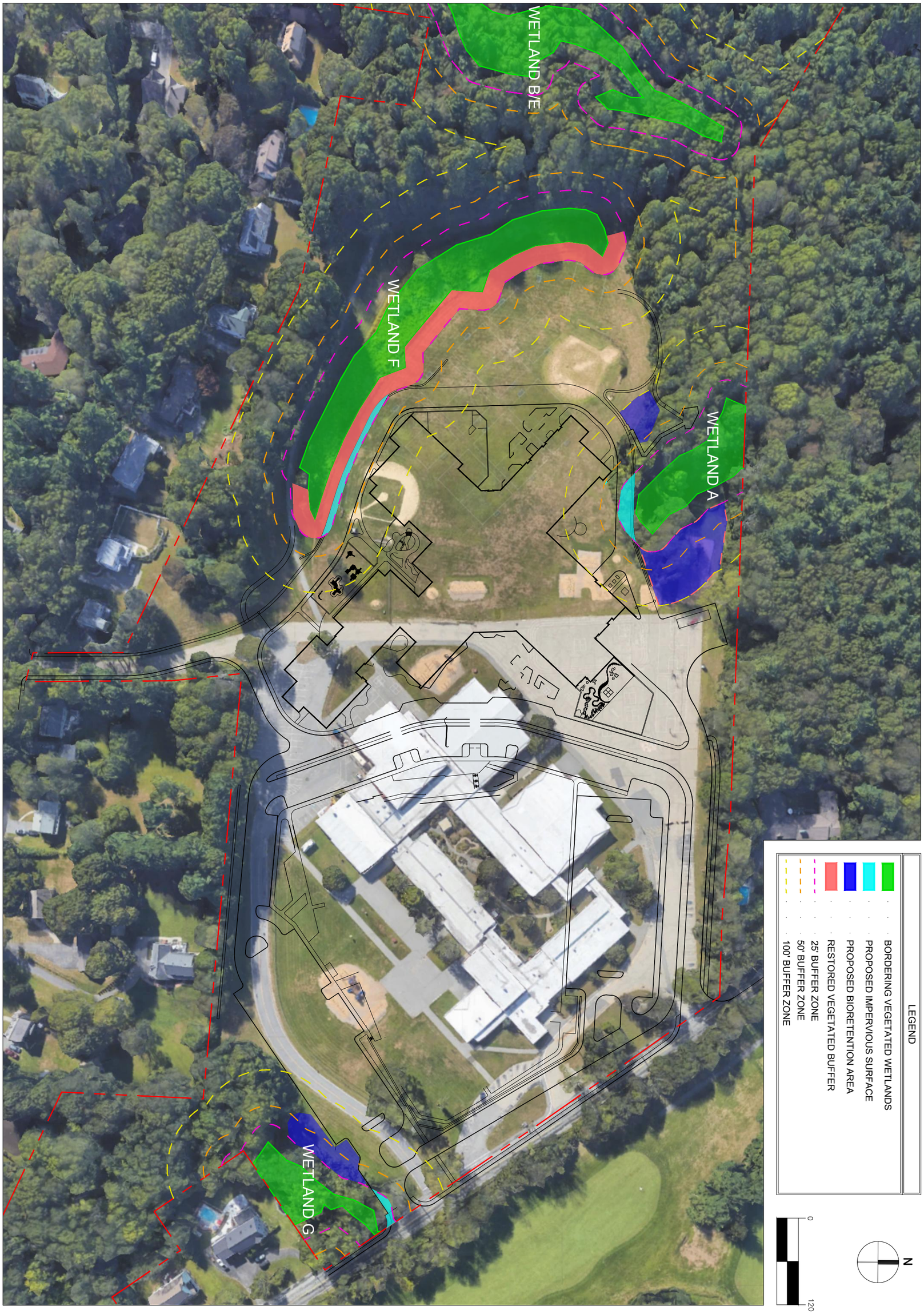

FIG 5.3

WETLAND RESOURCE
PROPOSED CONDITIONS

DATE:	11/15/2021
ISSUE:	
SCALE:	1"=120'
REF:	
DR BY:	PRR
CK BY:	

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AND SHAWSHEEN PRESCHOOL

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JOB NO.: 19146

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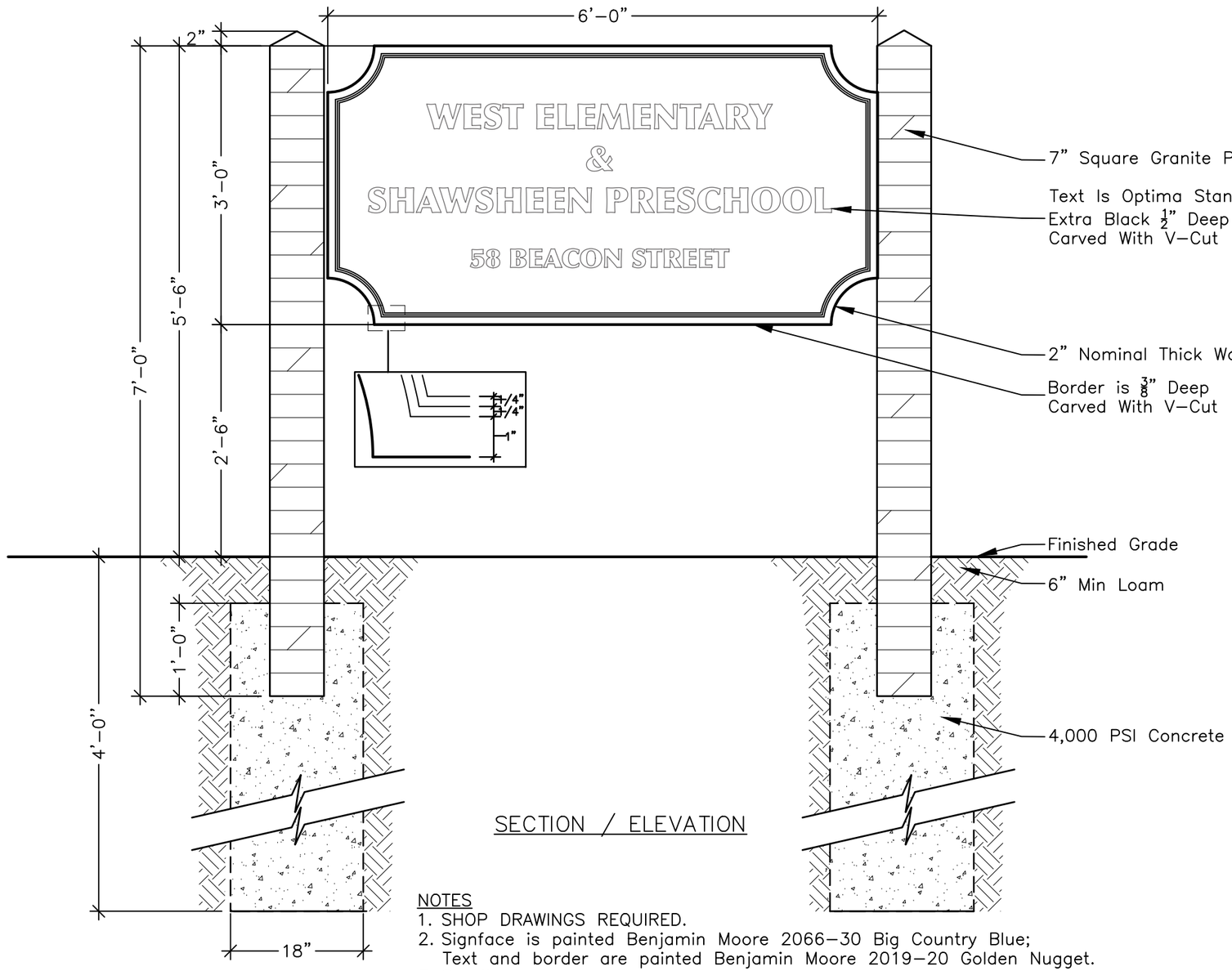

SECTION / ELEVATION

NOTES
1. SHOP DRAWINGS REQUIRED.
2. Signface is painted Benjamin Moore 2066-30 Big Country Blue; Text and border are painted Benjamin Moore 2019-20 Golden Nugget.
3. Granite to have a thermal finish.

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ANDOVER WEST ELEMENTARY SCHOOL
AND SHAWSHEEN PRESCHOOL

58 BEACON STREET
ANDOVER, MA 01810

JOB NO.: 19146

DATE:	12/7/2021
ISSUE:	
SCALE:	3/4" =1'-0"
REF:	
DR BY:	PAH
CK BY:	MNT

FIG L1.0

SIGN WITH SCHOOL NAME