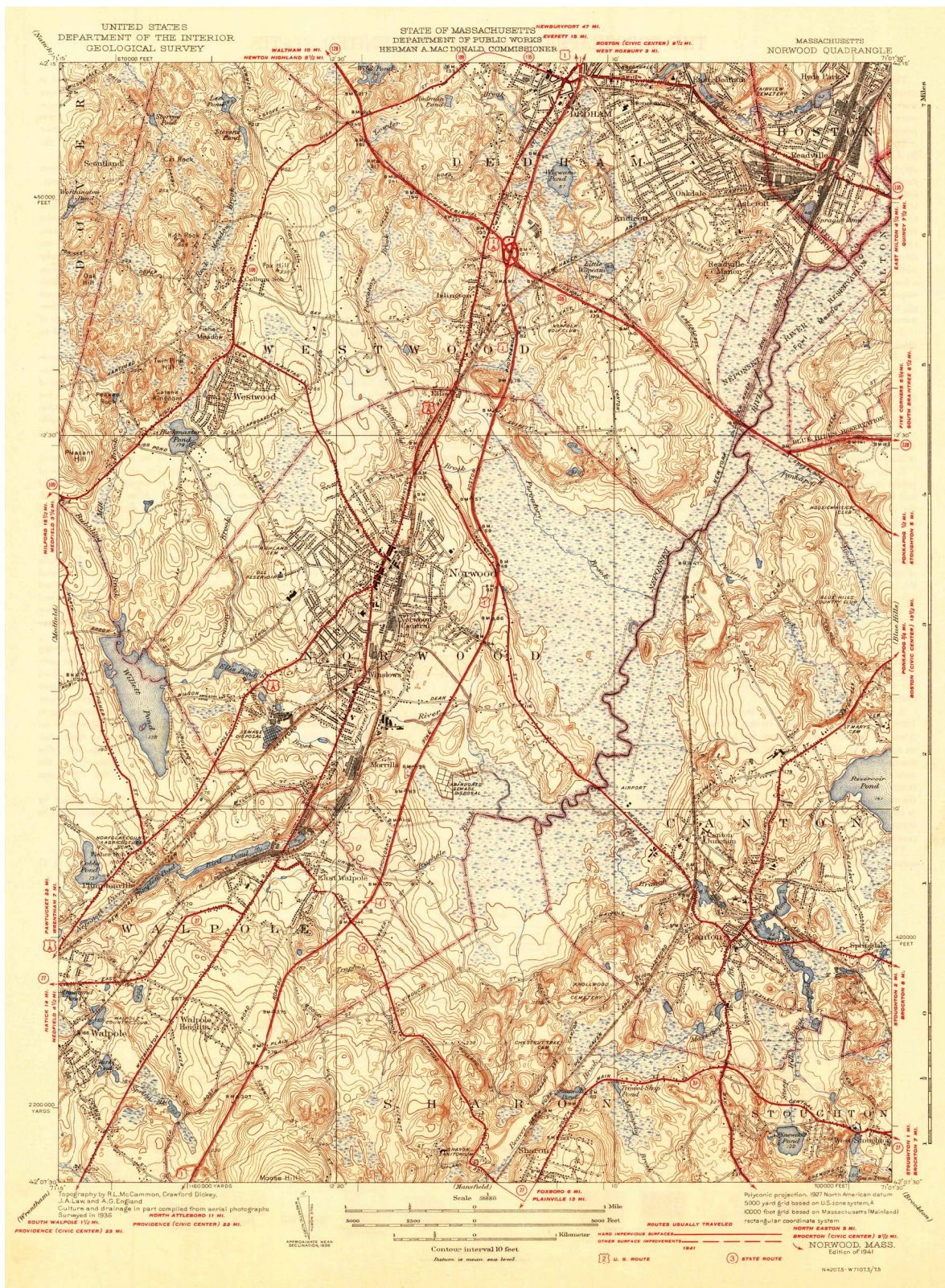
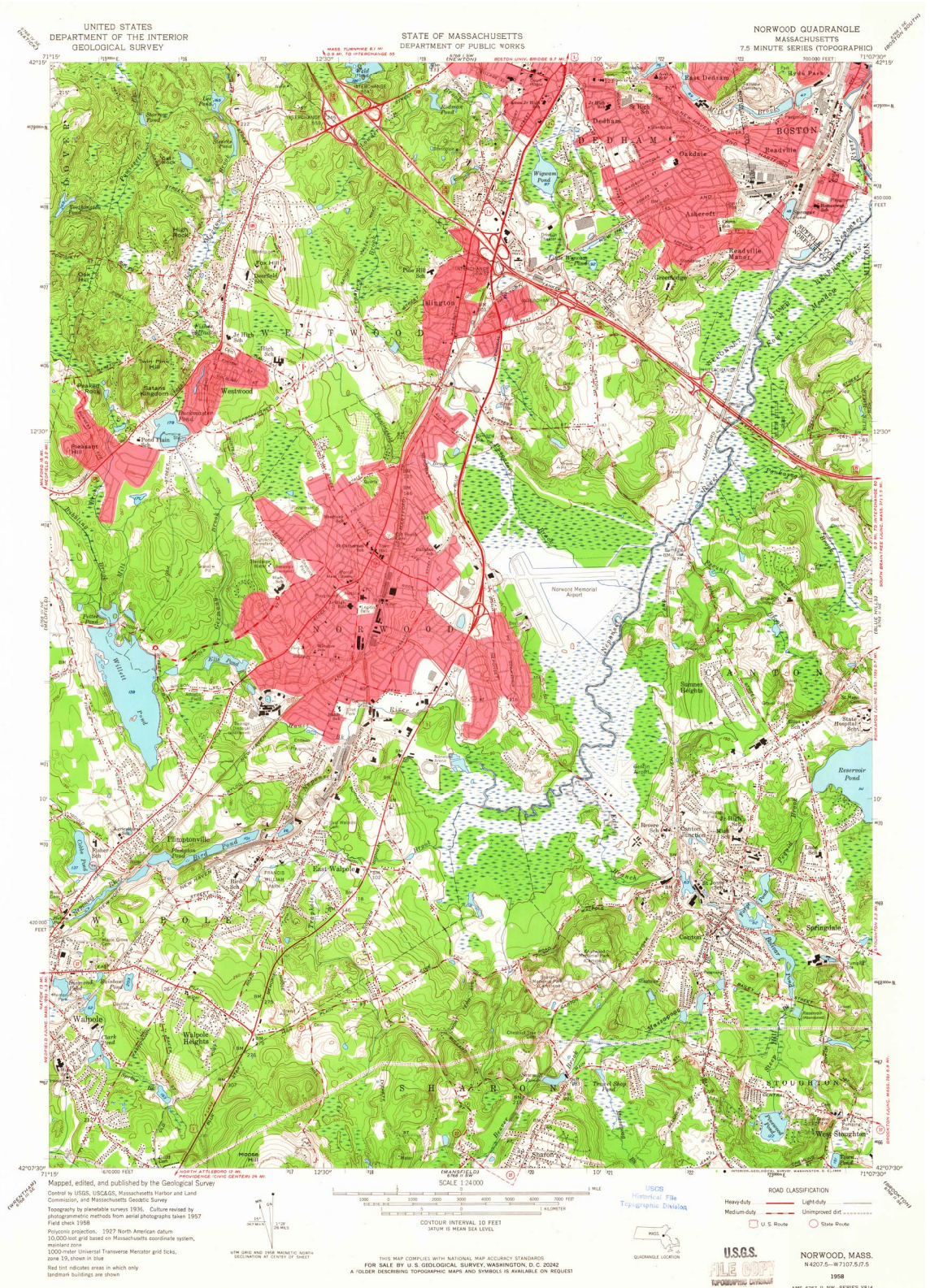


Feasibility Study & Long Range Plan - Norwood Public Schools



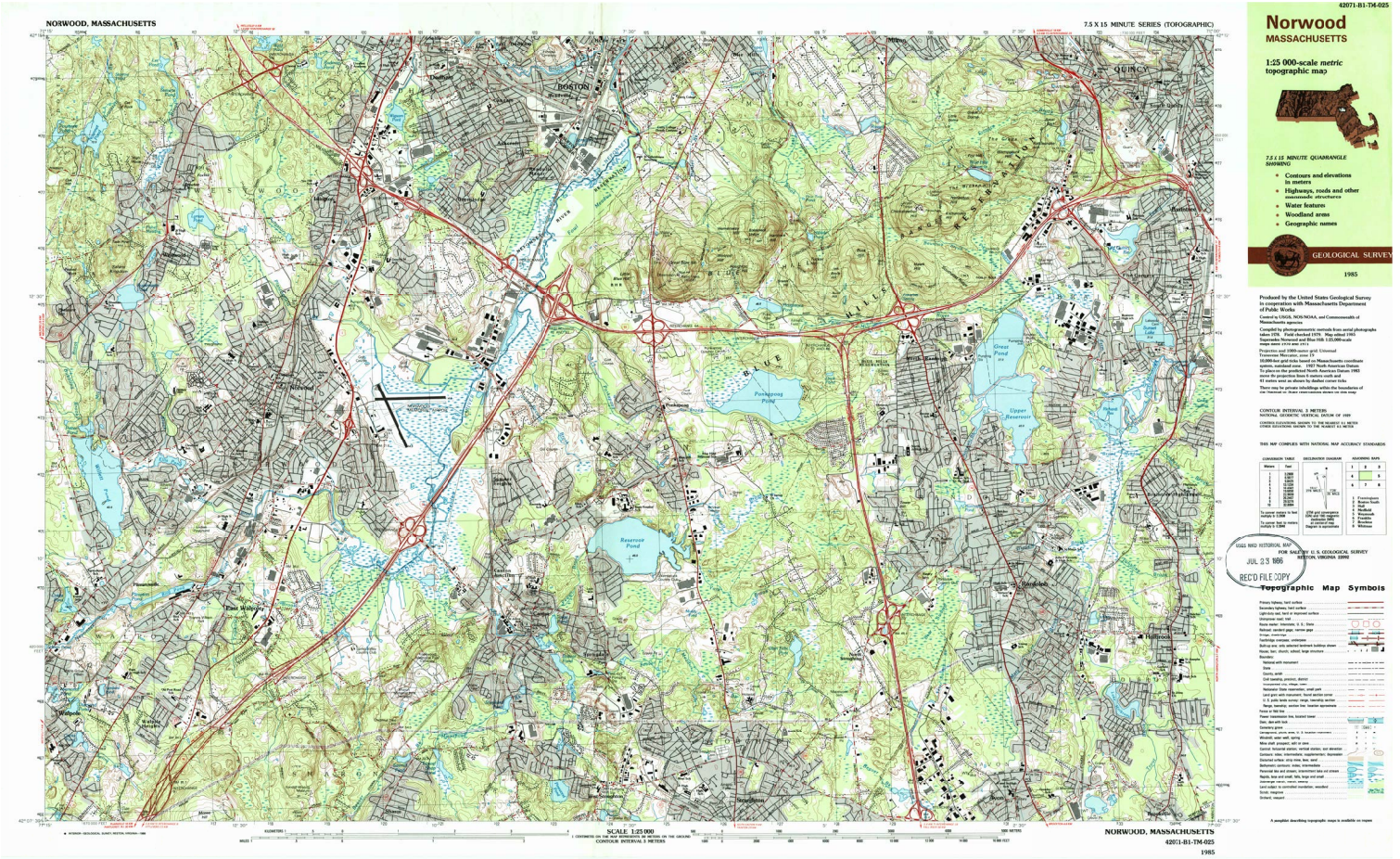
Feasibility Study & Long Range Plan - Norwood Public Schools



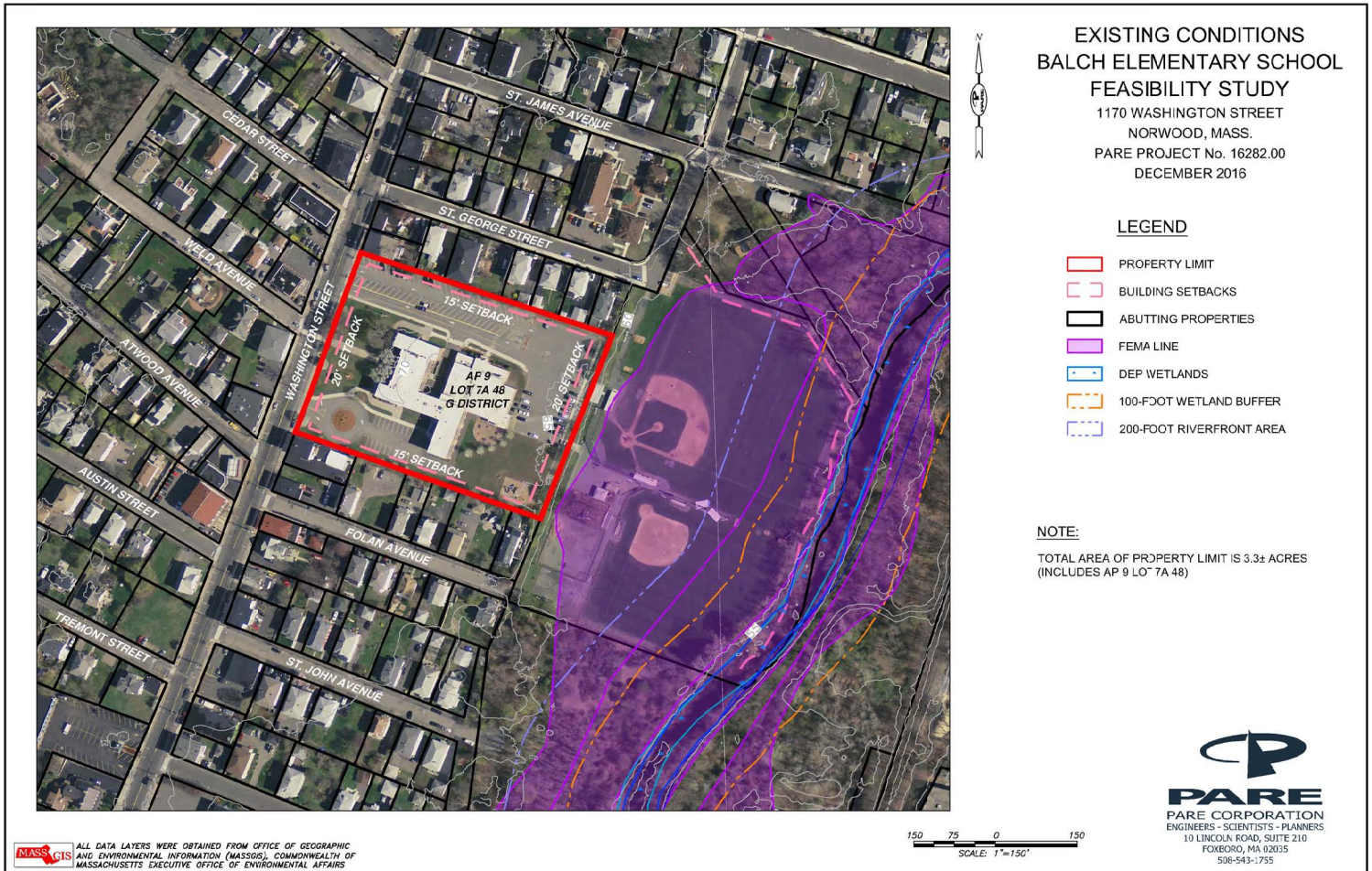
Feasibility Study & Long Range Plan - Norwood Public Schools



Feasibility Study & Long Range Plan - Norwood Public Schools



Supplemental Site Analysis: Balch



**EXISTING CONDITIONS
BALCH ELEMENTARY SCHOOL
FEASIBILITY STUDY**
1170 WASHINGTON STREET
NORWOOD, MASS.
PARE PROJECT No. 16282.00
DECEMBER 2016

- LEGEND**
- PROPERTY LIMIT
 - BUILDING SETBACKS
 - ABUTTING PROPERTIES
 - FEMA LINE
 - DEP WETLANDS
 - 100-FOOT WETLAND BUFFER
 - 200-FOOT RIVERFRONT AREA

NOTE:
TOTAL AREA OF PROPERTY LIMIT IS 3.3± ACRES
(INCLUDES AP 9 LOT 7A 48)

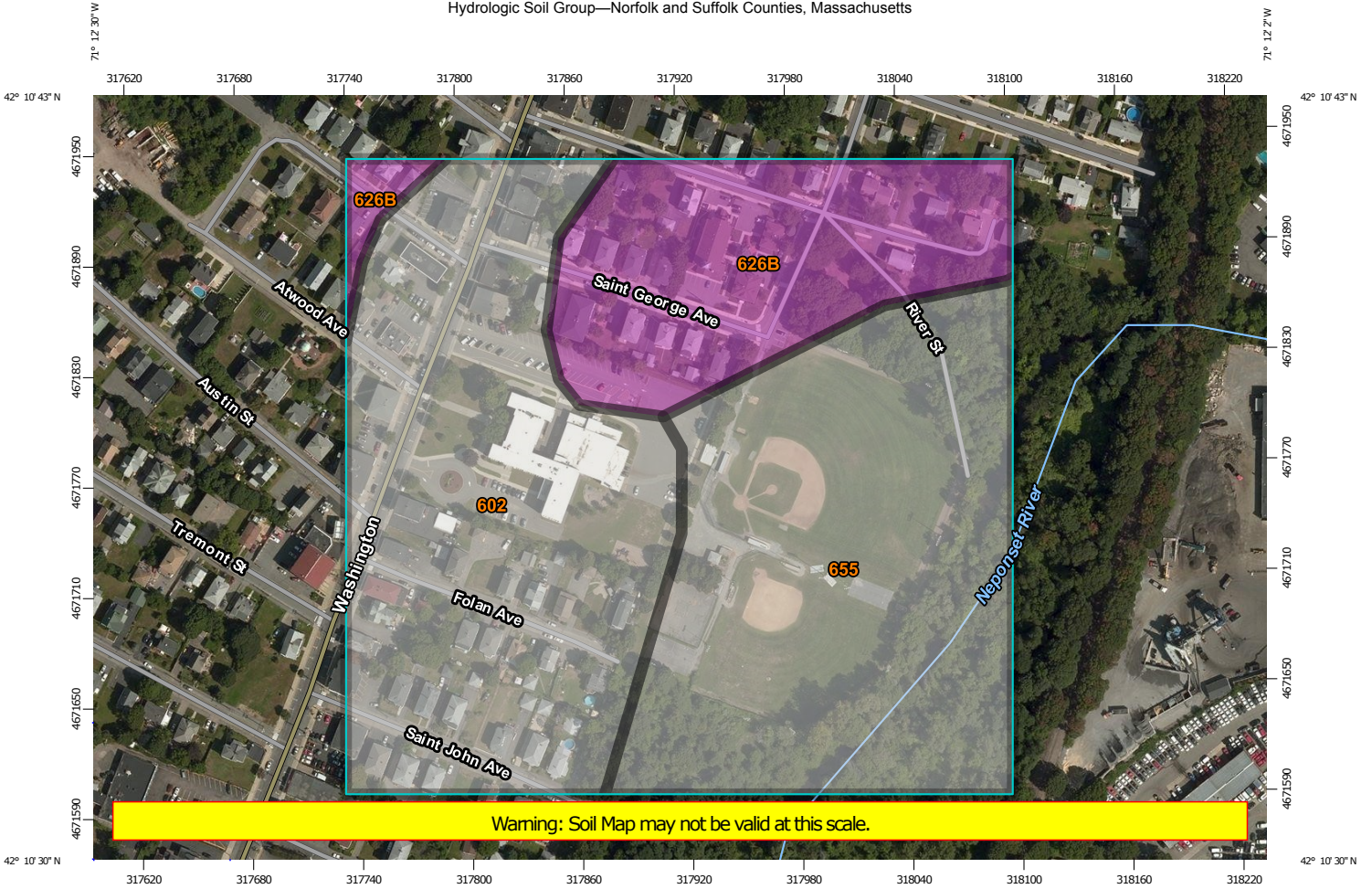
MASS GIS ALL DATA LAYERS WERE OBTAINED FROM OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS

150 75 0 150
SCALE: 1"=150'

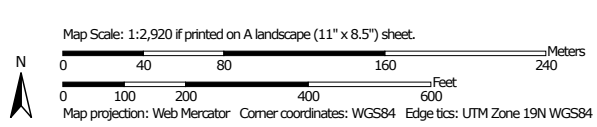
PARE
PARE CORPORATION
ENGINEERS - SCIENTISTS - PLANNERS
10 LINCOLN ROAD, SUITE 210
FOXBORO, MA 02035
508-543-1755

Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



Warning: Soil Map may not be valid at this scale.



USDA
Natural Resources
Conservation Service

































Web Soil Survey
National Cooperative Soil Survey

12/6/2016
Page 1 of 4

Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND

- Area of Interest (AOI)**
-  Area of Interest (AOI)
- Soils**
- Soil Rating Polygons**
-  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
- Soil Rating Lines**
-  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
- Soil Rating Points**
-  A
 -  A/D
 -  B
 -  B/D
- Soils**
-  C
 -  C/D
 -  D
 -  Not rated or not available
- Water Features**
-  Streams and Canals
- Transportation**
-  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
-  Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
 Survey Area Data: Version 12, Sep 15, 2016

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

Date(s) aerial images were photographed: Aug 26, 2014—Sep 4, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

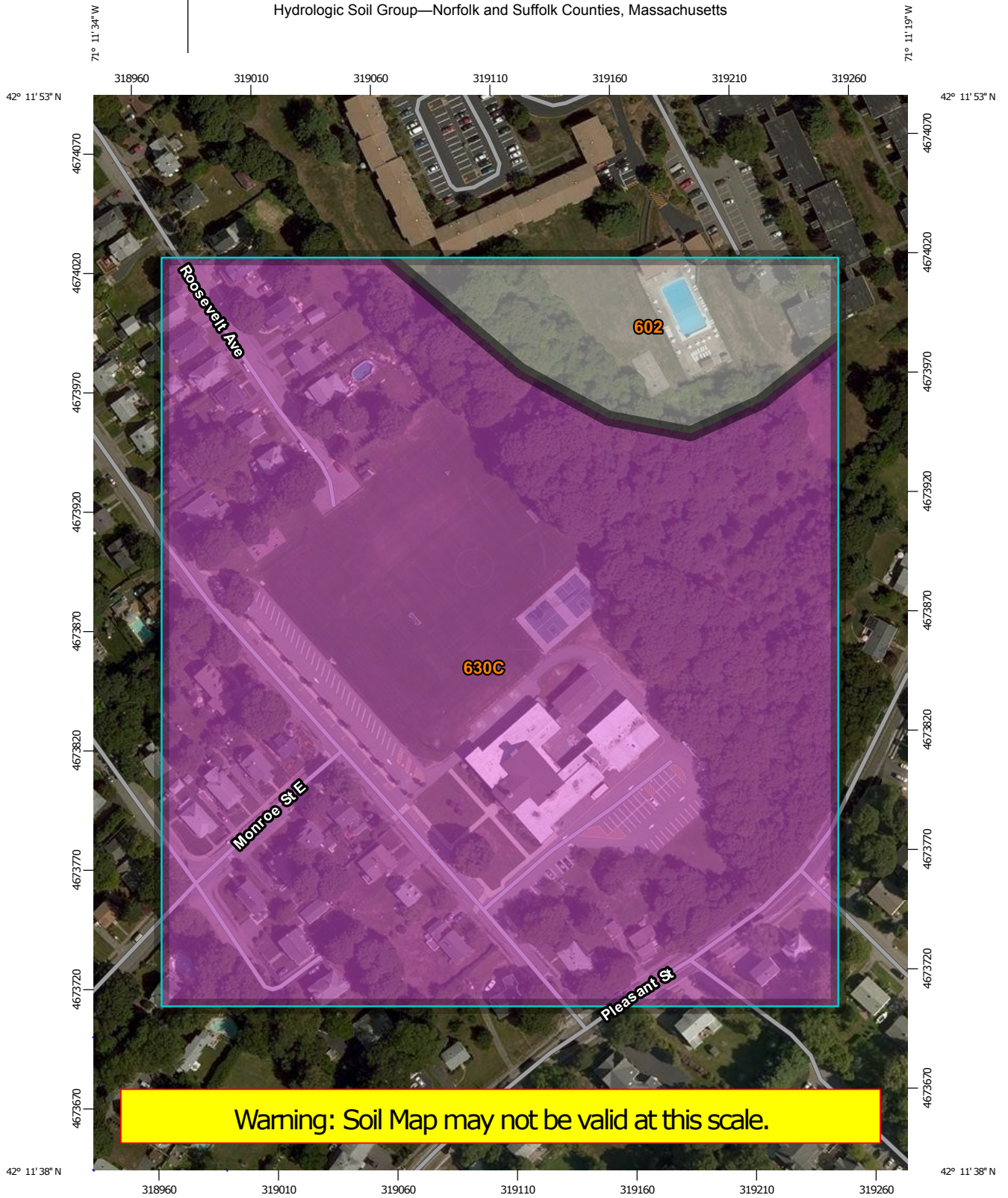
Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
602	Urban land, 0 to 15 percent slopes		12.3	39.6%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	A	6.8	21.8%
655	Udorthents, wet substratum		12.0	38.6%
Totals for Area of Interest			31.1	100.0%

Supplemental Site Analysis: Callahan

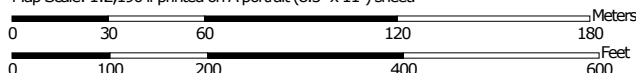


Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



Map Scale: 1:2,190 if printed on A portrait (8.5" x 11") sheet.



































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

Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND

Area of Interest (AOI)		 C	C
 Area of Interest (AOI)		 C/D	C/D
Soils		 D	D
Soil Rating Polygons		 Not rated or not available	Not rated or not available
 A		Water Features	
 A/D		 Streams and Canals	Streams and Canals
 B		Transportation	
 B/D		 Rails	Rails
 C		 Interstate Highways	Interstate Highways
 C/D		 US Routes	US Routes
 D		 Major Roads	Major Roads
 Not rated or not available		 Local Roads	Local Roads
Soil Rating Lines		Background	
 A		 Aerial Photography	Aerial Photography
 A/D			
 B			
 B/D			
 C			
 C/D			
 D			
 Not rated or not available			
Soil Rating Points			
 A			
 A/D			
 B			
 B/D			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

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Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

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Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
 Survey Area Data: Version 12, Sep 15, 2016

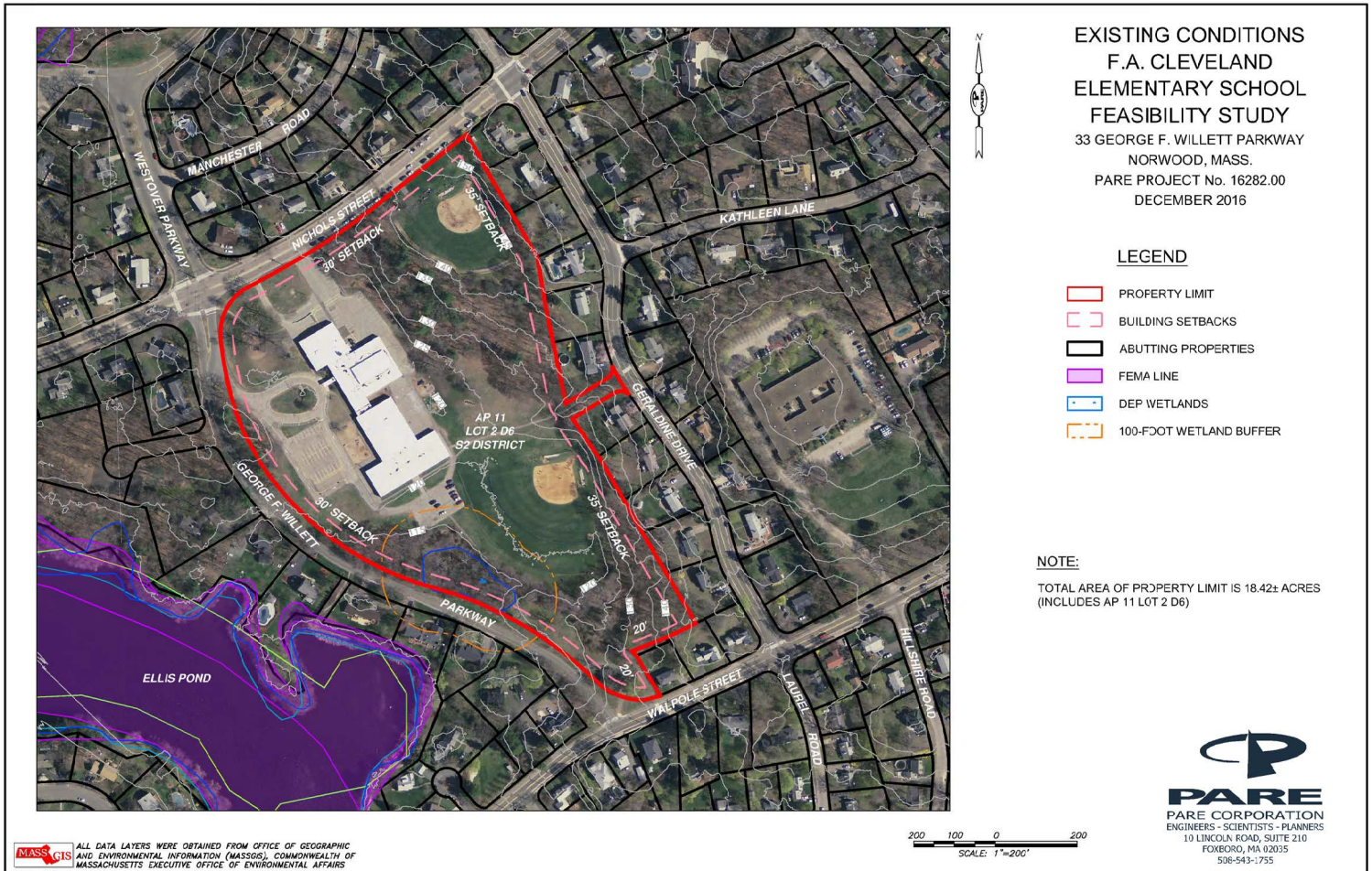
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

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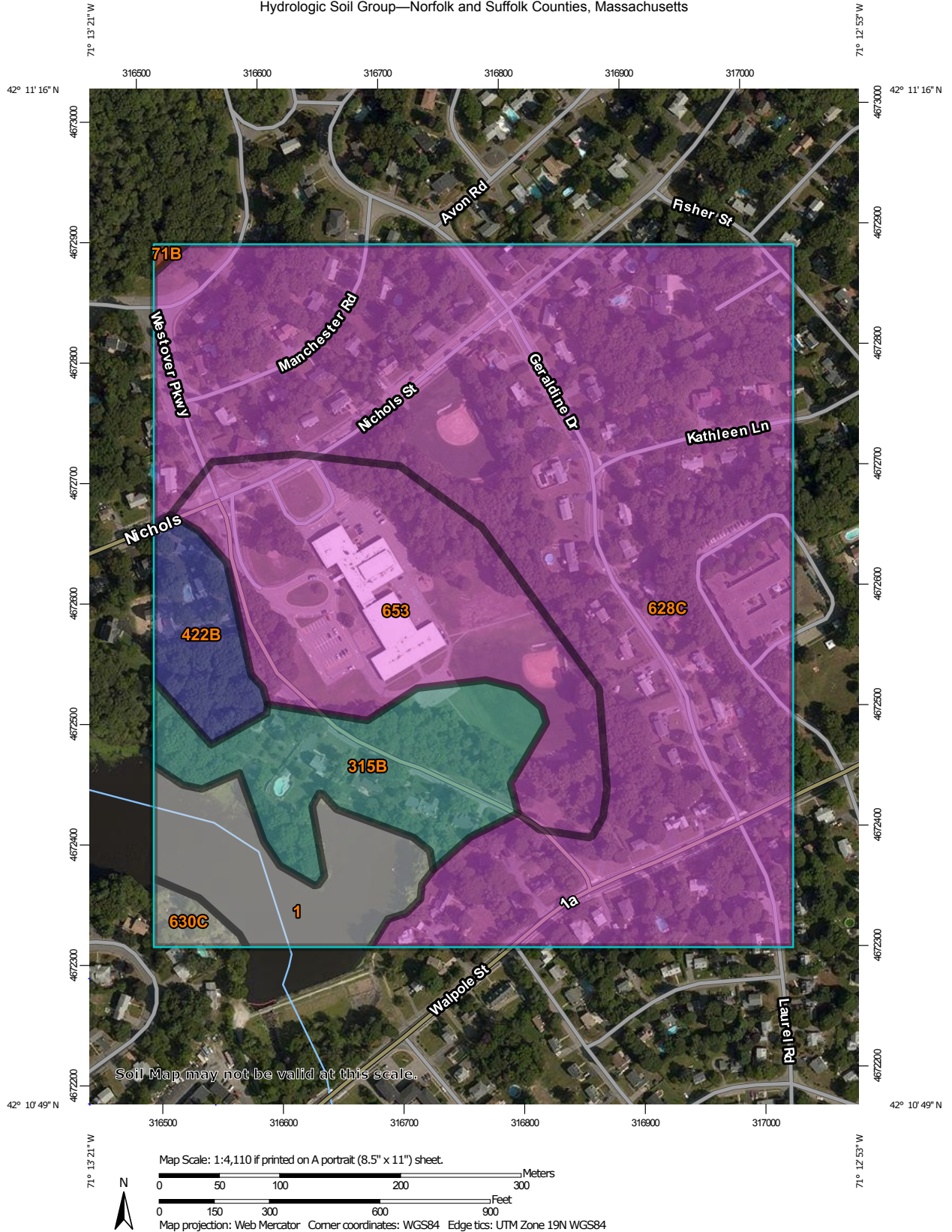
Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
602	Urban land, 0 to 15 percent slopes		2.3	10.5%
630C	Charlton-Hollis-Urban land complex, 3 to 15 percent slopes	A	19.7	89.5%
Totals for Area of Interest			22.0	100.0%

Supplemental Site Analysis: Cleveland



Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND

Area of Interest (AOI)		C	C
Area of Interest (AOI)		C/D	C/D
Soils		D	D
Soil Rating Polygons		Not rated or not available	Not rated or not available
A	A	Water Features	
A/D	A/D	Streams and Canals	
B	B	Transportation	
B/D	B/D	Rails	
C	C	Interstate Highways	
C/D	C/D	US Routes	
D	D	Major Roads	
Not rated or not available	Not rated or not available	Local Roads	
Soil Rating Lines		Background	
A	A	Aerial Photography	
A/D	A/D		
B	B		
B/D	B/D		
C	C		
C/D	C/D		
D	D		
Not rated or not available	Not rated or not available		
Soil Rating Points			
A	A		
A/D	A/D		
B	B		
B/D	B/D		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
Survey Area Data: Version 12, Sep 15, 2016

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

Date(s) aerial images were photographed: Aug 26, 2014—Sep 4, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)

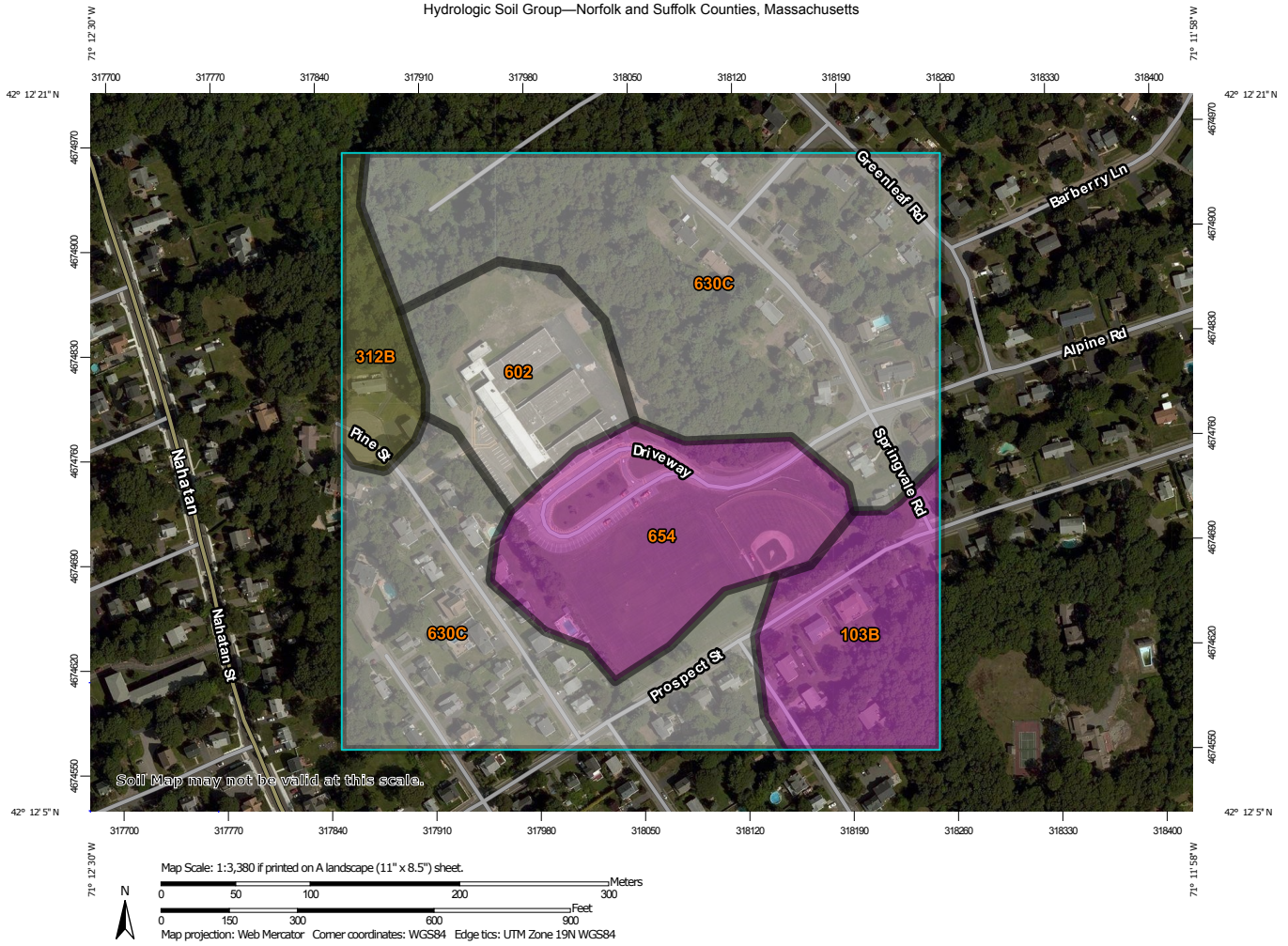
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1	Water		5.1	6.6%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	D	0.1	0.1%
315B	Scituate fine sandy loam, 3 to 8 percent slopes	C	7.4	9.7%
422B	Canton fine sandy loam, 0 to 8 percent slopes, extremely stony	B	2.9	3.8%
628C	Canton-Urban land complex, 3 to 15 percent slopes	A	46.9	61.2%
630C	Charlton-Hollis-Urban land complex, 3 to 15 percent slopes		0.7	0.9%
653	Udorthents, sandy	A	13.6	17.7%
Totals for Area of Interest			76.7	100.0%

Supplemental Site Analysis: Oldham



Feasibility Study & Long Range Plan - Norwood Public Schools


Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



Feasibility Study & Long Range Plan - Norwood Public Schools









Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND









Area of Interest (AOI)
 Area of Interest (AOI)

Soils





Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
 Survey Area Data: Version 12, Sep 15, 2016

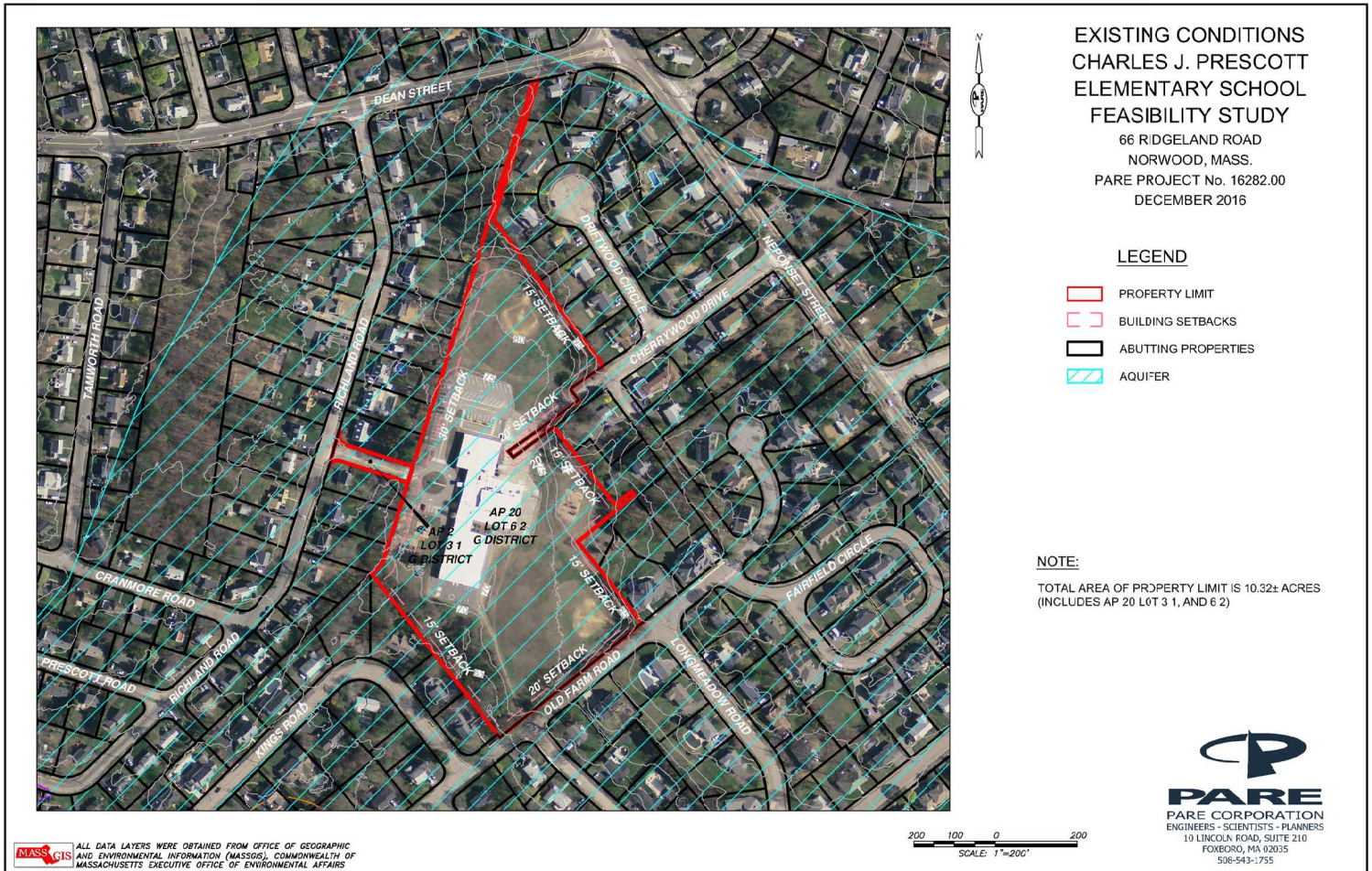
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 10, 2014—Aug 25, 2014

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Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	A	4.4	11.0%
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	C/D	1.8	4.6%
602	Urban land, 0 to 15 percent slopes		4.0	10.0%
630C	Charlton-Hollis-Urban land complex, 3 to 15 percent slopes		23.2	58.5%
654	Udorthents, loamy	A	6.3	15.9%
Totals for Area of Interest			39.8	100.0%

Supplemental Site Analysis: Prescott



EXISTING CONDITIONS
CHARLES J. PRESCOTT
ELEMENTARY SCHOOL
FEASIBILITY STUDY
 66 RIDGELAND ROAD
 NORWOOD, MASS.
 PARE PROJECT No. 16282.00
 DECEMBER 2016

LEGEND

- PROPERTY LIMIT
- BUILDING SETBACKS
- ABUTTING PROPERTIES
- AQUIFER

NOTE:

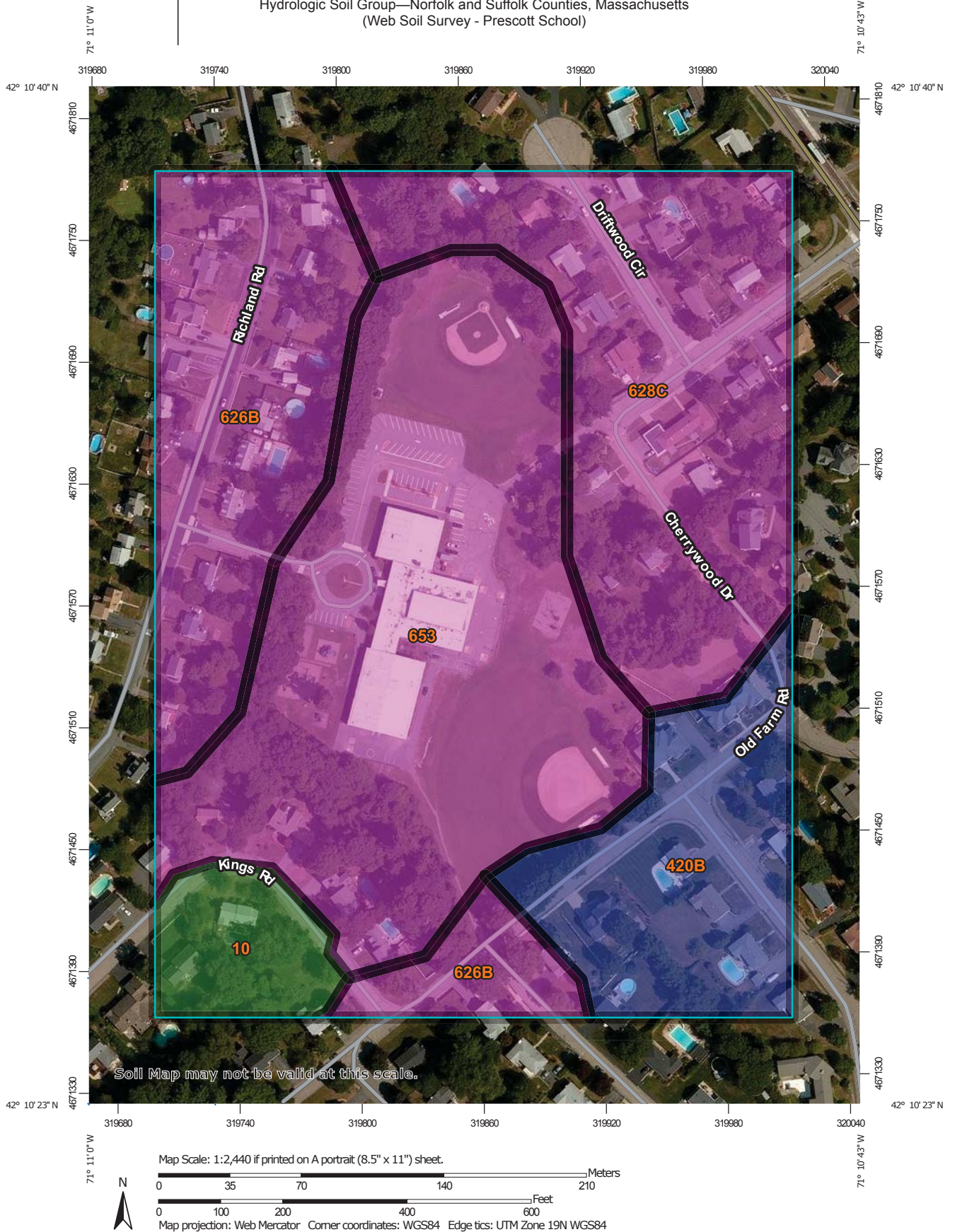
TOTAL AREA OF PROPERTY LIMIT IS 10.32± ACRES
 (INCLUDES AP 20 LOT 3 1, AND 6 2)

MASS GIS ALL DATA LAYERS WERE OBTAINED FROM OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS.

PARE
 PARE CORPORATION
 ENGINEERS - SCIENTISTS - PLANNERS
 10 LINCOLN ROAD, SUITE 210
 FOXBORO, MA 02035
 508-543-1755

Feasibility Study & Long Range Plan - Norwood Public Schools

































Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts
(Web Soil Survey - Prescott School)



Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts
(Web Soil Survey - Prescott School)

MAP LEGEND

Area of Interest (AOI)		 C	
 Area of Interest (AOI)		 C/D	
Soils		 D	
Soil Rating Polygons		 Not rated or not available	
 A		Water Features	
 A/D		 Streams and Canals	
 B		Transportation	
 B/D		 Rails	
 C		 Interstate Highways	
 C/D		 US Routes	
 D		 Major Roads	
 Not rated or not available		 Local Roads	
Soil Rating Lines		Background	
 A		 Aerial Photography	
 A/D			
 B			
 B/D			
 C			
 C/D			
 D			
 Not rated or not available			
Soil Rating Points			
 A			
 A/D			
 B			
 B/D			

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
Survey Area Data: Version 12, Sep 15, 2016

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

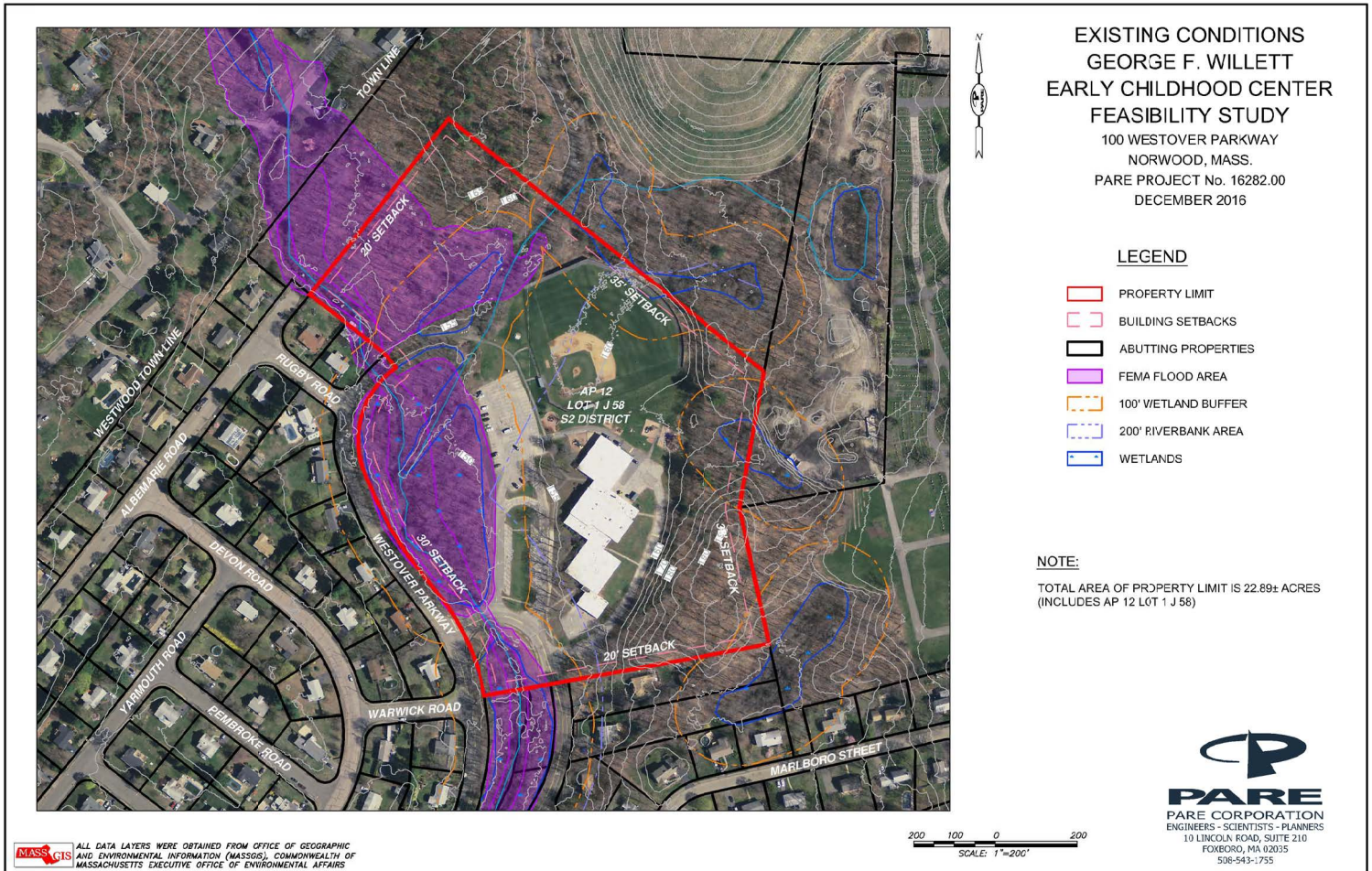
Date(s) aerial images were photographed: Aug 26, 2014—Sep 4, 2014

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Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)

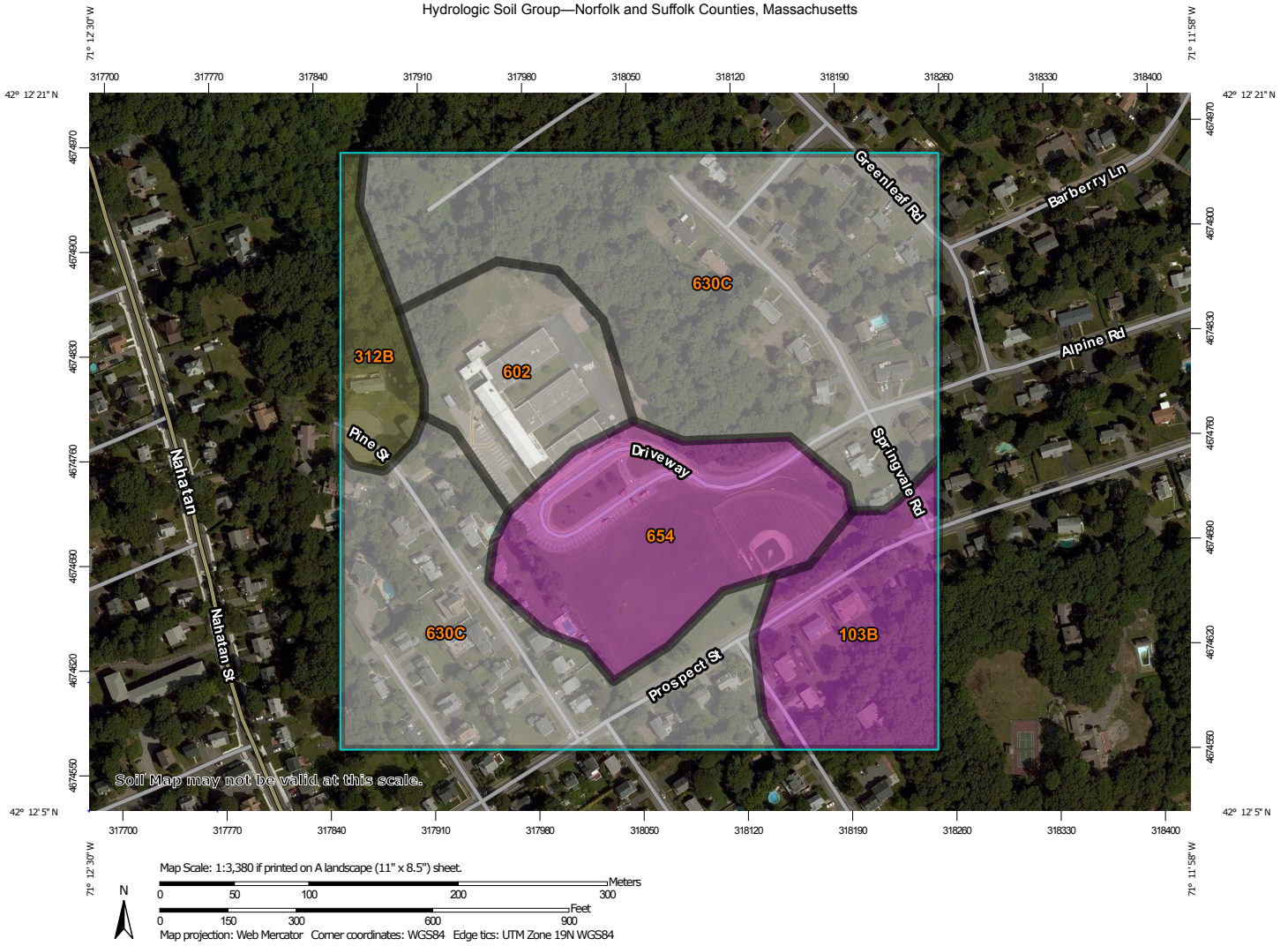
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
10	Scarboro and Birdsall soils, 0 to 3 percent slopes	A/D	1.5	4.6%
420B	Canton fine sandy loam, 3 to 8 percent slopes	B	4.2	12.8%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	A	6.6	20.5%
628C	Canton-Urban land complex, 3 to 15 percent slopes	A	8.0	24.7%
653	Udorthents, sandy	A	12.1	37.5%
Totals for Area of Interest			32.4	100.0%

Supplemental Site Analysis: Willett



Feasibility Study & Long Range Plan - Norwood Public Schools


Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



Feasibility Study & Long Range Plan - Norwood Public Schools









Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND









Area of Interest (AOI)
 Area of Interest (AOI)

Soils





Soil Rating Polygons

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points

-  A
-  A/D
-  B
-  B/D

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

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Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

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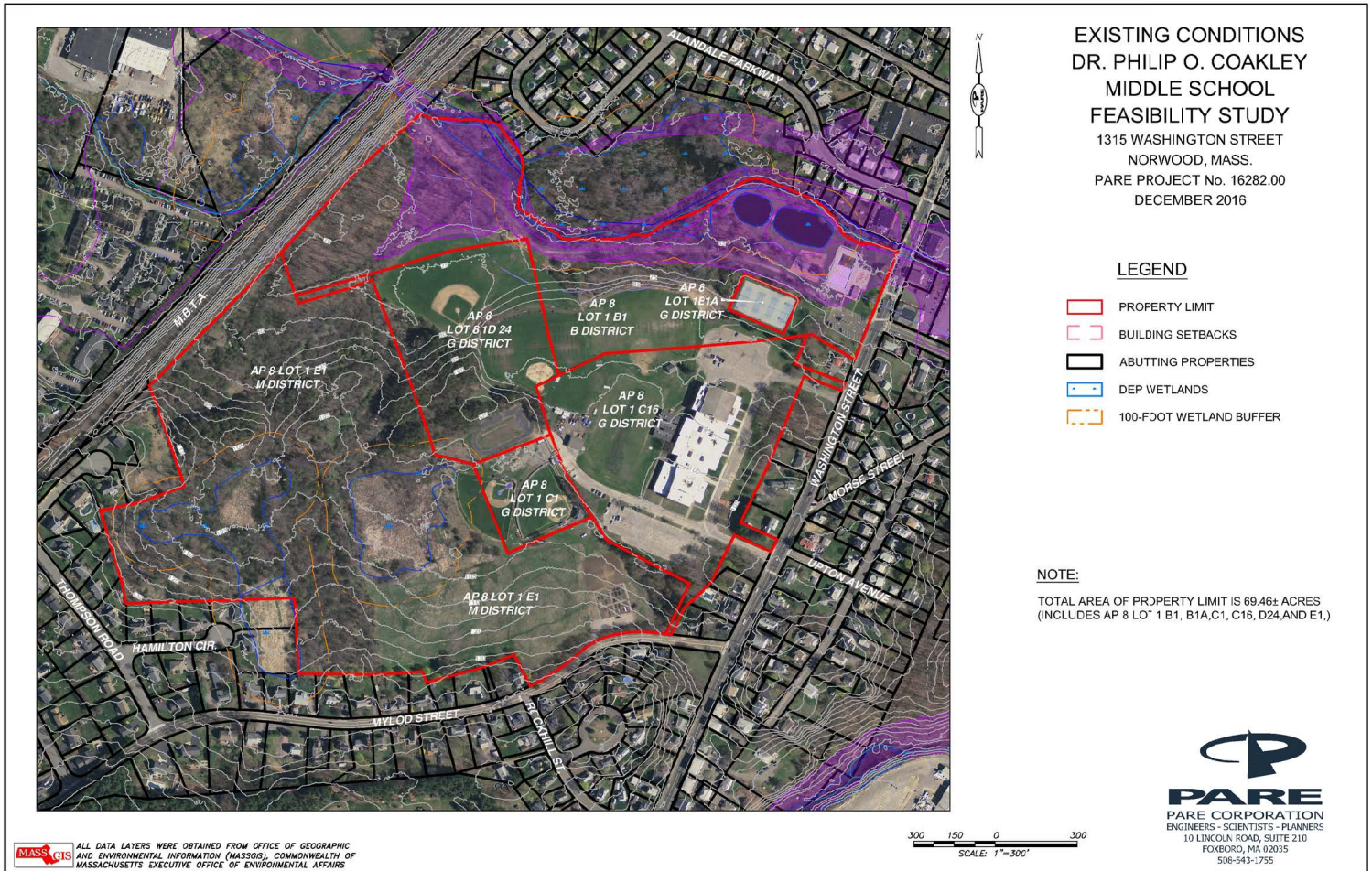
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Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	A	4.4	11.0%
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	C/D	1.8	4.6%
602	Urban land, 0 to 15 percent slopes		4.0	10.0%
630C	Charlton-Hollis-Urban land complex, 3 to 15 percent slopes		23.2	58.5%
654	Udorthents, loamy	A	6.3	15.9%
Totals for Area of Interest			39.8	100.0%

Supplemental Site Analysis: Coakley



Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



































USDA
 Natural Resources
 Conservation Service

Web Soil Survey
 National Cooperative Soil Survey

1/19/2017
 Page 1 of 4

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND

Area of Interest (AOI)		 C	C
	Area of Interest (AOI)	 C/D	C/D
Soils		 D	D
Soil Rating Polygons			Not rated or not available
	A	Water Features	
	A/D		Streams and Canals
	B	Transportation	
	B/D		Rails
	C		Interstate Highways
	C/D		US Routes
	D		Major Roads
	Not rated or not available		Local Roads
Soil Rating Lines		Background	
	A		Aerial Photography
	A/D		
	B		
	B/D		
	C		
	C/D		
	D		
	Not rated or not available		
Soil Rating Points			
	A		
	A/D		
	B		
	B/D		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:25,000.

Warning: Soil Map may not be valid at this scale.

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Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts
 Survey Area Data: Version 12, Sep 15, 2016

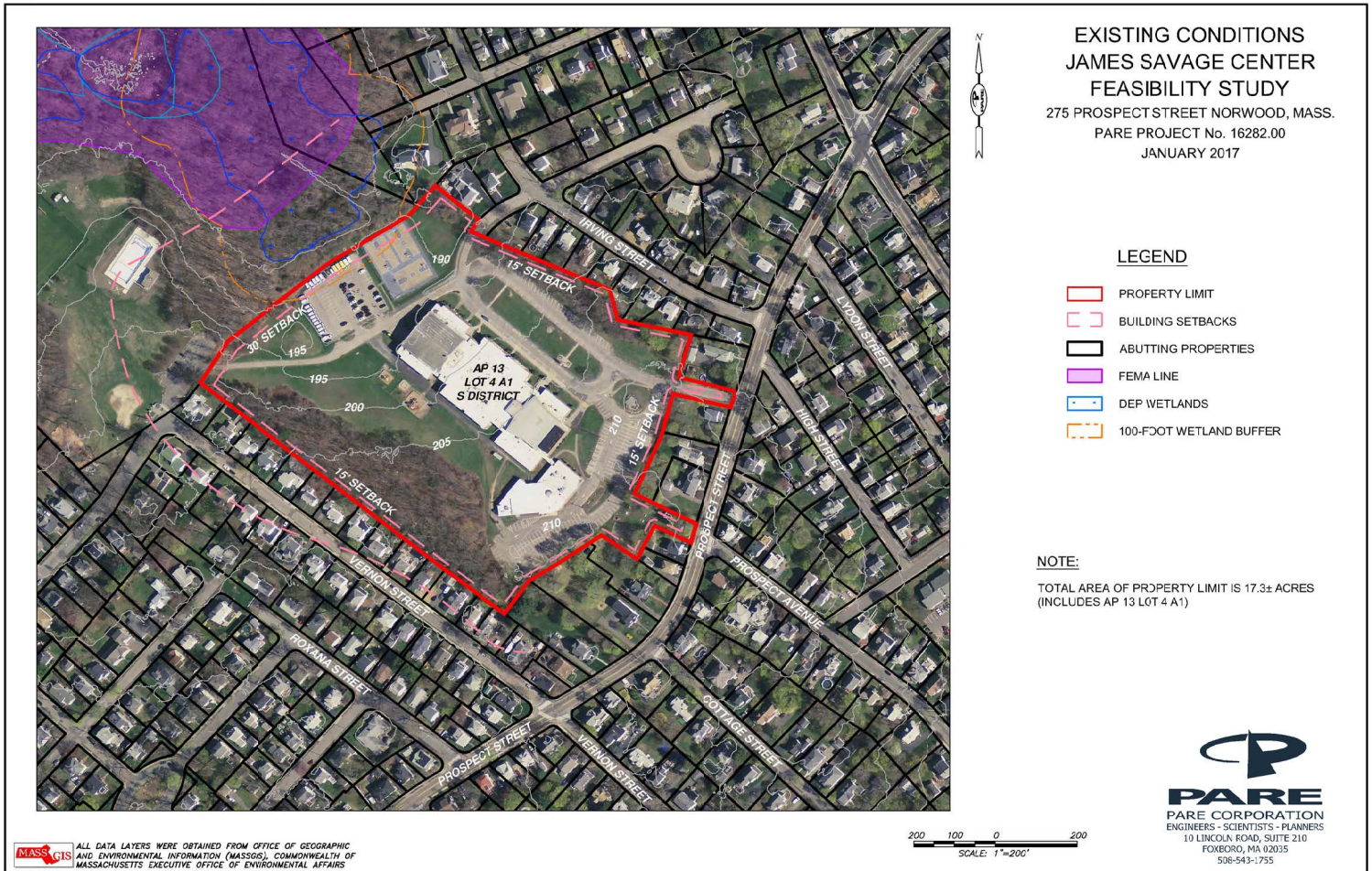
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 26, 2014—Sep 4, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group— Summary by Map Unit — Norfolk and Suffolk Counties, Massachusetts (MA616)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
4	Rippowam silt loam, 0 to 3 percent slopes	A/D	18.3	9.1%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	D	0.1	0.0%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	11.5	5.7%
103B	Charlton-Hollis-Rock outcrop complex, 3 to 8 percent slopes	A	0.0	0.0%
103C	Charlton-Hollis-Rock outcrop complex, 8 to 15 percent slopes	B	10.5	5.2%
251B	Haven silt loam, 3 to 8 percent slopes	B	11.6	5.8%
305B	Paxton fine sandy loam, 3 to 8 percent slopes	C	30.6	15.3%
305C	Paxton fine sandy loam, 8 to 15 percent slopes	C	5.0	2.5%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	C/D	9.4	4.7%
420D	Canton fine sandy loam, 15 to 35 percent slopes	A	3.1	1.6%
602	Urban land, 0 to 15 percent slopes		8.0	4.0%
603	Urban land, wet substratum, 0 to 3 percent slopes		1.0	0.5%
626B	Merrimac-Urban land complex, 0 to 8 percent slopes	A	27.9	13.9%
628C	Canton-Urban land complex, 3 to 15 percent slopes	A	30.7	15.3%
653	Udorthents, sandy	A	16.2	8.1%
654	Udorthents, loamy	A	16.4	8.2%
Totals for Area of Interest			200.3	100.0%

Supplemental Site Analysis: Savage



EXISTING CONDITIONS
JAMES SAVAGE CENTER
FEASIBILITY STUDY
 275 PROSPECT STREET NORWOOD, MASS.
 PARE PROJECT No. 16282.00
 JANUARY 2017

- LEGEND**
- PROPERTY LIMIT
 - BUILDING SETBACKS
 - ABUTTING PROPERTIES
 - FEMA LINE
 - DEP WETLANDS
 - 100-FOOT WETLAND BUFFER

NOTE:
 TOTAL AREA OF PROPERTY LIMIT IS 17.3± ACRES
 (INCLUDES AP 13 LOT 4 A1)

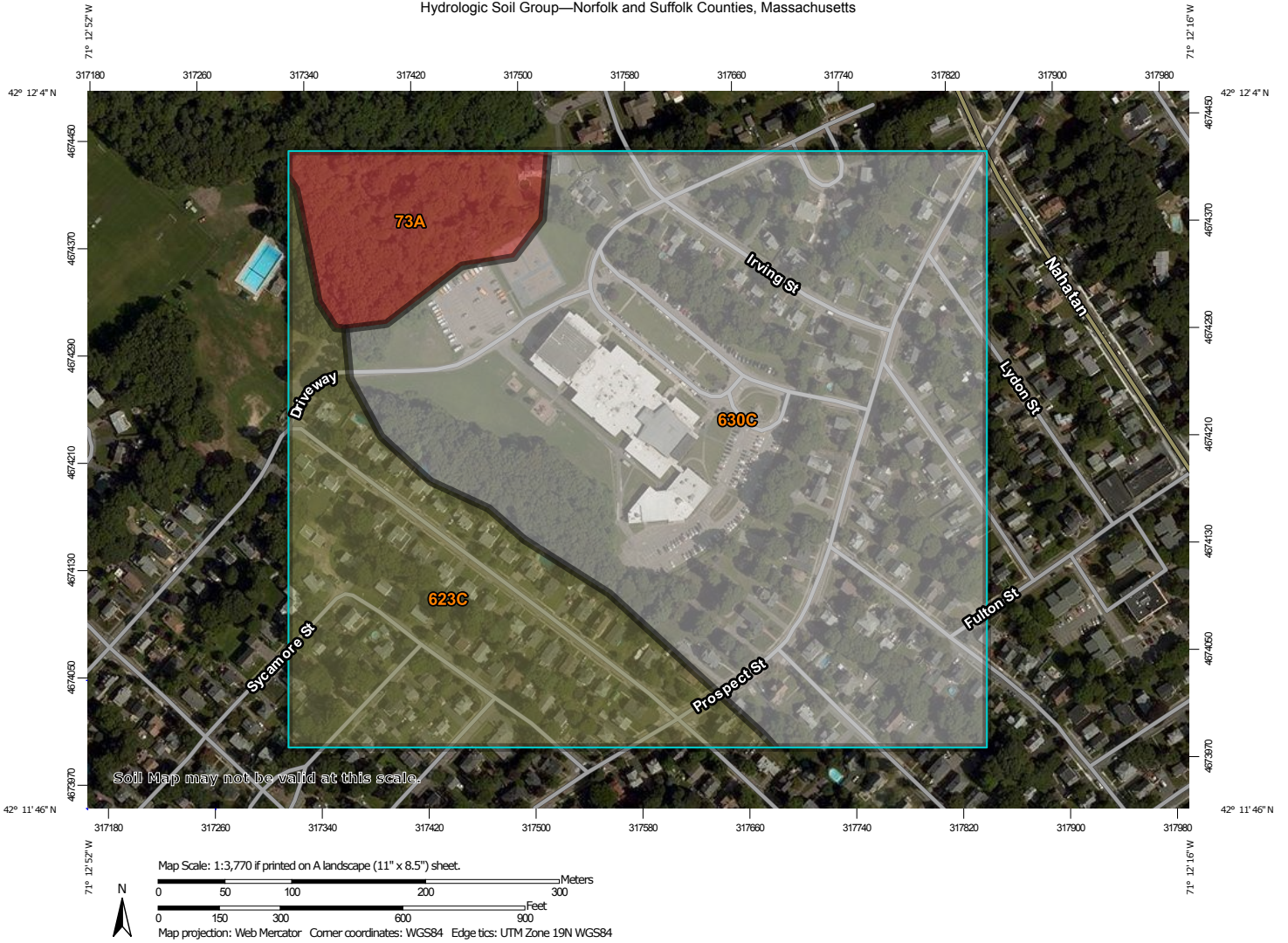
MASS GIS ALL DATA LAYERS WERE OBTAINED FROM OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MASSGIS), COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS.

200 100 0 200
 SCALE: 1"=200'

PARE
 PARE CORPORATION
 ENGINEERS - SCIENTISTS - PLANNERS
 10 LINCOLN ROAD, SUITE 210
 FOXBORO, MA 02035
 508-543-1755

Feasibility Study & Long Range Plan - Norwood Public Schools

Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts



Hydrologic Soil Group—Norfolk and Suffolk Counties, Massachusetts

MAP LEGEND		MAP INFORMATION	
<p>Area of Interest (AOI)</p> <p> Area of Interest (AOI)</p> <p>Soils</p> <p>Soil Rating Polygons</p> <ul style="list-style-type: none"> A A/D B B/D C C/D D Not rated or not available <p>Soil Rating Lines</p> <ul style="list-style-type: none"> A A/D B B/D C C/D D Not rated or not available <p>Soil Rating Points</p> <ul style="list-style-type: none"> A A/D B B/D 	<ul style="list-style-type: none"> C C/D D Not rated or not available <p>Water Features</p> <ul style="list-style-type: none"> Streams and Canals <p>Transportation</p> <ul style="list-style-type: none"> Rails Interstate Highways US Routes Major Roads Local Roads <p>Background</p> <ul style="list-style-type: none"> Aerial Photography 	<p>The soil surveys that comprise your AOI were mapped at 1:25,000.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Warning: Soil Map may not be valid at this scale.</p> <p>Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.</p> </div> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Norfolk and Suffolk Counties, Massachusetts Survey Area Data: Version 12, Sep 15, 2016</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Aug 10, 2014—Sep 4, 2014</p> <p>The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.</p>	

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Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	4.6	8.0%
623C	Woodbridge-Urban land complex, 3 to 15 percent slopes	C/D	14.5	25.1%
630C	Charlton-Hollis-Urban land complex, 3 to 15 percent slopes		38.6	66.9%
Totals for Area of Interest			57.7	100.0%

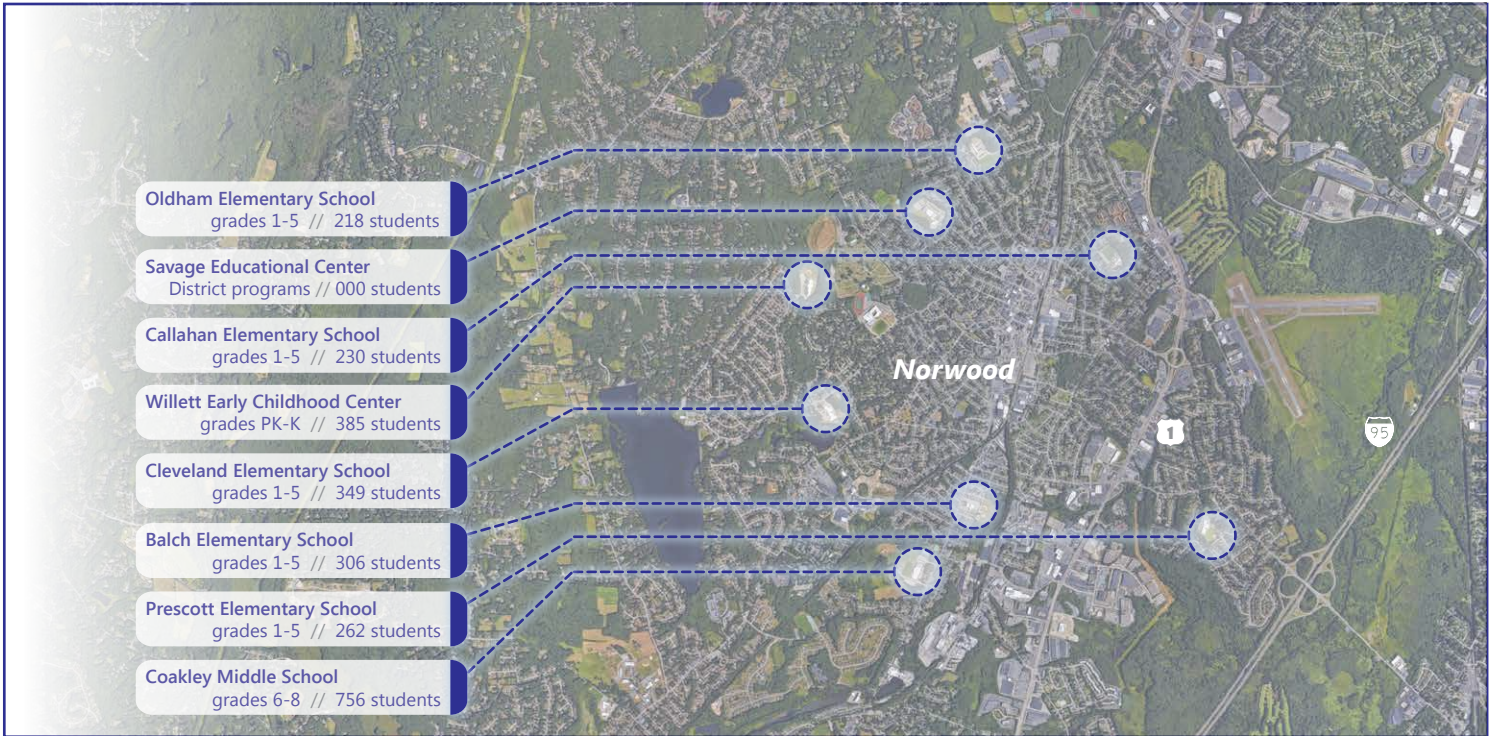
School Committee Presentation

from August 16, 2017



*Norwood Public Schools
Summary of Final Long Range Study
August 2017*





Evaluate Existing Conditions

I. What are the factors affecting Building Performance?

Capital Repairs & Improvements

- // Scheduled replacement of building systems and components
- // Technology and security improvements
- // Review and redistribution of space needs
- // Site and landscape improvements
- // Phased renovations of portions of a school

School	Exist. Square ft	Capital Repair Cost
Balch ES	51,800	\$6,073,550
Callahan ES	33,500	\$3,927,875
Cleveland ES	49,000	\$5,745,250
Oldham ES	39,500	\$4,631,375
Prescott ES	36,000	\$4,221,000
Willett	38,500	\$4,514,125
Coakley MS	128,000	\$15,008,000
Savage Center	122,000	\$14,304,500
Total		\$58,425,675

II. What are the factors affecting Functional Performance?

Physical Size vs. Population

// When the total square footage is divided by the student population, and each student isn't receiving a comfortable amount of square feet

// Norwood schools currently over-crowded are:

↓

Cleveland Elementary School
Willett Early Childhood Center
Coakley Middle School

School	2017 Population	Square ft/ Student	Over-crowded by
Cleveland	349	140	40 students
Willett	385	100	50 students
Coakley	756	169	60 students

III. What are the factors affecting Education Performance?

21st Century Learning Environment

- // Sense of school community
- // Indoor/outdoor educational connections
- // An inclusive academic environment for all students
- // Academic learning neighborhoods
- // Collaborative environment for students/staff
- // S.T.E.A.M. integration and flexible space

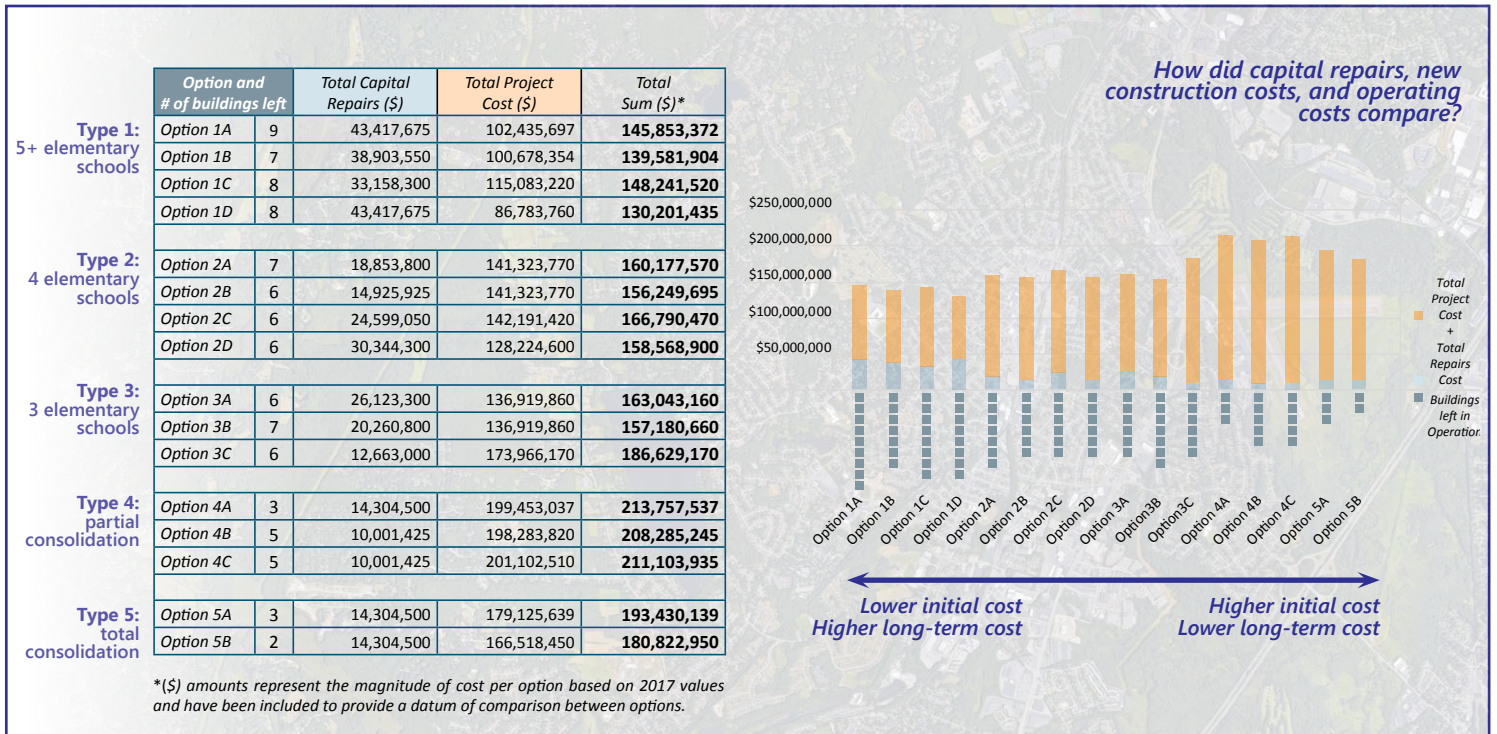
↓

Coakley Middle School

Identify Areas of Deficient Performance



Establish Types of Alternatives



Evaluate Types of Alternatives



Locate Alternatives



Reactions to Alternatives

2-4 years

Grade Configurations to address Over-Crowding

// The Willett Early Education Center will require modular classrooms to be deployed to immediately address the over-crowding there

// Whether the new middle school hosts grades 6-8 or 5-8, the decision will be made during MSBA Feasibility & Schematic Design

4-6 years

Neighborhood vs. Consolidated Schools

// The Norwood Building Committee favors a 5-8 grade configuration because it has a positive affect on all factors within the Long Range Study

↓

// The most deficient school building is addressed right away

// Over-crowding in the lower grades is alleviated when grade 5 moves to the middle school

// 66% of all Norwood students will be in school buildings that are less than 10-years-old

// The decision whether or not to consolidate the elementary schools does not need to happen until post-construction of the middle school

6-10 years

Investments & Outlook

// Capital repair costs for the middle school will be essentially non-existent in this 6-10 year phase, leaving available funds for the early ed./ elementary schools and minor high school needs

// The capital repair costs associated with maintaining all 6 early ed./elementary schools will be assessed

Looking Ahead

I. What are the factors affecting Building Performance?

Capital Repairs & Improvements

Capital Repair Required	Cost
Foundation Repairs	\$150,080
Exterior Envelope Repairs	\$2,551,360
Roof Replacement	\$1,200,640
Interior Finishes/Construction	\$3,752,000
Plumbing/Fire Prot. Replacement	\$1,500,800
HVAC Systems Replacement	\$1,800,960
Electrical/lighting Replacement	\$1,800,960
Technology Replacement	\$750,400
Hazmat Remediation (Asbestos)	\$600,320
Code Upgrades	\$600,320
Site Improvements	\$300,160
Total	\$15,008,000

II. What are the factors affecting Functional Performance?

Physical Size vs. Population

2017 Population	Existing Building GSF	Grades	Over-crowded by
756	128,000 sf	6-8	60 students

2027 Population	Required Building GSF	Grades
779	151,000 sf	6-8
1,044	180,000 sf	5-8

// Deficient Classroom Size & Building Organization

↓

Shared spaces, such as the Cafeteria and Library are also under-sized as a result

III. What are the factors affecting Education Performance?

21st Century Learning Environment

- // Deficient Transparency & Personalization
- // Deficient Indoor/Outdoor Connections
- // Deficient Collaborative Work Spaces for Students/Staff
- // Deficient S.T.E.A.M. Facilities & Project Labs
- // Deficient Media Center & School Resources
- // Deficient Performance & Language Arts Facilities

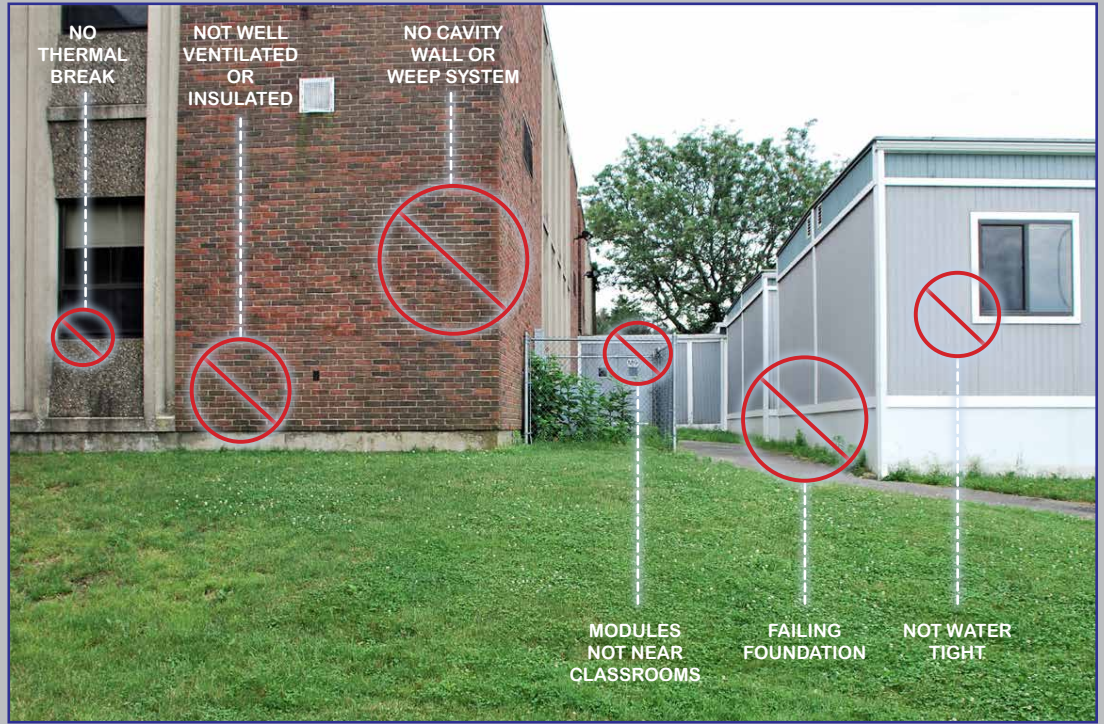
Deficient Performance at Coakley

FAIL

Existing Education Design:

- No major capital investments to improve the building envelope since its construction 42 years ago
- No insulation has been added to the roof, which will need to be replaced in the next 5-10 years
- No cavity between the brick/masonry back-up exists; potential moisture infiltration issue, plus only 1" insulation when 3"+ is best

128k sf existing gsf	180k sf recommend. gsf
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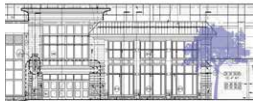


Building Performance: Deficiencies

PASS

21st Century Education Design:

- ✓ A 21st century school that is a leader in energy and environmental design
- ✓ Design of a weather-tight envelope that is more energy and cost efficient; tempered air remains inside, despite a constantly changing outdoor climate
- ✓ Use of glazing that allows for natural lighting while also providing views and pure ventilation
- ✓ A conscious awareness of the site it inhabits



Building Performance: Resolutions

FAIL
Existing Education Design:

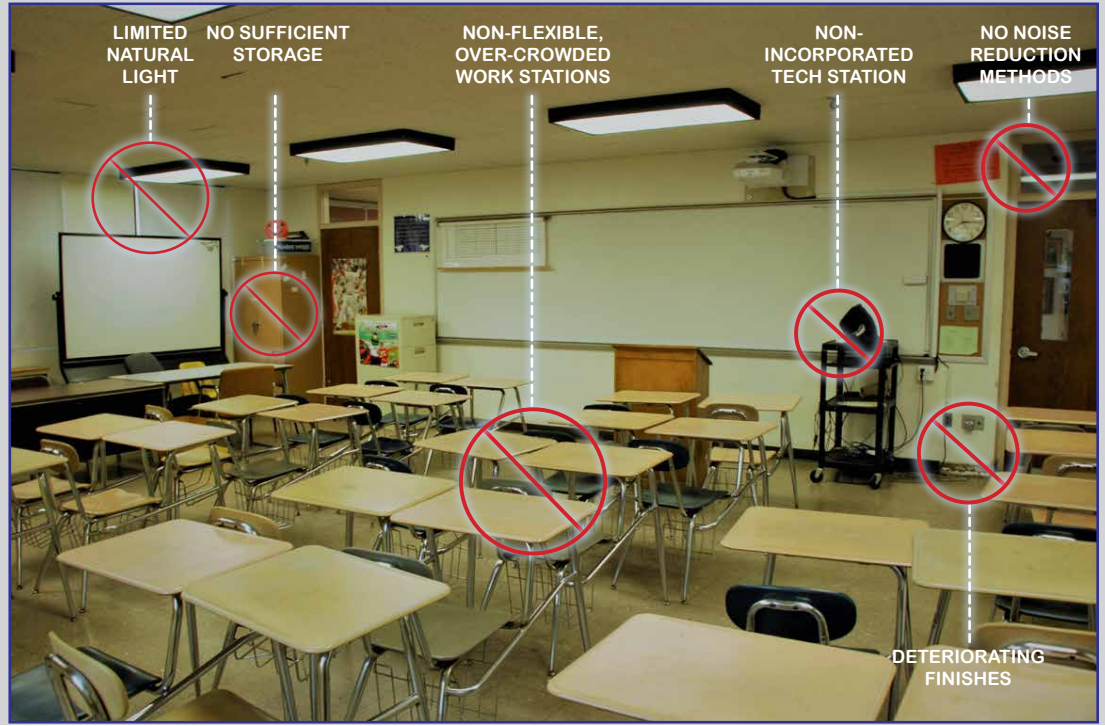
- No ability to logically organize classes into academic neighborhoods
- No sufficient storage space per classroom
- No interaction with the outdoors and little space available for arts/language
- No appropriately sized core classrooms

785 sf

existing avg

950 sf

recommend. avg



Classroom Size & Organization: Deficiencies

PASS

21st Century Education Design:

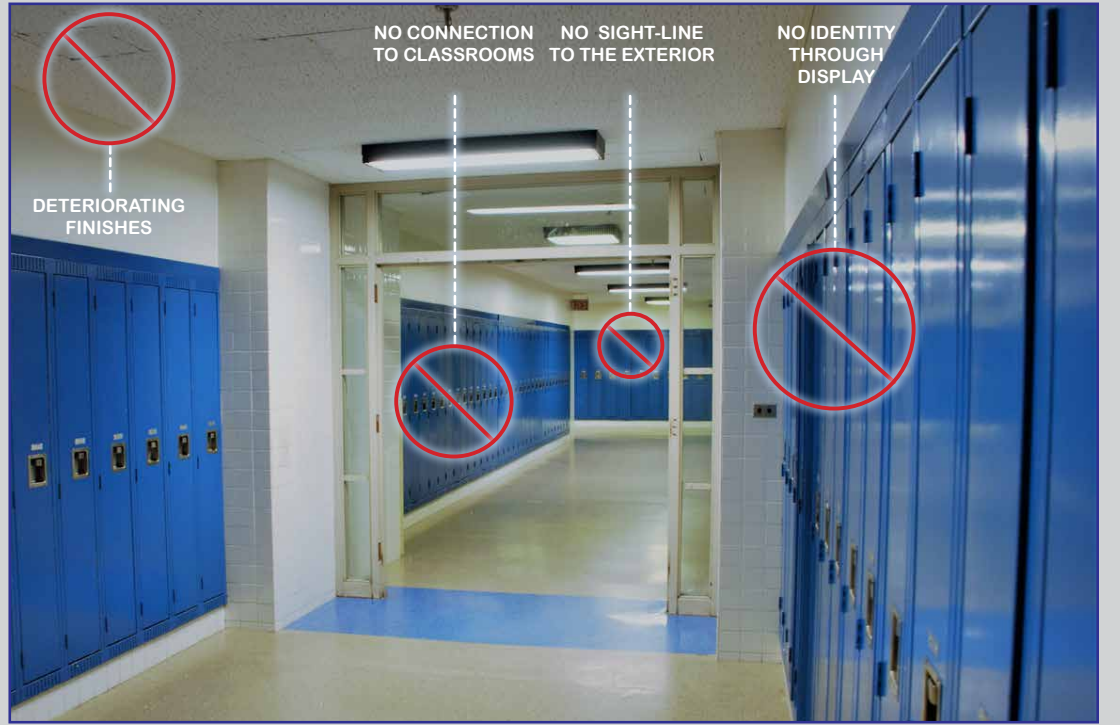
- ✓ Academic neighborhoods facilitate team teaching, way-finding, and provide a sense of community or team within the larger school setting
- ✓ Layouts are structured to include sufficient storage and furniture that is flexible for varied lesson plans
- ✓ Core classrooms are bright, spacious and equipped with the proper technology, including 1:1 device capabilities



Classroom Size & Organization: Resolutions

FAIL
Existing Education Design:

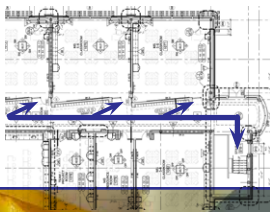
- No sign of connectivity or transparency; materials show signs of degradation and suggest that classrooms are prohibited
- No opportunity for display or flexible space because student storage consumes the corridors
- No sense of identity or life within the corridors



Transparency & Personalization: Deficiencies

PASS
21st Century Education Design:

- ✓ Modern, welcoming classroom entries that serve to showcase the learning and activity within
- ✓ Student storage is integrated in a fun and functional manner
- ✓ Corridors and classrooms are bright and contain elements that personalize the school

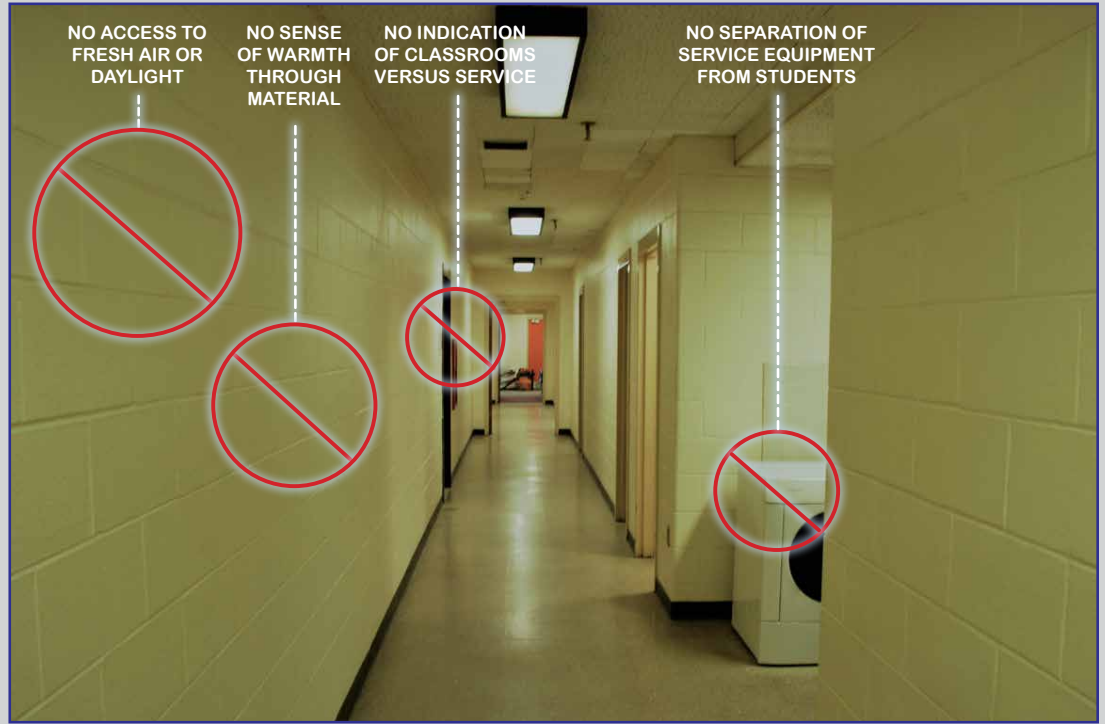


Transparency & Personalization: Resolutions

FAIL

Existing Education Design:

- No visibility to the outside of the building is disorienting
- No operable windows in classrooms that could provide fresh ventilation
- No spaces that engage indoor/outdoor learning connections
- No naturally lit classrooms; many rooms in general are land-locked without windows to the outside



Indoor/Outdoor Connections: Deficiencies

PASS

21st Century Education Design:

- ✓ Provides the natural daylight critical to students and staff who spend most of their days in a single classroom
- ✓ Operable windows and natural light to increase the performance of mechanical and electrical systems
- ✓ Classrooms that give students and staff members the sense of being outdoors, through creative strategies
- ✓ A landscaped site that offers outdoor learning environments



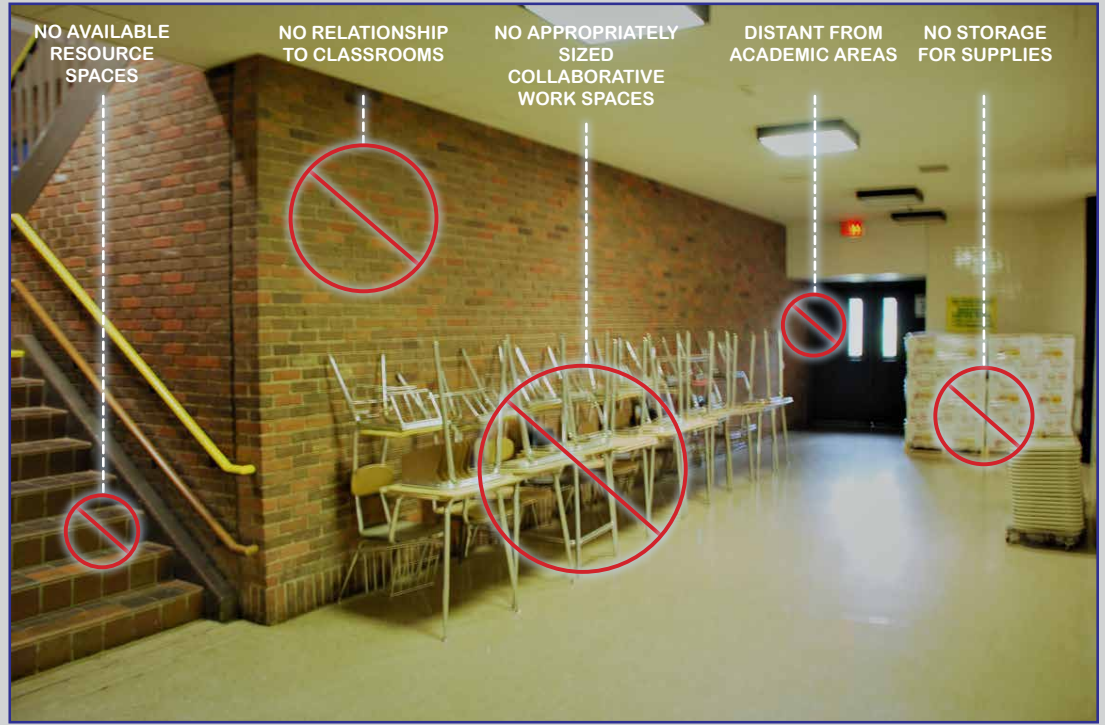
Indoor/Outdoor Connections: Resolutions

FAIL
Existing Education Design:

- No appropriately sized collaborative work spaces for either students or staff
- No visual relationship between the core classrooms and collaborative work spaces
- No furniture to accommodate flexible group settings or varied layouts
- No small group rooms, resource rooms, tiered lecture spaces, or learning labs

488 sf
existing avg

1,200 sf
recommend. avg



Collaborative Work Spaces: Deficiencies

PASS
21st Century Education Design:

- ✓ Spacious, available collaboration space that creates a positive link between teacher and student
- ✓ Collaboration spaces that are easily accessed and visible from classrooms
- ✓ Varied work settings that better assist a multitude of learning types
- ✓ Opportunities for solo or group work



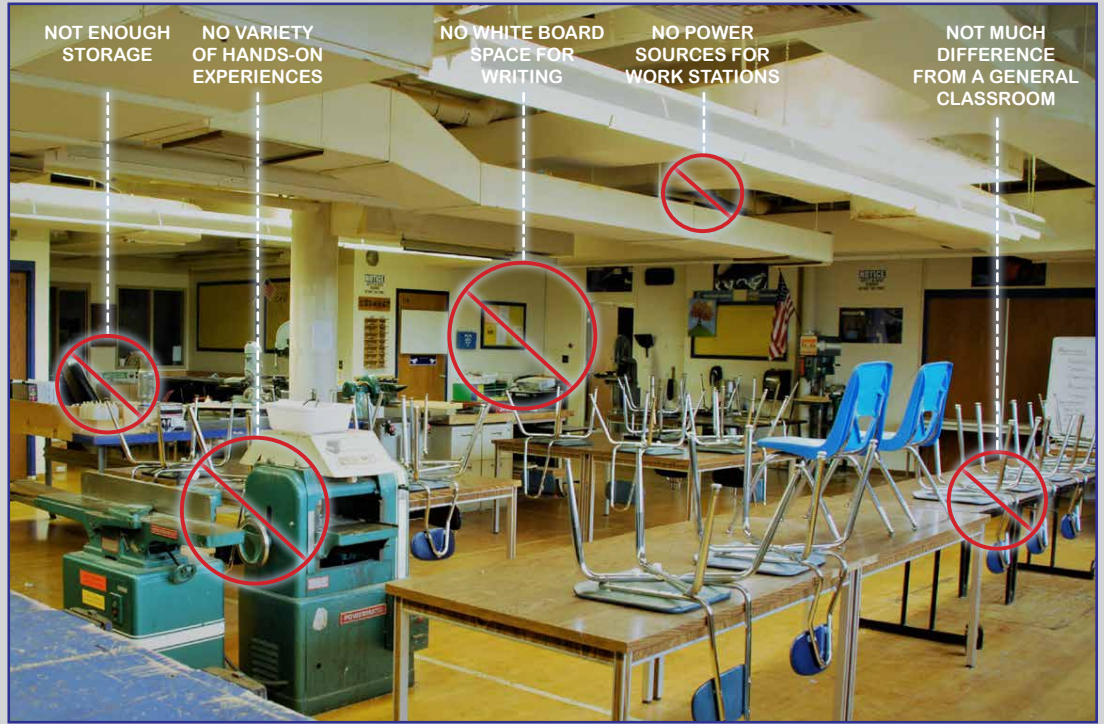
Collaborative Work Spaces: Resolutions

FAIL
Existing Education Design:

- No modern project labs for students to gain diverse workshop experiences
- No spaces that accommodate hands-on experimentation in engineering or design
- No hydroponics lab, no planetarium, no graphic design or visual arts studios, no media production, no engineering technologies, no robotics, etc...

2,704 sf
existing avg

6,400 sf
recommend. avg



S.T.E.A.M. Facilities & Project Labs: Deficiencies

PASS
21st Century Education Design:

- ✓ Space available for Science, Technology, Engineering, Art, and Math (S.T.E.A.M.) curricula
- ✓ Dedicated S.T.E.A.M. spaces integrated within academic classroom areas to provide interdisciplinary instruction
- ✓ Project labs that promote hands-on learning, a sense of discovery, and independent investigation

grade 8 lab

grade 7 lab

grade 6 lab

grade 5 lab



S.T.E.A.M. Facilities & Project Labs: Resolutions

FAIL

Existing Education Design:

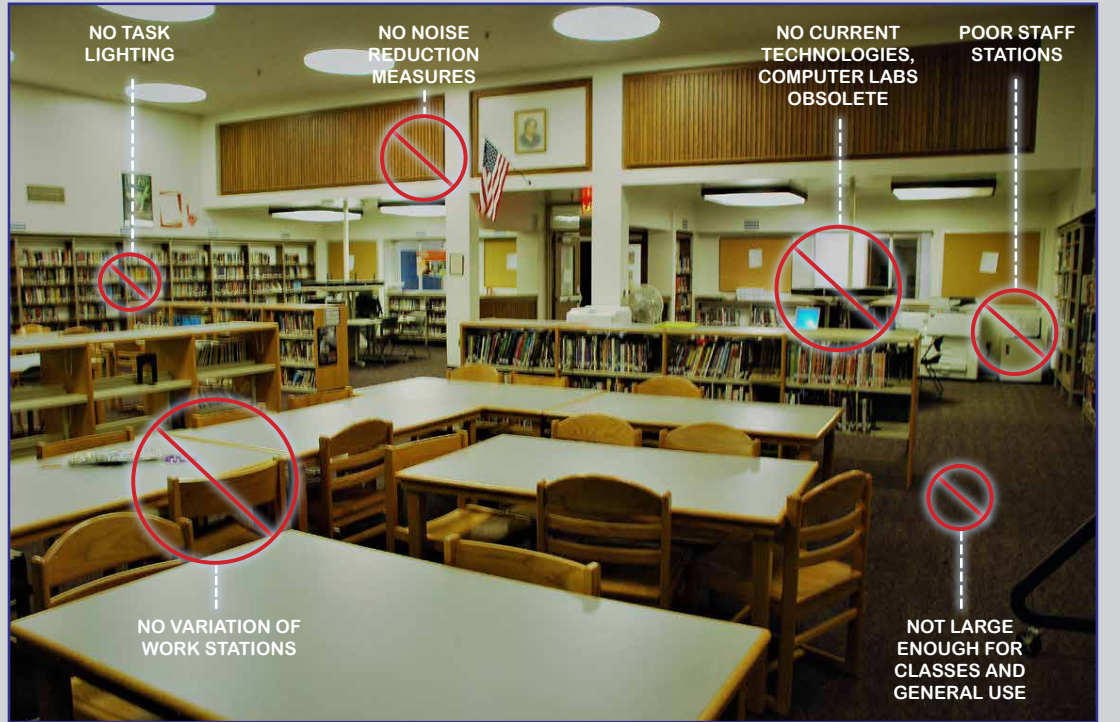
- No integration of digital media, broadcasting, video/web production, digital publishing, or modern resources
- No 1:1 technology program, which would operate via wi-fi and eliminate obsolete computer labs
- No variation in research methods or work stations for either students or staff

3,210 sf

existing avg

4,727 sf

recommend. avg



Media Center & School Resources: Deficiencies

PASS

21st Century Education Design:

- ✓ Library/media center that operates as a highly advanced media retrieval center
- ✓ Located in close proximity to all academic functions to allow for key sharing of valuable resources
- ✓ Advanced technologies provided for in areas such as media production, digital arts, graphic design, and digital communication
- ✓ Serves a multitude of functions and is composed of a multitude of spaces



Media Center & School Resources: Resolutions

FAIL

Existing Education Design:

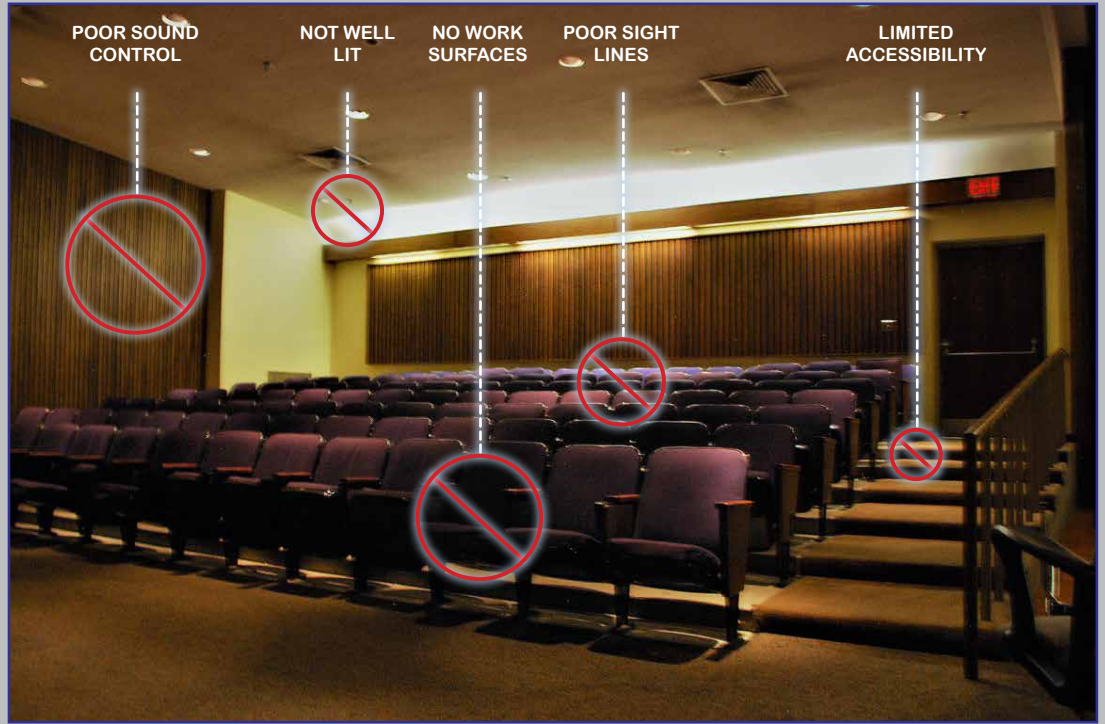
- No acoustical materials of an appropriate sound transmission class
- No work surfaces for class use
- Not a welcoming place of assembly
- Not used for community performance events or seminars

950 sf

existing avg

1,950 sf

recommend. avg

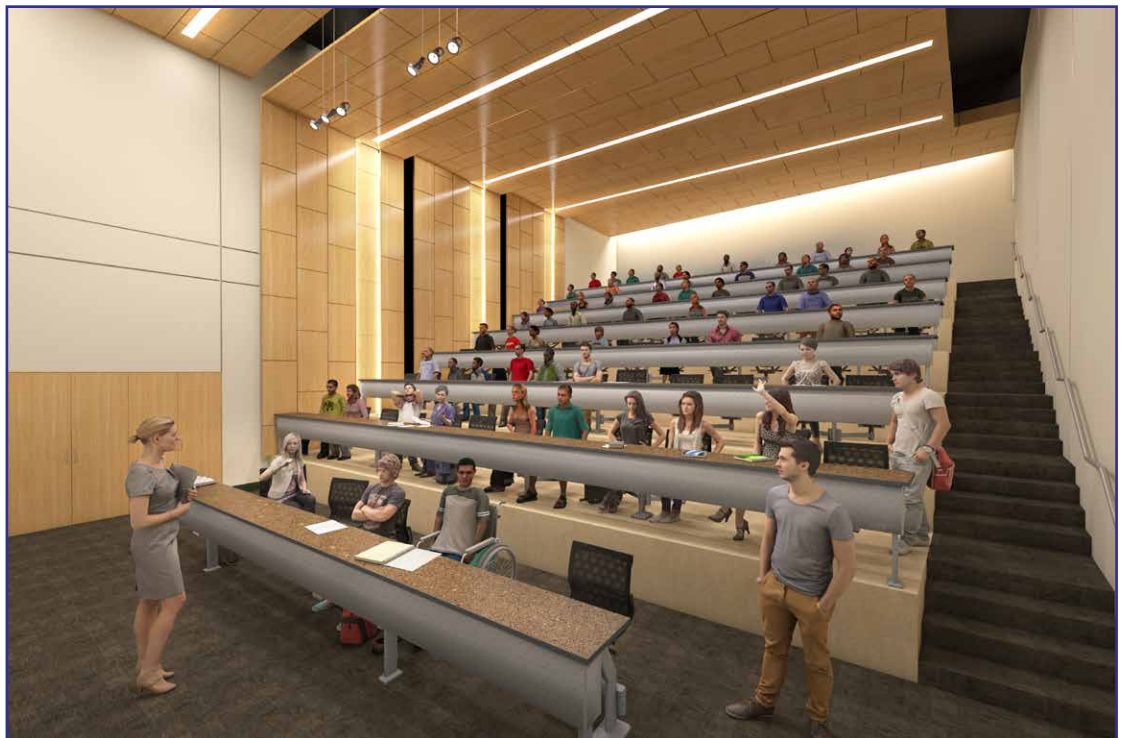
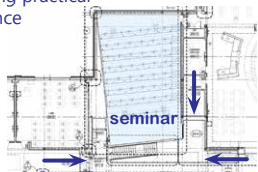


Performance & Language Arts: Deficiencies

PASS

21st Century Education Design:

- ✓ Provides an enhanced environment for learning arts and language
- ✓ Makes parent and community involvement, outreach events, and showcases for student work possible
- ✓ Acts as an auditory and oratory learning lab, which is as important as a hands-on learning labs when it comes to gaining practical experience



Performance & Language Arts: Resolutions



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Existing Coakley Middle School Site Analysis



Proposed Coakley Middle School Site Modifications



Proposed Coakley Middle School Site Modifications



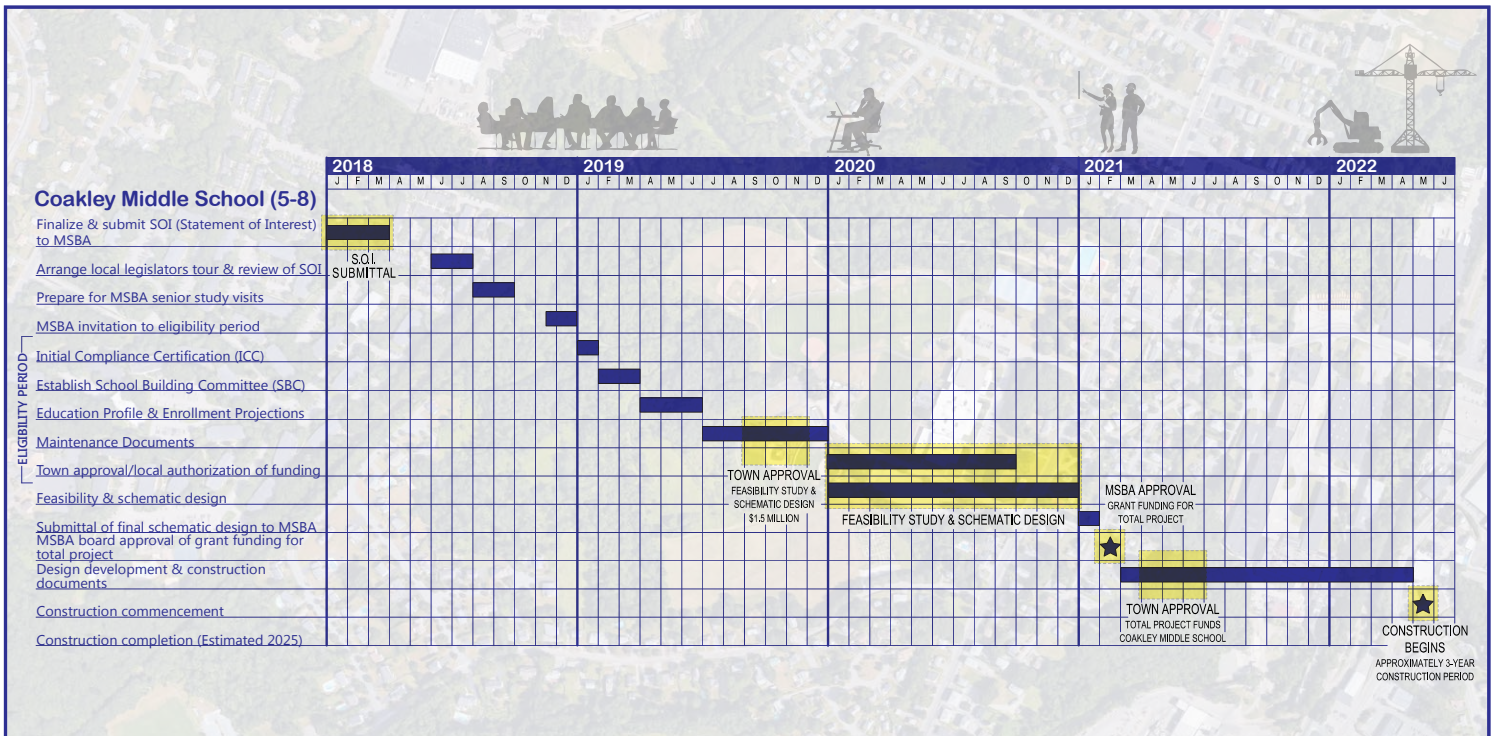
Proposed Coakley Middle School Site Modifications



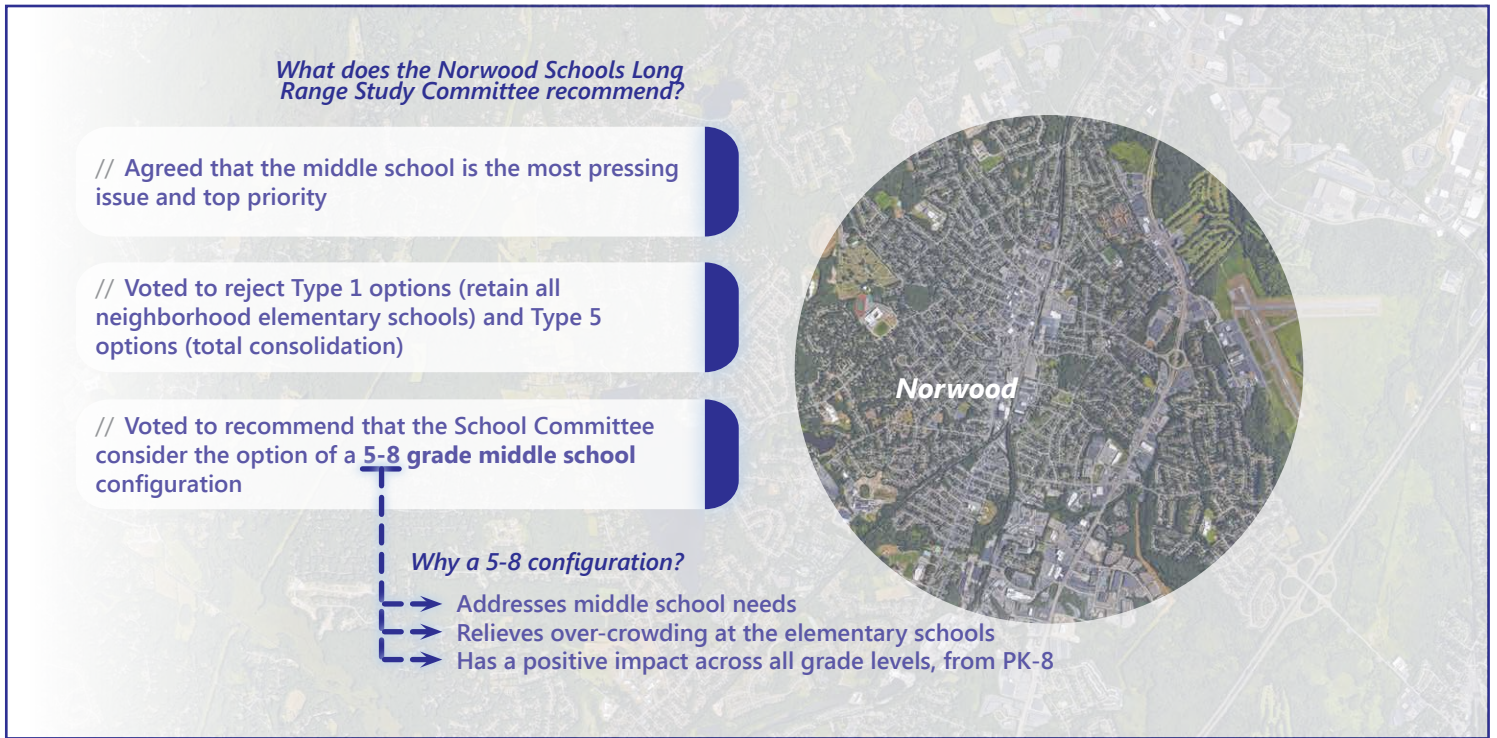
Proposed Coakley Middle School Site Modifications



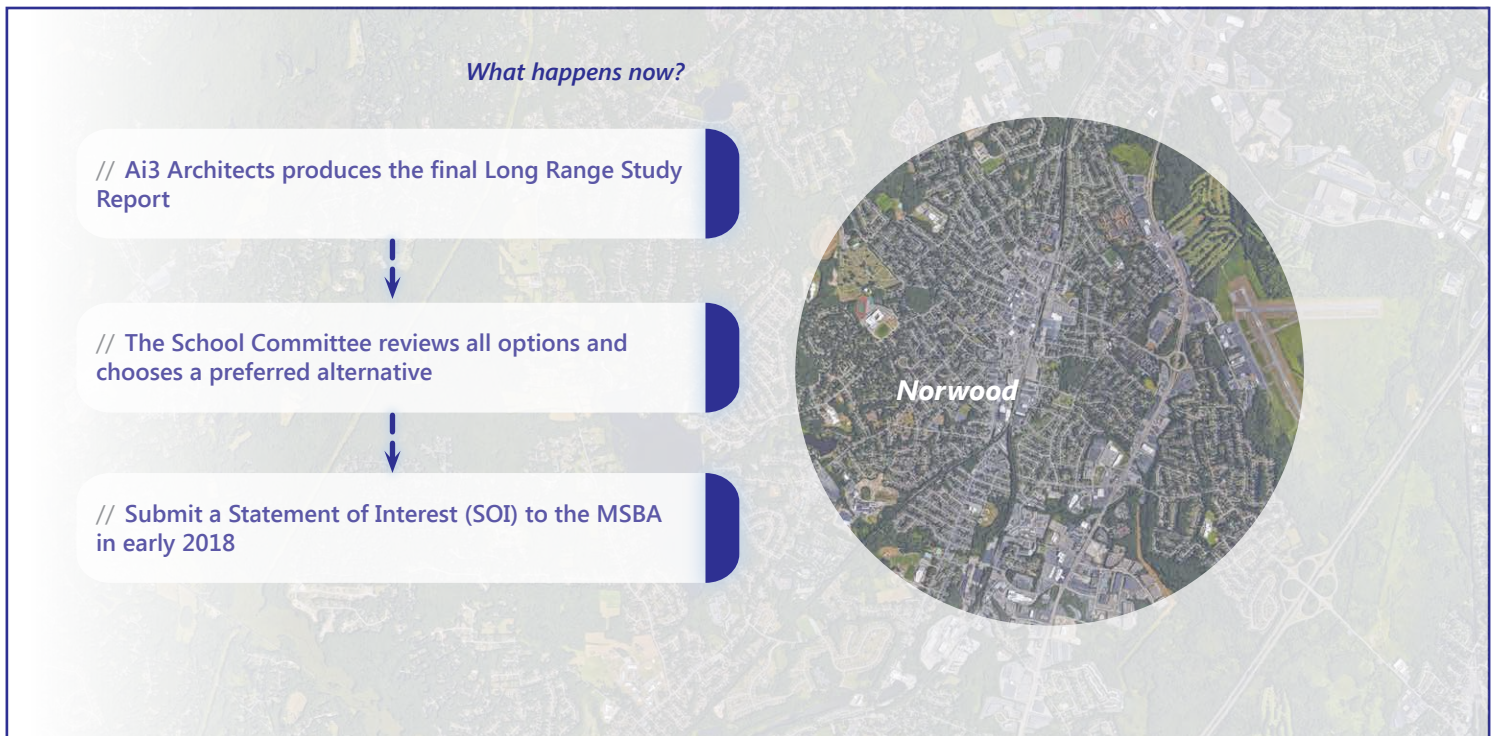
Proposed Coakley Middle School Site



Proposed Coakley Middle School Project Schedule



New Coakley Middle School Site Analysis



New Coakley Middle School Site Analysis

