

OVERVIEW OF SUPPLEMENTAL DRAWINGS AND CHARTS

Five primary categories of work were identified for inclusion in this study. Twelve sites were evaluated and 17 possible site / program combinations were considered. After site evaluation the highest ranked sites resulting from this evaluation were then further studied and planning options were prepared. The Facilities Working Group then selected a scheme) that best meet the programming needs of that department and was most responsive given the sites available. Those schemes are summarized in Volume One – Planning Options / Recommendations.

Volume Two contains data that was prepared or referenced for each of those selected options and any other options that were considered. This volume is separated into those 5 primary sections which include the following:

- Schools and School Administration
- Department of Public Works
- Fire and Police Departments
- Recreation
- Ridge Hill

Included in each section is data that was collected during the process of programming, existing site / building evaluation, potential site investigation and planning phases. These include:

- Overviews of programs
- Organization charts (if available)
- Equipment lists
- Existing site conditions and assessments
- Preferred option
- Other proposed options

OVERVIEW OF SCHOOLS

All public school projects undergo a multi-phased process starting with Comprehensive Facility Assessments, Pre-Feasibility Reports, Statement of Interest to the Massachusetts School Building Authority (MSBA) and then partnering with the MSBA to determine eligibility, feasibility and ultimately the possibility of state funding for the project. The Town has worked with Dore and Whittier to study and analyze the options for renovation and or replacing Hillside and Mitchell Elementary Schools and the Pollard Middle School.

In an effort to outline the educational goals of the district during the Pre-Feasibility Report phase, an Educational Framework Workshop / Visioning Session was held. A number of stakeholders in the educational delivery process for Needham schools attended this meeting including members of the school district, town officials, parents and community members. Dr. Frank Locker, an educational planner and consultant to Dore & Whittier Architects, facilitated the Workshop and prepared a report which summarized the results of the Workshop.

The Workshop Highlights

Some of the goals and highlights that were developed during the Workshop are the following:

- Limit a new elementary school enrollment size to the 400-500 student range
- Provide schools with the ability to have small learning communities
- Provide schools with three to four sections per grade
- Neighborhood elementary schools are preferred
- Flexible and adaptable spaces should be created, and wireless technology should be available in all spaces
- Explore the building options that would allow full-day kindergarten to be offered district-wide
- Provide collaborative spaces for students and staff in school design
- Provide programmatic connections within the building for English Language Learning, Learning Centers, Specials, materials
- Plan "learning areas" as "clusters" of interrelated spaces
- Plan for parent and community use of building and improve outreach

Following this meeting the PPBC and the School Committee arrived at a consensus of Values and Goals which became the basis for development of concept options. These included:

- Plan for 21 students/classroom and use MSBA guidelines
- Use current enrollments for future capacity considerations
- Elementary schools should provide 3-4 sections per grade:
 - o 3 sections per grade = 18 classrooms @ 21 students / cl = 378
 - o 4 sections per grade = 24 classrooms @ 21 students / cl = 504
- School size of approximately 400-500 students
- Elementary schools should be neighborhood based
- Reduce transportation requirements when possible
- Minimize redistricting when possible
- Facilities should have the ability to offer full-day kindergarten to all families
- Minimize costs that will not be reimbursed or are considered temporary

Comprehensive Building Assessments were completed for the Hillside and Mitchell Schools and the Pollard Middle School in August of 2011. A Pre-Feasibility Study was completed in July of 2012 for the Mitchell and Hillside Schools. Site and building conditions were analyzed and options and cost estimates were developed, reviewed and presented. While some options were eliminated because they did not meet the goals of the district, there were no decisions made or recommendations offered regarding any of the remaining options.

In July 2013, Statements of Interest were submitted by the Town to the MSBA for Hillside, Mitchell, and Pollard Schools. Hillside Elementary School was identified as the first priority.

In November of 2013, the MSBA voted to invite the Hillside Elementary School into the MSBA Eligibility Period and in July of 2014, the MSBA voted to collaborate with Needham in conducting a Feasibility Study. At the time of this report the Feasibility Study has not yet begun.

The Town has also identified a need to expand the High School. The building was designed for 1450 students. The population is projected to exceed 1700 for the next decade. A feasibility study is now under way to identify the needs and study options for expanding the cafeteria and adding classrooms.





EXISTING CONDITIONS:

DEFAZIO PARK AND DEPARTMENT OF PUBLIC WORKS

Parcel Area: 63.0 Acres with DPW portion approximately 9.9 Acres

Jurisdiction: School Committee, Park and Recreation Commission, Board of Selectmen

Description

- Public Services Administration Building (500 Dedham Avenue)
- Water Pump Station (484 Dedham Avenue)
- Hollis Building (470 Dedham Avenue)
- Cold Storage yard
- Former Salt Storage Building
- Wetlands, riverfront and ponds
- Needham Reservoir
- Bordered by Golf Course
- Massachusetts Bay Transportation Authority (MBTA) commuter rail line

Legend

- 2013 Parcels
- - - Parcel Setback
- Wetland Boundary
- - - Wetlands Setback
- Wetlands



2013 Aerial photo data from Needham WebGIS





OVERVIEW OF A TEMPORARY SCHOOL AT DeFAZIO PARK

The schools that are to be renovated or rebuilt include the Hillside and Mitchell Schools and the Pollard Middle School. Challenges of rebuilding at each site and the need to provide for a safe environment for the children and staff during construction has led to the multiple options under consideration. The temporary school, at a cost not reimbursable under MSBA guidelines, would provide all school programmed space, the possibility of a permanent gymnasium, parking and access to all the fields at the park during the rebuild of Hillside School, the Mitchell School and finally the Pollard Middle School. Other longer term renovation projects could also use this building as swing space.

This site is under three different jurisdictions, School Committee, Park and Recreation Commission and the Board of Selectmen, and all three groups have agreed to study this location for a potential school.

Building a school at DeFazio Park requires a relocation of those functions of the DPW currently located at the school site portion of the Dedham Avenue site and constrains current DPW operations and future expansion. Another critical issue at this site is that the lot is surrounded by wetlands on three sides and has a high water table.

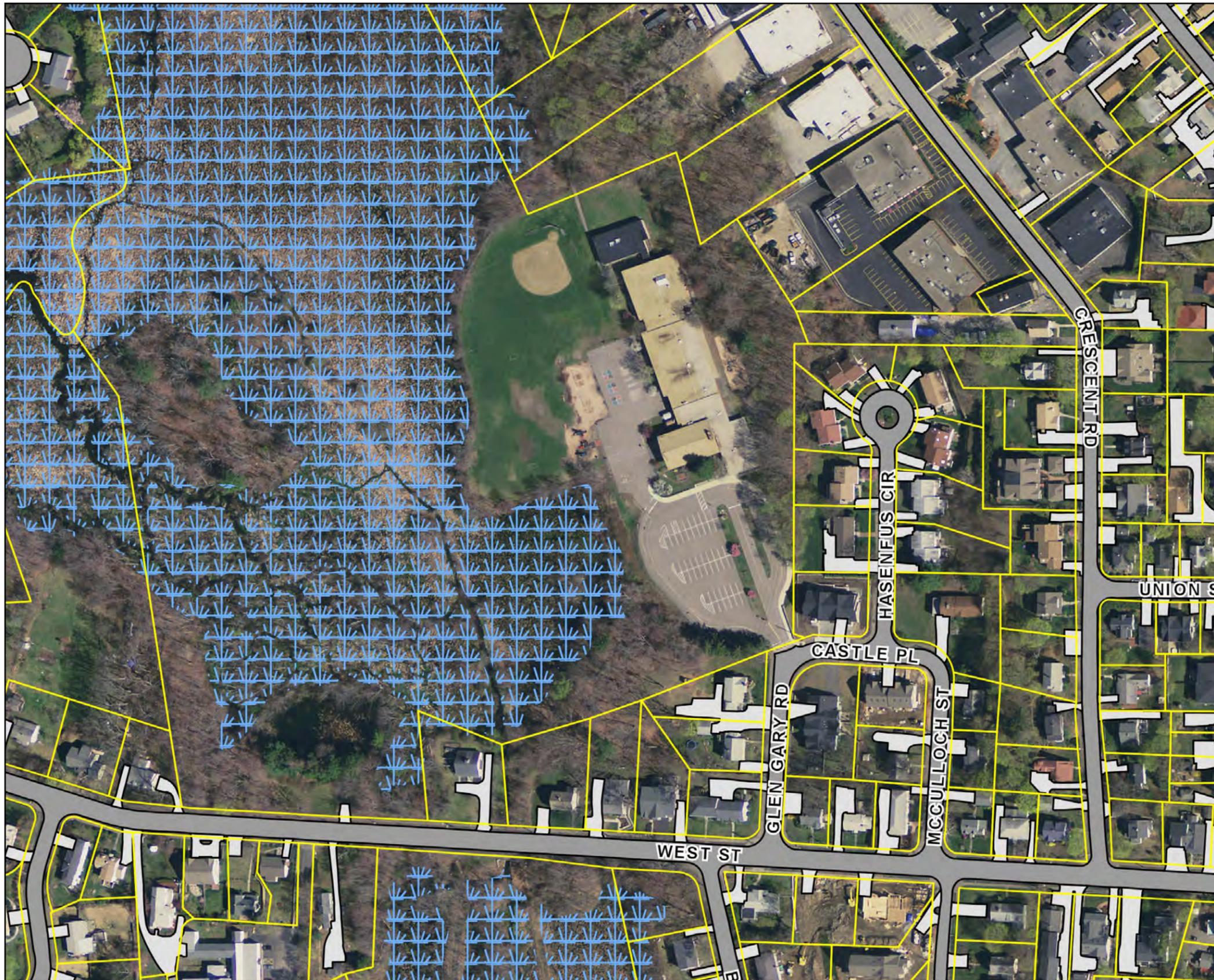
Description of a Temporary School at DeFazio Park

A temporary school for 500 students includes all classrooms, administrative offices, support spaces, cafeteria and gymnasium spaces and will function as a modern school building on par with any other Needham school. The possibility of a permanent gymnasium would be an attractive future asset for this sports complex.

There will be an impact on athletic fields, parking and the general use of the site. Site work will include temporary shutdown of a baseball diamond, relocation of the tot lot and paved parking areas. The planned parking areas will be a permanent parking solution. This site is also complicated by wetlands and permits for work in riverfront buffer areas may be required. A cost premium for site development and adherence to NPDES requirements has been noted. Stormwater detention or infiltration systems will ultimately provide improved stormwater management on this site.

In addition, improvements to the narrow access point off of Dedham Avenue may be required. Entry / exit points for buses proposed from the entry to the DPW /PSAB will require compromise with the current operations at the DPW.

Capacity: 500 Students
New Construction: 56,300 SF



EXISTING CONDITIONS:
HILLSIDE SCHOOL

Parcel Area: 24.6 Acres

Jurisdiction: School Committee

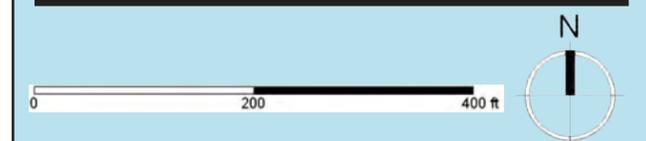
Description

- Residential and commercial neighborhood
- 50 parking spaces (undersized)
- Large wetlands, marsh, meadow and Rosemary Brook = 18.8 Acres of site
- MADEP monitoring Superfund site since 1988
- (2) 20' wide storm water easement on site
- Step hill on eastern side of site
- Limited access from Glen Gary Road
- Flood Plain Zoning Overlay District applies below Elevation 88.0'

Legend

-  2013 Parcels
-  Parcel Setback
-  Wetland Boundary
-  Wetlands Setback
-  Wetlands

2013 Aerial photo data from Needham WebGIS





Construct New School on Hillside Site

HILLSIDE OPTION 1A.2

Dore & Whittier Architects, 2012 Pre-Feasibility Study, July 2012

OVERVIEW OF A HILLSIDE SCHOOL REBUILD

The Hillside School site is 24.6 acres, however, there are only 5.8 acres that are usable for school building, parking, bus loop, playground, and playing field purposes. The Hillside School site currently provides the community and neighborhood with one 60' baseball diamond and one 120' x 240' multipurpose field. The remaining 18.8 acres are primarily wetlands and buffer zone setbacks. In addition to the limited usable area other challenges associated with the site are:

- There is only one vehicular entrance/access point into the site
- Limited onsite parking
- A high water table and hillside topography has led to significant annual flooding in the crawl space below the existing building
- The area that is available for expanding the building, driveway and parking and accommodating the construction process is limited due to the steep grades, and wetlands that surround the site
- Wetlands and a perennial stream buffer zone limit the expansion of fields

Another challenge to building on the Hillside School site is the requirement for the remediation of soil and ground water throughout the construction process. The Hillside School site is part of an 80 acre parcel of land known as "Tier 1A disposal site" and has been monitored by the Massachusetts Department of Environmental Protection (MADEP). Any area of construction will require remediation measures due to the trichloroethylene (TCE) contamination. Additionally, any building or enclosed structure will require appropriate venting systems to assure the removal of TCE from indoor air.

Due to all of the issues outlined above, any construction activities on this site will require relocation of students and staff for the duration of construction.

Description of a Hillside School Rebuild

A new Hillside School for 430 students will meet the contemporary educational needs, requirements and spaces for the school population. Core areas include classrooms, a gymnasium, cafeteria and media center, specialty rooms for art, music and technology and administrative areas. Full day kindergarten is expected. A neighborhood school is maintained and no redistricting is required.

The site, small but buildable, will require significant work to improve access and traffic congestion, improve conditions to eliminate flooding, and, after review with the MA-DEP, improve conditions on this monitored site. The reuse of this site requires temporary facilities throughout construction as the site is not large enough to safely and adequately continue school operations during the rebuild.

Capacity: 430 Students (MSBA certified enrollment)
New Construction: 80,650 SF



OVERVIEW OF A HILLSIDE SCHOOL ADDITION / RENOVATION

If an option for addition and renovation of the Hillside School is selected, all of the issues related to the site, as noted in a rebuild, will be the same. Any construction activities on this site will require relocation of students and staff for the duration of construction.

Description of a Hillside School Addition / Renovation

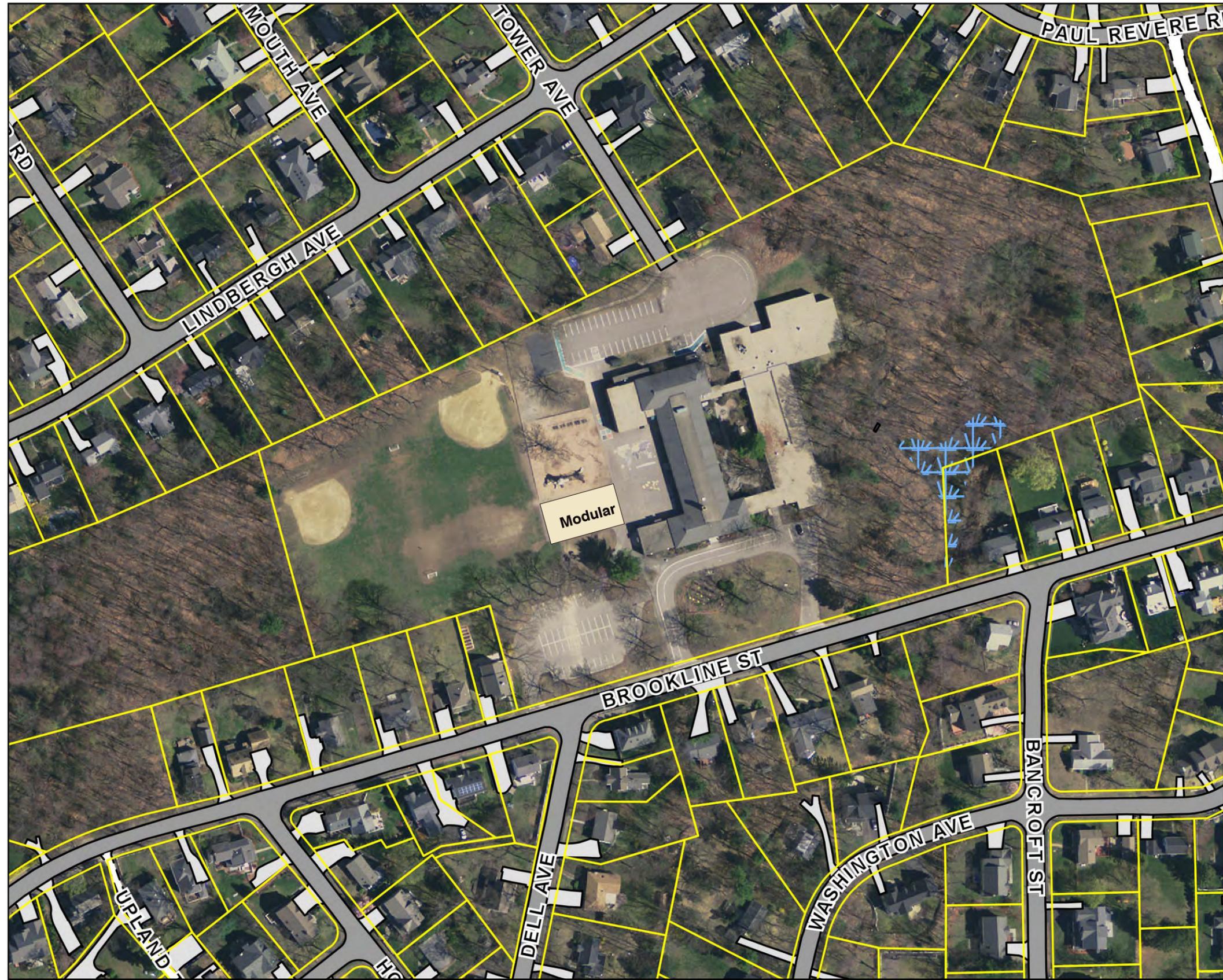
The Hillside School, renovated and with an addition, will meet the contemporary educational needs, requirements and spaces for the school population of 430 students. The entire existing structure will be renovated and new core areas include classrooms, gymnasium, kitchen and cafeteria. Full day kindergarten is expected. A neighborhood school is maintained and only minor redistricting is required.

In this option the proposed parking expansion and extension of the drive for service access to the far end of the building would encompass the existing hardtop play area, and extend into the existing multiuse field and diamond thus reducing play space for the school and community. The completed project would include relocation of the playground area and the reconstruction of a small multiuse field and small diamond. Some of this field area would extend into the far west corner of the site which would need some mitigation due to its proximity to the wetland.

Capacity: 430 Students (MSBA certified enrollment)
Heavy Renovation: 45,300 SF
New Construction: 38,600 SF
Total Construction: 83,900 SF

HILLSIDE OPTION 1A.1

Dore & Whittier Architects, 2012 Pre-Feasibility Study, July 2012



EXISTING CONDITIONS:
MITCHELL SCHOOL

Parcel Area: 12.5 Acres

Jurisdiction: School Committee

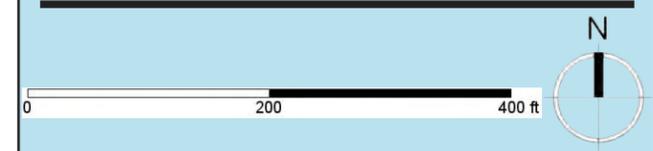
Description

- Residential neighborhood with sidewalks
- 89 parking spaces
- Stream and wetlands located east of school
- Mitchell Woods (3.5 acres) borders site
- Modular Classrooms added 2014

Legend

- 2013 Parcels
- Parcel Setback
- Wetland Boundary
- Wetlands Setback
- Wetlands

2013 Aerial photo data from Needham WebGIS





Demo Existing School
Add Fields –Parking &
Site Circulation

OVERVIEW OF A MITCHELL SCHOOL REBUILD

The Mitchell School site is a 12.47 acre parcel adjacent to 3.5 acres of wooded land known as Mitchell Woods. Approximately 8.35 of the 12.47 acres are suitable for school building, parking, bus loop and field purposes without extensive site work. Entry to the site is from both Brookline Street and Tower Avenue. The site provides open playing fields for the school and youth Town sports, a multi-purpose youth soccer field (120' x 240') and two 60' diamonds for baseball and softball. Needham Community Education uses the open field spaces and playgrounds as part of their Summer Program. The open play fields are buffered from neighbors by mature trees, steep grades, wetlands and dense tree growth, and Mitchell Woods.

Although the existing site is large enough to support an enlarged school building for the current school population with space for playing fields, playgrounds, expanded parking and improved driveways and drop-off areas, the expansion of the existing school would permanently reduce play areas and an alternate location would need to be found for, at a minimum, one of the diamonds.

The site is situated in a densely populated neighborhood which is conducive to walking to school thereby reducing the number of students that need to be bused. While this reduces the traffic impact and onsite parking needs, there are a large number of parents who pick up students and queue along Brookline Street forcing traffic to pass in the lane of oncoming traffic.

Description of a Mitchell School Rebuild

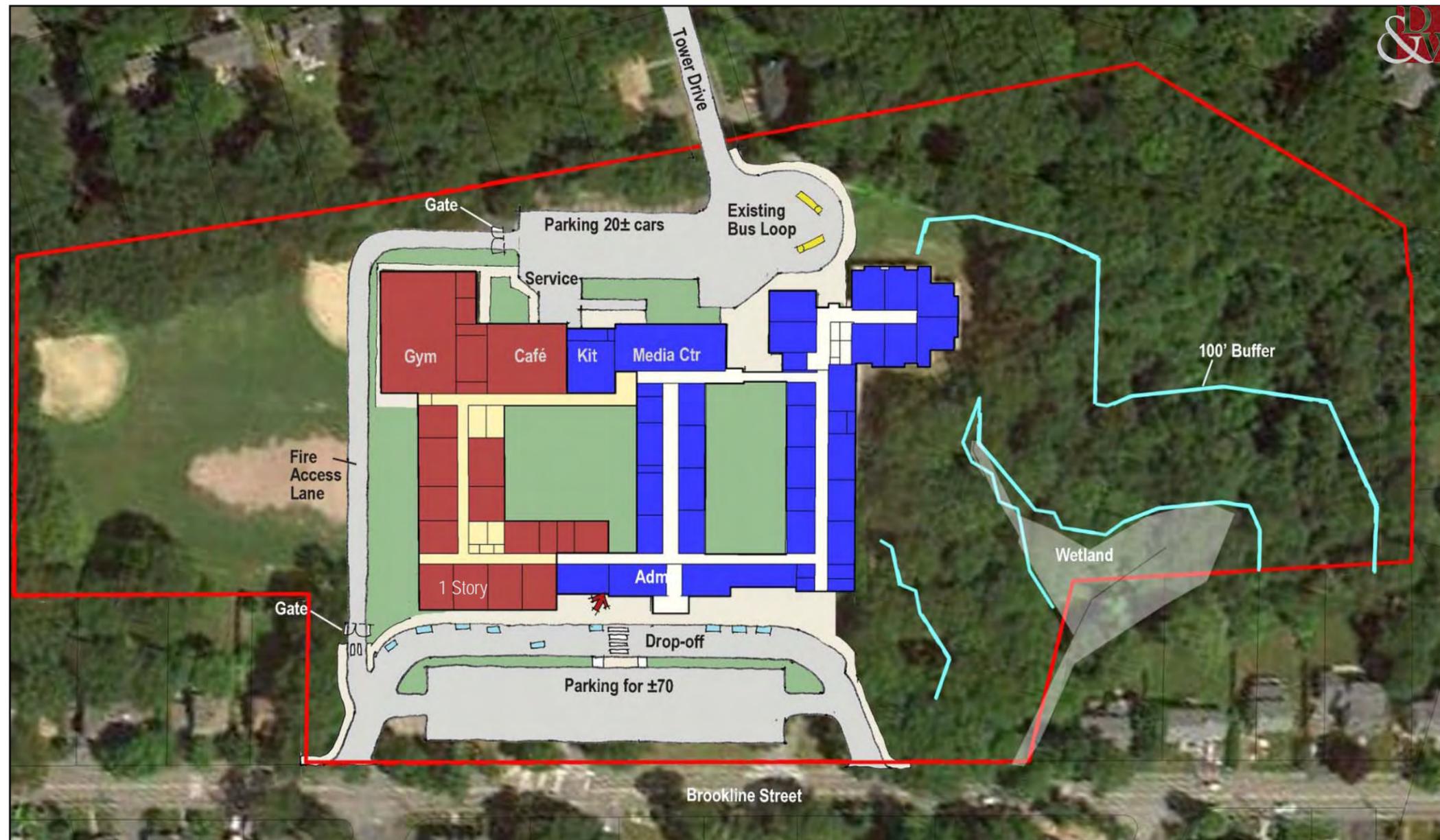
A new Mitchell School for about 500 students will meet the contemporary educational needs, requirements and spaces for the school population. Core areas include classrooms, a gymnasium, cafeteria and media center, specialty rooms for art, music and technology and administrative areas. Full day kindergarten is expected. A neighborhood school is maintained and no redistricting is required.

The site can be reconfigured to address circulation and playing field concerns. Site circulation will be greatly improved. The reuse of this site as shown does requires temporary facilities throughout construction.

Capacity: 500 Students
New Construction: 82,300 SF

MITCHELL OPTION 1A.2C

Dore & Whittier Architects, 2012 Pre-Feasibility Study, July 2012



MITCHELL OPTION 1A.1

Dore & Whittier Architects, 2012 Pre-Feasibility Study, July 2012

OVERVIEW OF A MITCHELL SCHOOL ADDITION / RENOVATION

Building on the existing playing fields while students remain on site is possible but a significant challenge both logistically and with regards to safety of students and staff and the impact on learning. Kindergarten students and other classrooms on the west wing of the building would be impacted by ongoing construction including noise, dust, and other consequences of construction activity.

Limited access to the site for construction vehicles and areas for construction staging and contractor parking would require that most, if not all, of the open play space and some of the existing parking spaces be dedicated to the construction site. There will be a need for the expansion of and improvements to parking and driveways for temporary use, and the potential need to increase the number of buses in an effort to reduce the pick-up and drop-off traffic throughout the time of construction. Any existing play space that remained may not be appropriate for outdoor play.

If an option for addition and renovation of the Mitchell School is selected the preference is to relocate students and staff for the duration of construction.

Description of a Mitchell School Addition / Renovation

The Mitchell School, renovated and with an addition, will meet the contemporary educational needs, requirements and spaces for the school population of about 500 students. The entire existing structure will be renovated and new core areas include classrooms, gymnasium, kitchen and cafeteria. Full day kindergarten is expected. A neighborhood school is maintained and only minor redistricting is required.

In this option the existing playground area would be relocated to the open field space, a multiuse field and diamond would be replaced on-site and the second existing diamond would be relocated to another site or the existing site would need to be expanded beyond its current boundaries. The existing play fields and playground would not be available for use during the time of construction and renovation.

Also, the Brookline Street drop-off and parking would be reconstructed and the Modular Classrooms removed.

- Capacity: 500 Students**
- Heavy Renovation: 54,000 SF**
- New Construction: 28,400 SF**
- Total Construction: 82,400 SF**



EXISTING CONDITIONS:
POLLARD MIDDLE SCHOOL

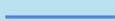
Parcel Area: 26.57 Acres

Jurisdiction: School Committee

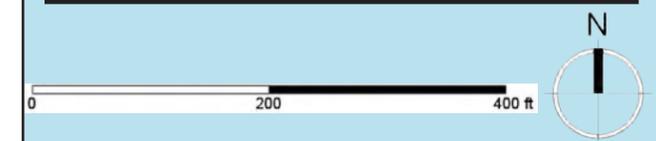
Description

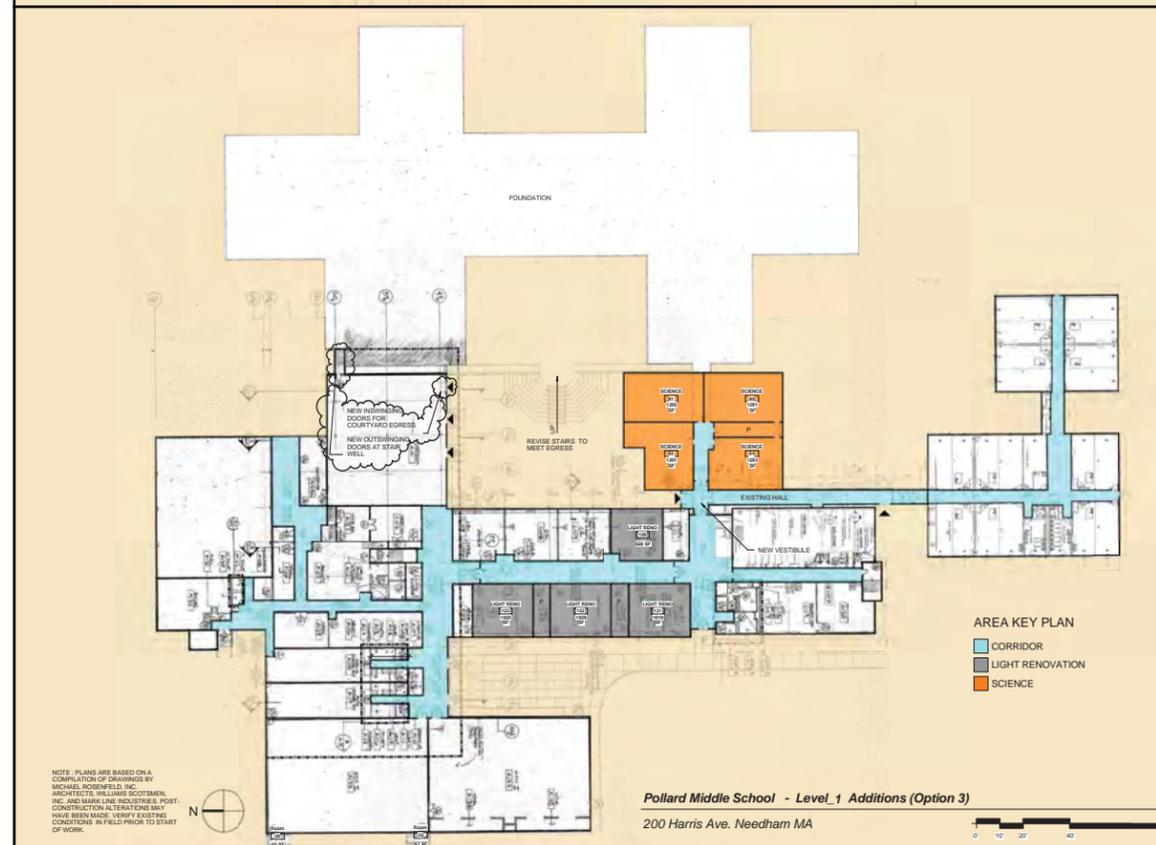
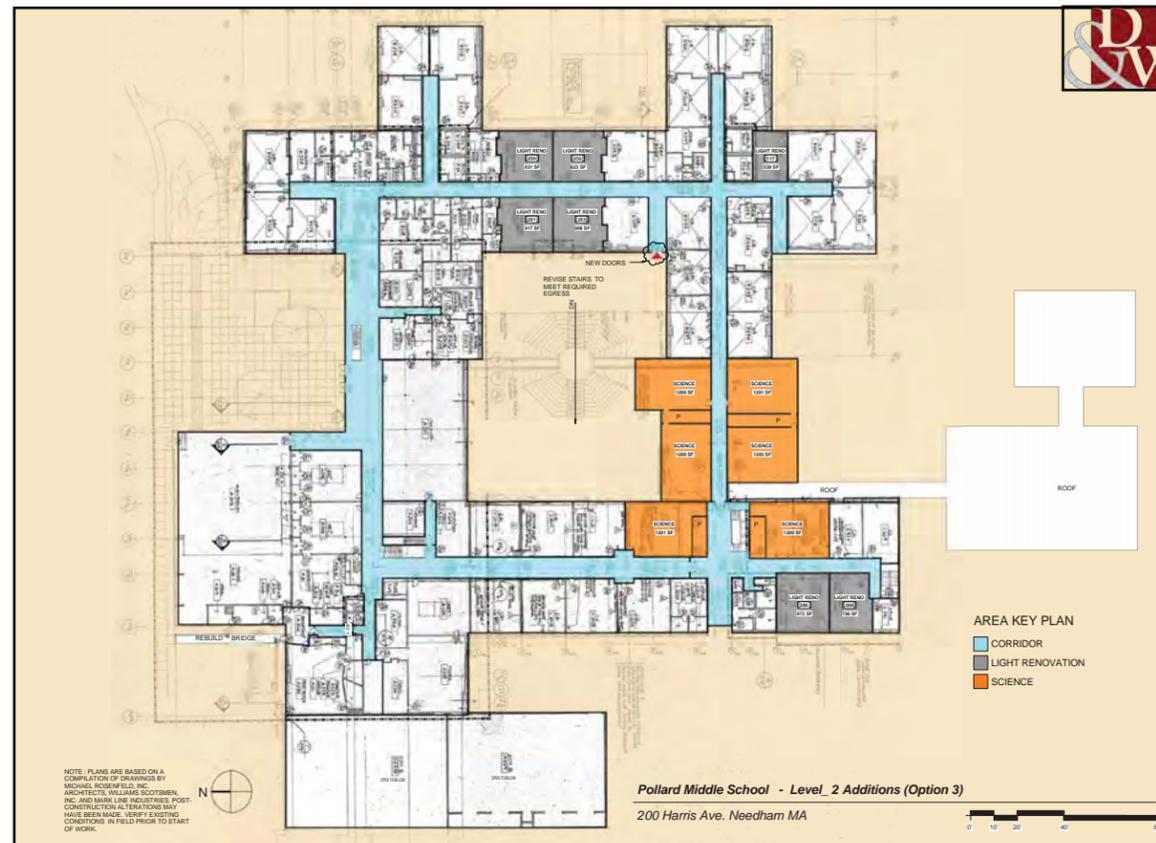
- Residential area
- Massachusetts Bay Transportation Authority (MBTA) commuter rail line to the south
- 113 parking spaces
- Small wetlands at south east edge near MBTA track and west side of field near MBTA track
- Modular Classrooms (2002)

Legend

-  2013 Parcels
-  Parcel Setback
-  Wetland Boundary
-  Wetlands Setback
-  Wetlands

2013 Aerial photo data from Needham WebGIS





OVERVIEW OF A POLLARD MIDDLE SCHOOL ADDITION / RENOVATION

Pollard Middle School's original building was constructed in 1958 with additions in 1969 and 1992. Ten modular classrooms were constructed in 2002. The U shaped access road located off of Harris Avenue is used for student drop-off and pick-up. There is limited parking for visitors along this driveway and bus / car circulation on site needs further improvement. Parking areas are located along east and west sides of the building. In 1996 renovations to the school included ADA and MAAB improvements. 2012 improvements added some parking and accessibility upgrades. Although it appears that all locations of the building are accessible there are areas of the building that will need to be improved to meet current MAAB standards therefore allowing full access to all students and staff.

A study, from 2011, found that the facility has been and continues to be well maintained but a number of health, life safety and welfare improvements are recommended to meet current codes and for the continued use and functionality of the facility. The buildings have experienced on-going improvements with the long range plan of remaining in this building. More significant renovations / additions for this building are anticipated to address code-related and functional use improvements.

The general layout appears to work well and library, cafeteria, gymnasium and auditorium are of suitable size for a middle school population. Improvements to science classrooms are a priority. Administrative spaces are lacking and are not well located. and the auditorium requires upgrades. The Modular Classrooms should be replaced with permanent classrooms before 2022.

Description of a Pollard Middle School Addition / Renovation

The current 147,000 square foot building serves approximately 880 students in grades 7 and 8. An addition to and renovations of the Pollard Middle School will provide upgraded science classrooms and support spaces, administrative areas located in an area that is better suited to control access to the school building, an improved auditorium, upgrades to meet current ADA and MAAB requirements and new building systems. This work may require some temporary facilities.

- Capacity: 880 Students**
- Light Renovation at Science Classrooms: 9,700 SF**
- Heavy Renovation at Science Classrooms: 7,600 SF**
- New Construction of Science Classrooms: 14,500 SF**
- New Construction of Toilet Rooms: +/- 1,000 SF**
- Heavy Renovation to relocate Administration + convert that space into Classrooms: +/- 4,600 SF**
- Renovation at remainder of building: +/- 143,000 SF (and replacement of Modular Classrooms)**



OVERVIEW OF A PERMANENT SCHOOL AT DeFAZIO PARK

As part of the decision process to accommodate students during construction of the three schools that need to be rebuilt or renovated, a second option under consideration is to build a new and permanent school at DeFazio Park. This option would eliminate the construction of a temporary school structure, a goal of the School Committee. As in the temporary school option, the location of a school at this site affects both the current and future operations of the DPW as well as the use of DeFazio Park.

The construction of a new school at this location would preclude expansion of the DPW at this site and force all new DPW construction to an alternative location such as Greendale Avenue or the RTS.

This new school would house either an elementary school or the 6th grade center. Following the occupancy of this building as a 6th grade center, the current 6th grade center, High Rock School, would undergo renovations and any necessary additions required to turn this building back into an elementary school. This option requires redistricting.

Description of a Permanent School at DeFazio Park

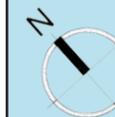
A permanent school for 445 grade 6 students includes all classrooms, administrative offices, support spaces, cafeteria and gymnasium spaces required.

There will be an impact on athletic fields, parking and the general use of the site. Site work will include temporary shutdown of a baseball diamond, relocation of the tot lot and paved parking areas. The planned parking areas will be a permanent parking solution.

This site is also complicated by wetlands and permits for work in riverfront buffer areas will be required. A cost premium for site development and adherence to NPDES requirements has been noted. Stormwater detention or infiltration systems will ultimately provide improved stormwater management on this site.

In addition, improvements to the narrow access point off of Dedham Avenue may be required. Entry / exit points for buses proposed from the entry to the DPW / PSAB will require compromise with the current operations at the DPW.

Capacity: 445 Students (MSBA certified enrollment)
New Construction: 83,200 SF



PERMANENT SCHOOL AT DeFAZIO PARK

DeFazio Park Site Development Study, February 15, 2013, Option E-5, by Dore & Whittier Architects



**EXISTING CONDITIONS:
HIGH ROCK SCHOOL**

Parcel Area: 11.79 Acres

Jurisdiction: School Committee

Description

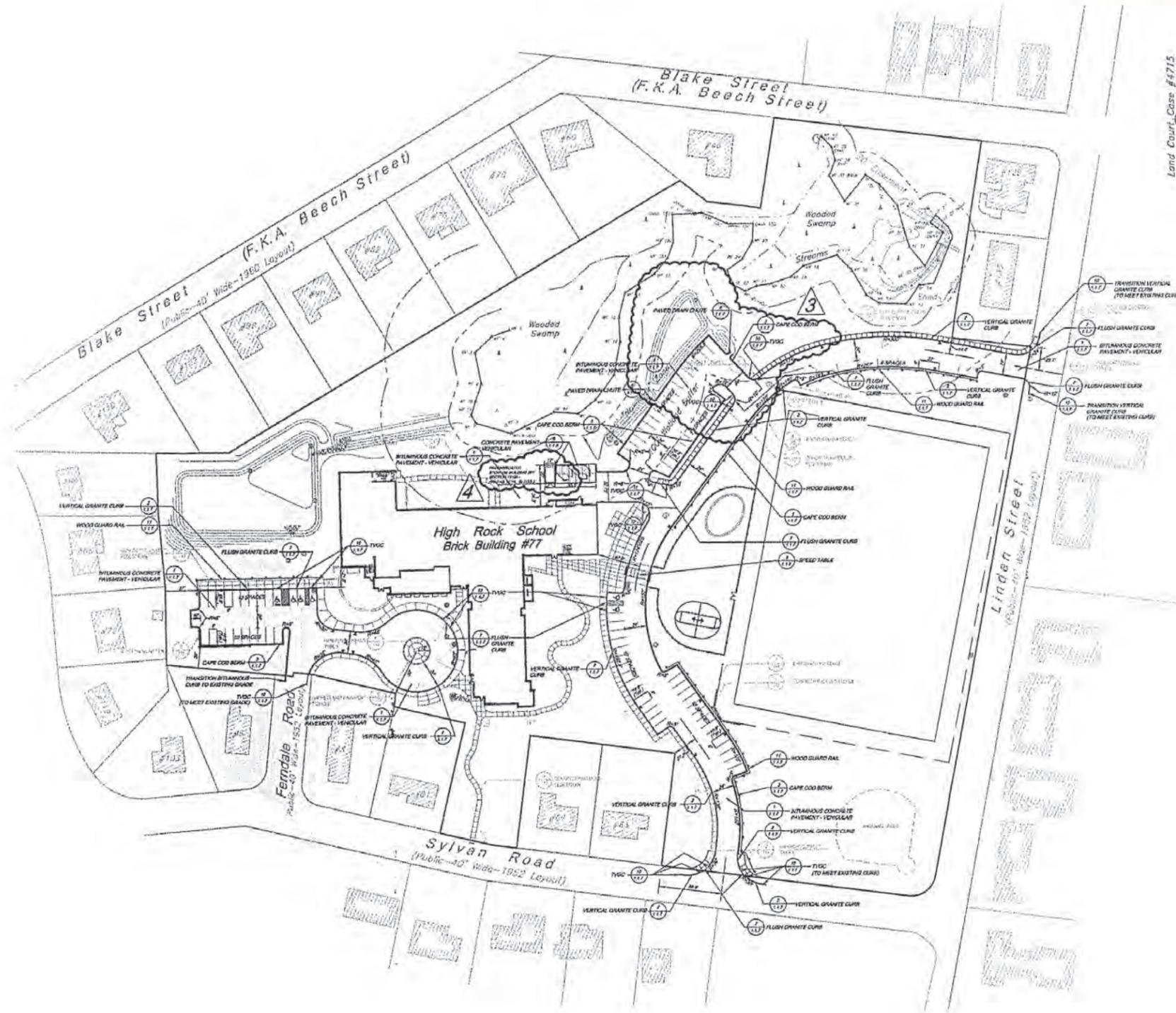
- Acres divided into (3) non-adjoining parcels separated by "paper" roads
- Adjacent to existing wetlands
- Access from Linden Street, Sylvan Road, and Ferndale Road

Legend

- 2013 Parcels
- Parcel Setback
- Wetland Boundary
- Wetlands Setback
- Wetlands

2013 Aerial photo data from Needham WebGIS





High Rock - LAYOUT AND MATERIALS PLAN - VEHICULAR PAVEMENT 1.1.2

DiNisco Design Partnership, January 2008

OVERVIEW OF A HIGH ROCK RENOVATION INTO ELEMENTARY SCHOOL

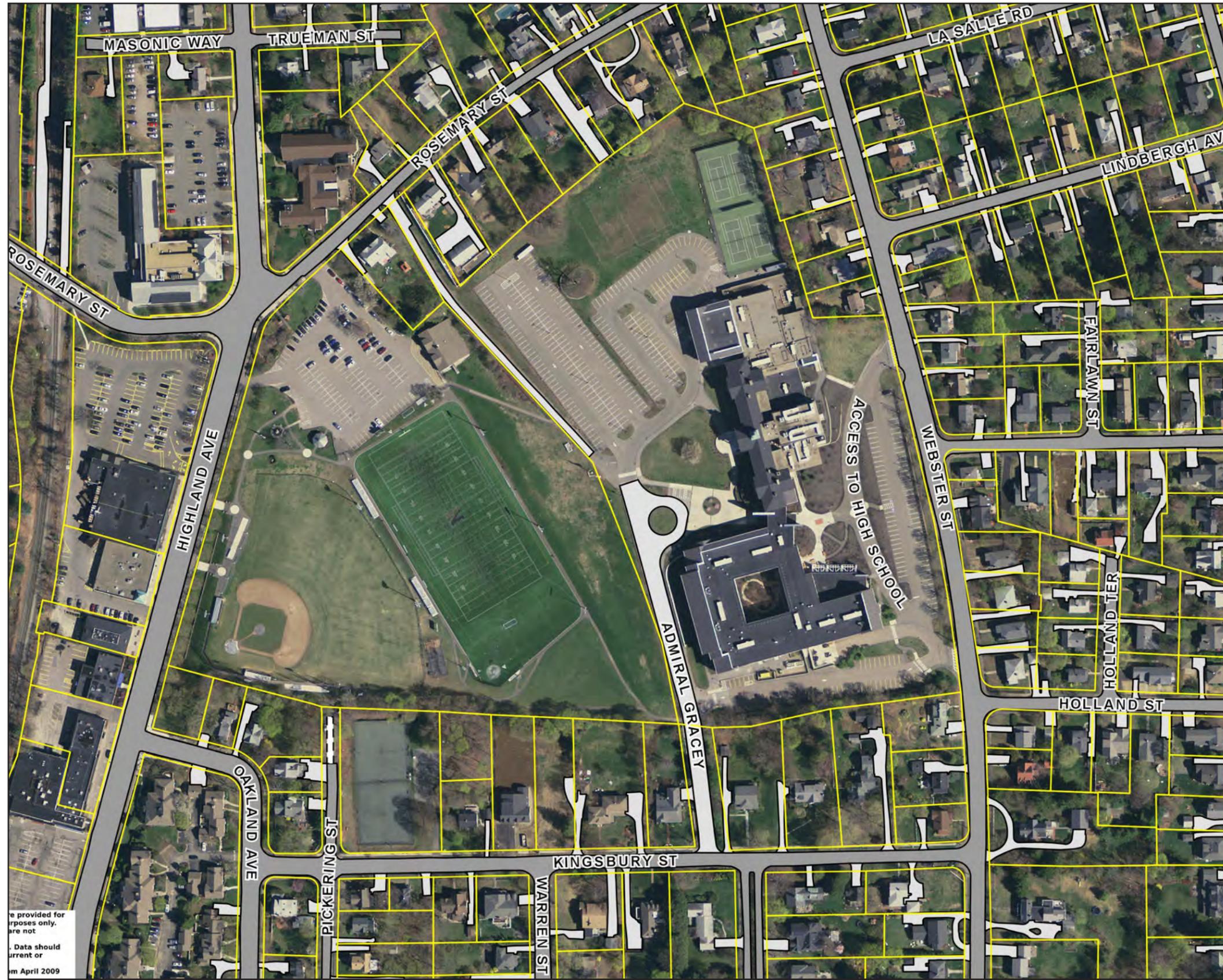
With the construction of a permanent 6th grade center at DeFazio Park and redistricting, the High Rock School would be renovated and added onto in order to meet the needs of a contemporary elementary school. Though this building was originally built as an elementary school it currently does not meet the guidelines set by the School Committee, and would require renovation / addition to accommodate K-5 students.

Description of a High Rock Renovation into Elementary School

Work previously completed to create the 6th grade center may need some revision and a comprehensive review of the entire school will be completed to assess what other issues will need to be addressed. New work will augment work completed during the most recent renovation and addition. At a minimum, four Kindergarten rooms would need to be added or renovated from existing specialty areas. New furniture would be required to suit the younger student population. Age appropriate playground facilities would need to be added.

Current Capacity: 477 Students





**EXISTING CONDITIONS:
NEEDHAM HIGH SCHOOL**

Parcel Area: 14 Acres

Jurisdiction: School Committee

Description

- Fully built out site
- The site slopes 20 feet, from the grade at the school to Memorial Park Building
- Access from Webster Street and Admiral Gracey Drive
- Adjacent Memorial Park fields are under jurisdiction of the Trustees of Memorial Park

Legend

- 2013 Parcels
- Parcel Setback
- Wetland Boundary
- Wetlands Setback
- Wetlands

2013 Aerial photo data from Needham WebGIS



Information provided for informational purposes only. Data should be current as of April 2009.



OVERVIEW OF SCHOOL ADMINISTRATION

The School Administration has long been housed in Needham's historic Emery Grover Building. While this building is centrally located for both staff and visitor the existing building assessment revealed a shell in need of repair and interior in need of complete renovation. The detailed envelope assessment completed in the 2010 by Bargmann Hendrie + Archetype, Inc. recommended the following:

- Partial re-pointing of the brickwork required at the shell and chimneys and reconstruction of the south portico.
- Selective repair to the slate roof and gutters/soffit/ flashing are required to prevent leaking.
- All windows should be replaced with energy efficient systems. New windows should attempt to replicate the original building windows, as possible.
- In addition to restoring the shell, there are several fundamental building components that will need reconstruction/upgrade:
 - o There is currently no handicapped accessibility to the main entry, nor is there an elevator access between floors.
 - o Current building systems are antiquated and would require a complete replacement.
 - o Current stairs are structurally compromised and non-compliant with current fire codes and would require a complete replacement.
 - o Attic Level would need to be dropped/reconstructed for ideal use.

The School Administration Study process, completed by designLAB architects in 2013, discussed program / layout materials and resolution strategies. Through the collaboration with the Town and School Administration Directors, determinations were made in the following order:

1. Program components within each department were identified, along with ideal adjacencies and inter-departmental relationships. It was determined that approximately 13,000 NSF is required to satisfy the School Administration Program, which would lead to approximately 16,000-18,000 GSF required for the full project.
2. Site location and access to the School Administration building were a high priority for determining viable properties. While it is not required to be adjacent directly to a school or located in Needham's downtown district, it should be easily accessed from a major route, given the number of employees and public visitors it serves on a daily basis. It was further determined that approximately 54 parking spots would be required to support the office use and 42 for Assembly, if it is determined that these uses should happen concurrently. The estimated 102 total parking spots is a worst-case assumption that is most applicable to remote sites that do not provide additional public parking.
3. Given the program and site requirements, three recommendations were proposed. The design team test fit each recommended scenario to ensure viability and potential for each site to meet zoning and current Building Code/ADA requirements.
4. Pro-forma were prepared to provide an overall estimate of the costs associated with each option. These include the hard costs of construction along with applicable enabling and soft costs.

Space	Size proposed SF	Total GSF Subtotals
School Administration		
SHARED BUILDING SERVICES		
Entry Vestibule - Lobby	240	
Help Desk/Reception	100	
Conference Rooms	1800	
Offices	400	
Support Spaces	1690	
Storage	1000	
SUBTOTAL		5,230
Gross area adjustment 13%		680
Circulation adjustment at 15%		886
SUBTOTAL GSF		6,796
SUPERINTENDENT SUITE		
Superintendent of Schools	905	
SUBTOTAL		905
Gross area adjustment 13%		118
Circulation adjustment at 15%		153
SUBTOTAL GSF		1,176
STUDENT DEVELOPMENT DEPARTMENT		
Student Development	975	
Community Education	1015	
SUBTOTAL		1,990
Gross area adjustment 13%		259
Circulation adjustment at 15%		337
SUBTOTAL GSF		2,586
FINANCE OPERATIONS DEPARTMENT		
Human Resources	1075	
Business / Finance Operations	1240	
Transportation / Food Services	1135	
SUBTOTAL		3,450
Gross area adjustment 13%		449
Circulation adjustment at 15%		585
SUBTOTAL GSF		4,483
PROGRAM DEVELOPMENT DEPT.		
Program Development	1020	
SUBTOTAL		1,020
Gross area adjustment 13%		133
Circulation adjustment at 15%		173
SUBTOTAL GSF		1,325
INNOVATIVE TECHNOLOGY		
Tech Staff and Server Room	440	
SUBTOTAL		440
Gross area adjustment 13%		57
Circulation adjustment at 15%		75
SUBTOTAL GSF		572
GRAND TOTAL BUILDING W/O BUILDING SUPPORT		16,939
BUILDING SUPPORT: Mechanical, Electrical, Plumbing, Fire Protection, Elevator, Stairs (Assume 11% of GSF)		
SUBTOTAL GSF		1,863
GRAND TOTAL BUILDING		18,802



PROGRAMMING OF SCHOOL ADMINISTRATION

The program as conceptually developed includes:

- Superintendent of Schools
- Student Development Department
 - o Student Development
 - o Community ED
- Finance Operations Department
 - o Human Resources
 - o Business / Finance Operations
 - o Transportation / Food Service
- Program Development Department
- Shared Building Services
- Innovation Technology
- OPTIONAL PROGRAM: Consolidation of Education Technology Offices at School Administration

Exterior program elements include:

- Parking for 102

The allocation of each department within the overall building was discussed. The proper location of each department within the building is key to the efficient performance of the School Administration. It was an important priority to keep the departments with the most public interface, such as Human Resources and Transportation / Food Service, located on the public entry level, while other departments, such as the Superintendent, could benefit from a more remote location. At the existing facility it was noted that confidential paper records is highly compromised, as file storage is scattered throughout the building without order or proper security. The School Administration is in need of both departmental filing and building compact filing systems to achieve adequate efficiency.

Site selection

Numerous properties were discussed as potential siting options for a new School Administration Building. It was determined that a new School Administration Building could be achieved through several strategies, including but not limited to:

- Renovate the existing Emery Grover Building.
- Demolish the existing Emery Grover Building and construct a new building on-site.
- Build a new facility on town-owned land.
- Build a new facility on purchased or leased land.
- Build an addition onto an existing school building.
- Purchase and renovate an existing commercial facility.
- Repurpose an existing town facility.

OVERVIEW OF SUPERINTENDENT OF SCHOOLS**Functions**

Offices for superintendent and assistant, conference room, production room and support spaces.

Quantitative Criteria

905 NSF of space

OVERVIEW OF STUDENT DEVELOPMENT**DEPARTMENT****Functions**

This department is comprised of Student Development and Community Ed. Offices for directors, assistants, special education specialists, accounting, marketing, registrar, office administrator, graphic design, elementary/summer coordinator and secondary / adult coordinator are included. A public counter is included as well as a business center and support spaces.

Quantitative Criteria

1,990 NSF of space

OVERVIEW OF FINANCE OPERATIONS**DEPARTMENT****Functions**

This department is comprised of Human Resources, Business / Finance Operations and Transportation / Food Service. Offices for directors, assistant directors and staff, payroll coordinators, accountants and clerks, bookkeepers and nutrition counselors are included. Interview offices, student registration and payment kiosks, production rooms, workspace for temporary workers, and food service storage are also part of this program. Support spaces include active and archival file storage, mail room and supply rooms.

Quantitative Criteria

3,435 NSF of space

OVERVIEW OF PROGRAM DEVELOPMENT**DEPARTMENT****Functions**

Offices for director, assistant, curriculum leaders are included. A curriculum and a materials library as well as a production center are included in addition to general file storage and support spaces.

Quantitative Criteria

1,020 NSF of space

OVERVIEW OF SHARED BUILDING SERVICES**Functions**

These spaces include the main help desk / reception area at the building entry, large and medium sized conference rooms, additional offices for future growth, a kitchenette, business center per floor, restrooms, break room, janitorial closets per floor, a maintenance office, compact file storage, building storage and a receiving room with loading dock access.

Quantitative Criteria

4,990 NSF of space

OVERVIEW OF INNOVATION TECHNOLOGY**Functions**

General work area for IT staff and the server room.

Quantitative Criteria

440 NSF of space

OVERVIEW OF OPTIONAL PROGRAM:**INNOVATION TECHNOLOGY****Functions**

Offices for director, bookkeeper, staff, configuration lab, head end room and distribution, storage and dedicated mechanical.

Quantitative Criteria

3,800 NSF of space

TEST FIT AT EMERY GROVER

The complete renovation of Emery Grover would require the program to be split between four levels, with both the basement and attic holding program space. Code requirements would prompt a complete reconstruction of the two stairs, as well as the addition of an elevator. Given the impact of these modifications, along with completely updated interior partitions and systems, a full gut-renovation was recommended.

TEST FIT AT RIDGE HILL

The existing property at the Ridge Hill is an early 20th Century summer estate. The existing house is approximately 9000sf, sited in a reservation remote from downtown Needham and currently used as storage. There is more than adequate space to fulfill parking requirements, as shown in the 2010 Senior Center Study.

There are improvements that would be required if the School Administration was to be located at this property. Building upon two previous studies (2007-2010 senior center studies), the following measures are recommended:

- Extensive repair and renovation to the existing envelope: stucco repair at water damage, spalled concrete at stairs, repointing at brick chimneys.
- Localized repair to slate shingles, repair/replacement to gutters and rain leaders, removal of all ivy/growth that has resulted from water damage.
- Interior partitions will need to be demolished/rebuilt in order to account for the new department suites within the house volume. It is assumed that the fireplaces would remain in place.
- ADA upgrades must be introduced, including regrading at the main entry, the addition of an elevator, and widening of any doors required for egress.
- Infrastructure would need to be updated and extended to the Ridge Hill Site. It is not believed to have adequate plumbing or data infrastructure to support the School Administration and IT Department requirements.

A strategy for including all School Administration proposes a north-south addition, similar to the 2010 Senior Center Study. This builds on the premise that there are advantages to running along the ridge and preserving the tree-line. While zoning bylaws require any new construction to be in the form of an addition, replacing the service wing with a School Administration wing would provide the financial benefits of more efficient layouts and construction, while still serving as an addition to the historic house.

TEST FIT ON A GENERIC SITE

The test-fit was for a generic 280' X 360' site, to idealize the parking layout and building configuration. This could serve as a precedent if a property owned or acquired by the town allowed for a new construction. The general adjacencies could also inform commercial renovation, if a two story space with appropriate square footage was available. The site plan includes 100+ parking spots, more than enough to satisfy the requirements of the School Administration Building.



EXISTING CONDITIONS:
EMERY GROVER

Parcel Area: 1.1 Acres

Jurisdiction: School Committee

Description

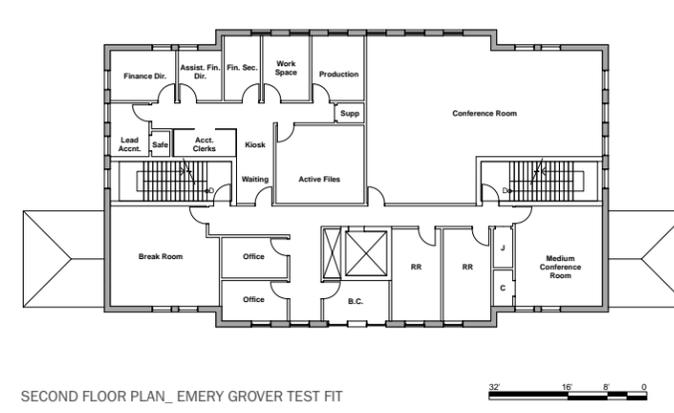
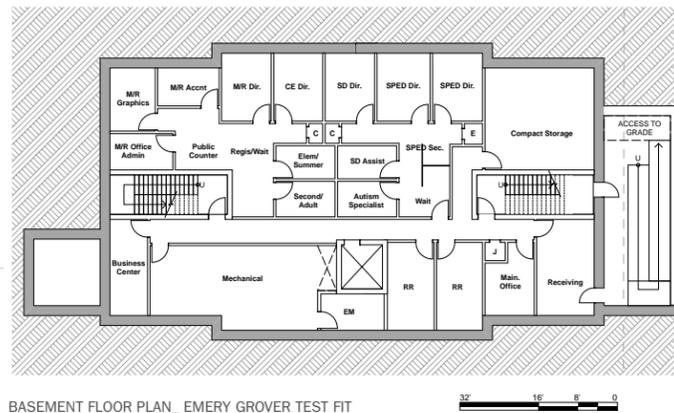
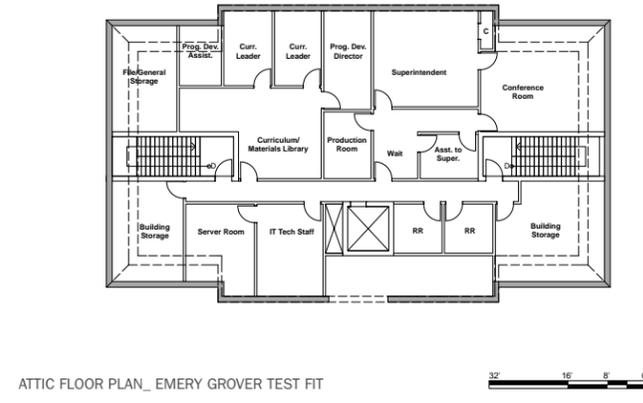
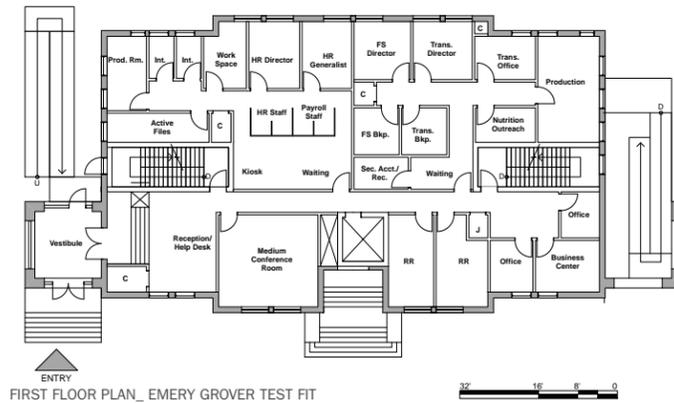
- Constructed in 1898 as High School
- Listed on the National Registration of Historic Buildings in 1987
- 72 Parking Spaces
- Easement on land provides access to Highland Court

Legend

- 2013 Parcels
- Parcel Setback
- Wetland Boundary
- Wetlands Setback
- Wetlands

2013 Aerial photo data from Needham WebGIS





designLAB architects

Land requirements for building, parking and loading spaces			
Component	Footprint	Square Footage	Total in acres
Building at 18,802 square feet	Assume two story building	70 x 135 = 9,450 SF or .22 acres	0.22
Parking for 102 cars including 4 accessible parking spaces	Assume 1 lots for 94 cars each at 62' x 426' including 4 accessible spaces	29,012 SF or .61 acres	0.67
Loading Requirement	Assume designated area 15' x 50'	750 sf or .03 acres	0.02
Landscaped areas	Assume 10% of parking area	26,412 x .10 = 2,641 SF or .06 acres	0.06
Snow Storage	Assume 10% of parking area	26,412 x .10 = 2,641 SF or .06 acres	0.06
TOTAL			1.03
Setback Requirements: Zoning dependent	Assume worse case = 35' front setback, 25' side setback, 25' rear setback	Possible site 242' x 329' = 79,618 SF or 1.83 acres	1.89
Max Floor Area Ratio (F.A.R.)	Maximum area ratio = .30.	Min site size = 62,673 SF or 1.44 acres	1.44

OVERVIEW OF A RENOVATED SCHOOL DEPARTMENT CENTRAL ADMINISTRATION AT THE EMERY GROVER BUILDING

The School Department Central Administration offices at Emery Grover are located in a prime downtown location easily accessed by the community. However, this building does not fully support the needs of this department and has long been in need of renovations to address deficiencies. The building is not accessible, has office and meeting rooms that are undersized and would benefit from a more efficient layout, and has building systems that are antiquated. The department would be better served by providing a centralized location for all staff under one roof. Parking for staff, visitors and training sessions / large meetings of school staffs cannot be met at this site in its current configuration.

Code requirements would dictate a new elevator and a rebuild of egress stairs. The impact of this work, along with new building systems and reconfiguration to address school department needs, suggest a gut renovation of this building should the decision be made to remain at this site.

School Administration Department spaces include:

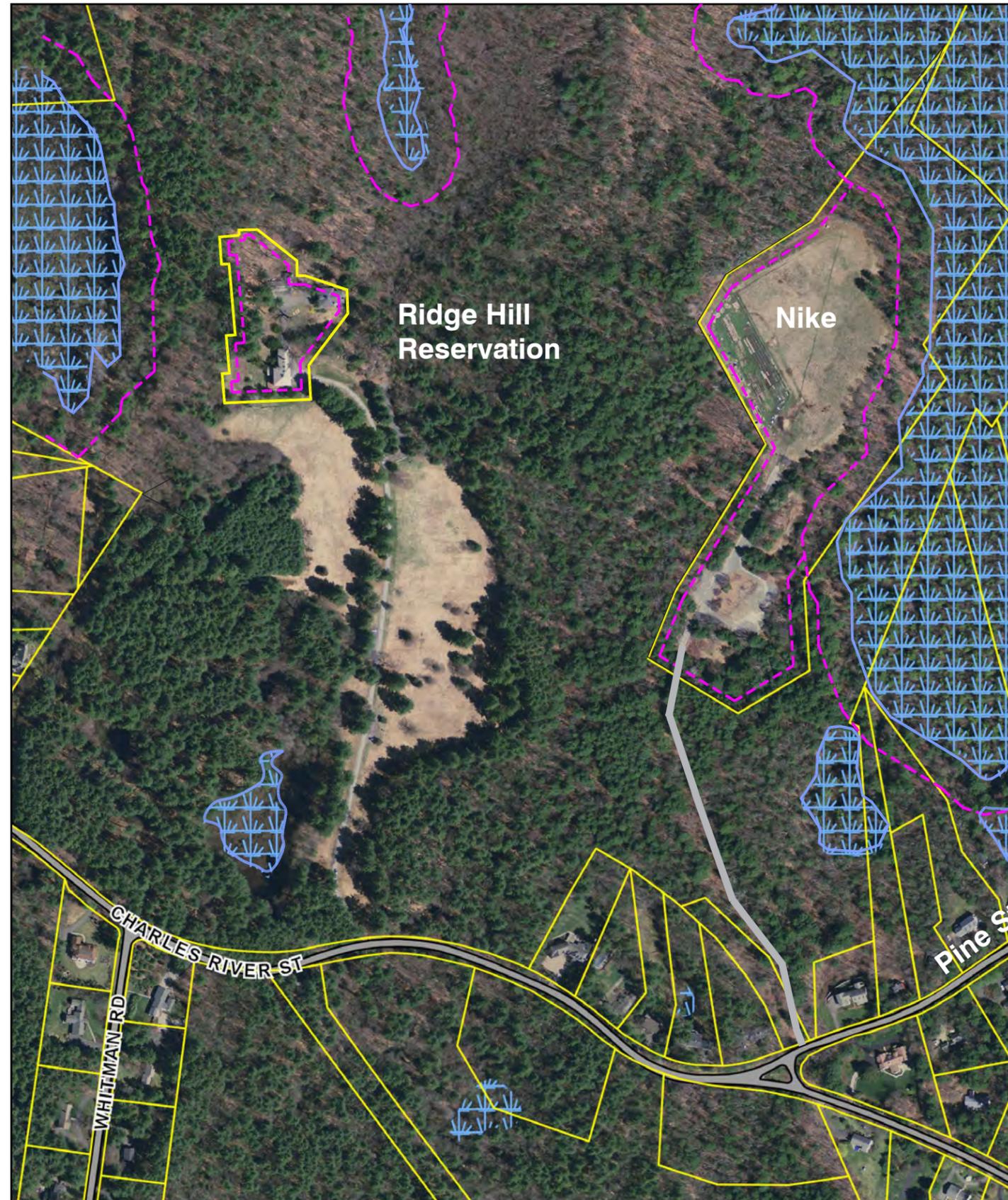
- Superintendent of Schools
- Student Development
 - Student Development
 - Community Education
- Innovation Technology
- Finance Operations
 - Human Resources
 - Business / Finance Operations
 - Transportation / Food Service
- Program Development
- Shared Building Service

Description of a Renovated School Department Central Administration at the Emery Grover Building

The 22,460 square foot masonry building is in need of general envelope repairs to the slate roof, copper flashings, brickwork and windows. In the interior little is left of the original spaces, although some components and finishes do remain. Structural systems may need additional reinforcement and / or new structure inserted to handle new loads. Building systems are antiquated and require full replacement. The main entry on Highland Avenue is not accessible and a new accessible entry will be required, creating a pathway from the parking areas and into the building. A new elevator will make all floors of the building accessible. Code requirements will require a complete reconstruction of the two stairs.

The complete renovation of Emery Grover would require the program to be split between four levels, with both the basement and attic holding program space. Given the impact of these modifications, along with completely updated interior partitions and systems, a full gut-renovation is recommended.

Parking at this site will continue to be inadequate based on the programming needs of 102 spaces. It is recommended that the lease of parking space to the adjacent school be terminated, or relocated to the Steven Palmer Building so that all of the existing parking lot can be used by School Administration.



**EXISTING CONDITIONS:
NIKE AND RIDGE HILL RESERVATION**

Parcel Area: Nike: 19.1 Acres plus 2.15 Acre Access Easement

Jurisdiction: School Committee

- Description**
- Missile silos have been filled and covered over
 - Wetlands and steep slope
 - Site accessed via an easement from Pine Street
 - The Ridge Hill Reservation and the Nike Site are adjacent, which offers unique opportunities for planning purposes

Parcel Area: Ridge Hill Reservation - 352 Acres, 3.04 Acres within boundaries

Jurisdiction: Conservation Commission and Board of Selectmen

- Description**
- Wetlands and meadows
 - 8 miles of trails
 - Crossed by natural gas pipeline
 - Mansion, Barn, & Garage Buildings under Board of Selectmen jurisdiction

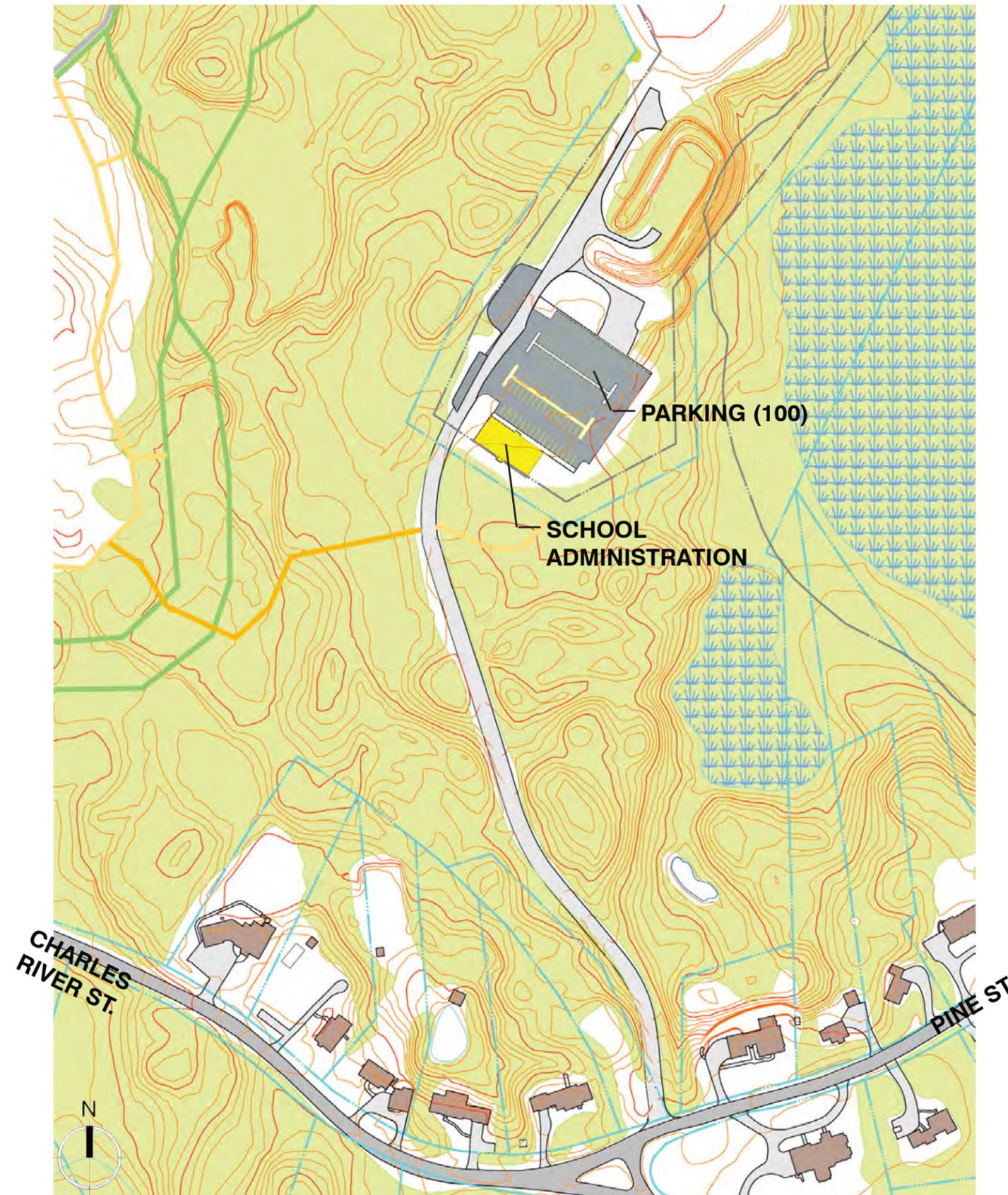
Legend

- 2013 Parcels
- - - Parcel Setback
- Wetland Boundary
- - - Wetlands Setback
- Wetlands

2013 Aerial photo data from Needham WebGIS

0 400 800 ft

N



OVERVIEW OF A SCHOOL DEPARTMENT CENTRAL ADMINISTRATION RELOCATION TO THE NIKE SITE

School Administration departments are primarily located in the Emery Grover Building with some additional spaces dispersed in other locations. This building is not accessible for staff or visitors, does not have enough office and meeting rooms, is in poor overall condition and includes unusable space such as the attic.

School Administration Department spaces include:

- Superintendent of Schools
- Student Development
 - Student Development
 - Community Education
- Innovation Technology
- Finance Operations
 - Human Resources
 - Business / Finance Operations
 - Transportation / Food Service
- Program Development
- Shared Building Service

Description of a School Department Central Administration Relocation to the Nike Site

The administration building as proposed is generic with an idealized building configuration and parking layout for all parking spaces requested.

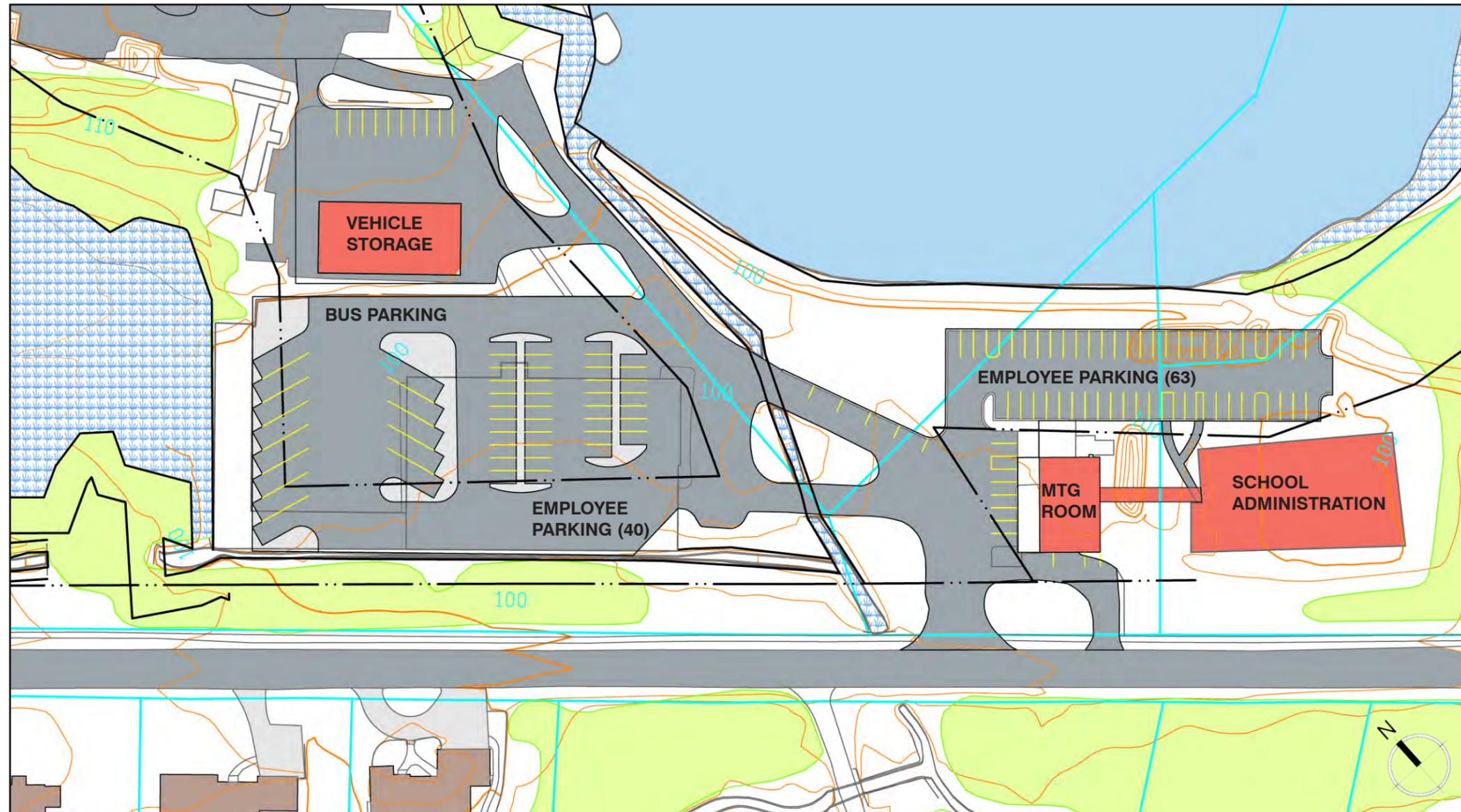
All adjacencies for building departments could be realized in this plan and include:

- A main entry placed at a central location
- Centrally located elevator and restroom core
- Fire stairs located to either end of the double-loaded corridor, which serve as both egress and general circulation requirements
- The Conference Room, Human Resources, and Transportation / Food Service located on the ground level, due to their public interface
- The IT Department placed on the first level, for proximity to the parking lot for equipment loading / unloading
- Remaining programs at the second level including Business / Finance, Student Development, Program Development, and Superintendent

Constraints:

- Remote location does not serve schools
- High cost of utilities and access improvements

New Construction: 20,000 SF
Total Construction: 20,000 SF



**OVERVIEW OF A SCHOOL DEPARTMENT
CENTRAL ADMINISTRATION RELOCATION TO
PUBLIC SERVICES ADMINISTRATION BUILDING**

School Administration departments are primarily located in the Emery Grover Building with some additional spaces dispersed in other locations. This building is not accessible for staff or visitors, does not have enough office and meeting rooms, is in poor overall condition and includes unusable space such as the attic.

School Administration Department spaces include:

- Superintendent of Schools
- Student Development
 - Student Development
 - Community Education
- Innovation Technology
- Finance Operations
 - Human Resources
 - Business / Finance Operations
 - Transportation / Food Service
- Program Development
- Shared Building Service

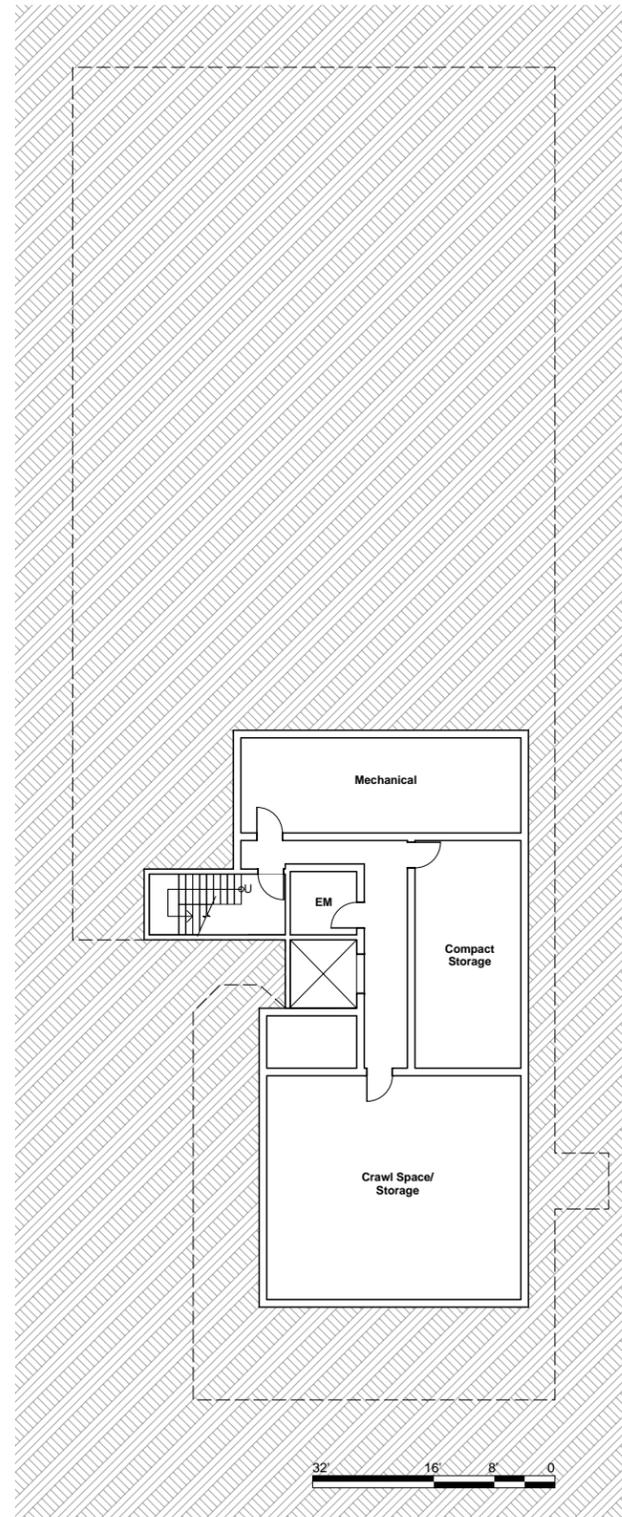
**Description of a School Department Central
Administration Relocation to Public Services
Administration Building**

The proposed solution, relocation to PSAB, can only occur if the DPW, and the other departments co-located here, are permanently relocated off site. This building will need some internal changes to address the needs of a school department but the infrastructure and amenities already in place will make this a minor renovation project.

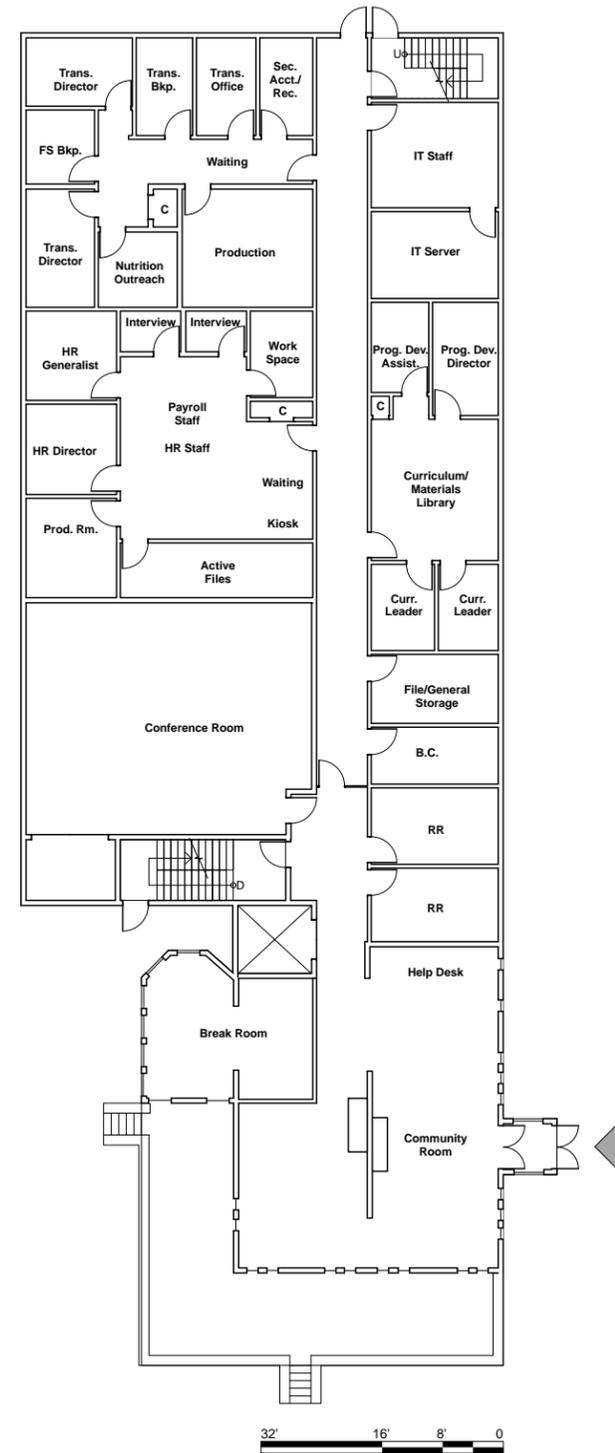
The need for a large meeting room is accommodated in the old Water Pump Building which can be restored as a singular room with lobby, toilet and support spaces. This space would be primarily assigned to the school department for daily use but could also be used by the Community during off-hours.

Parking for the 102 cars required would be provided by reuse of the existing parking and new parking made available by demolition of the Hollis Building (DPW).

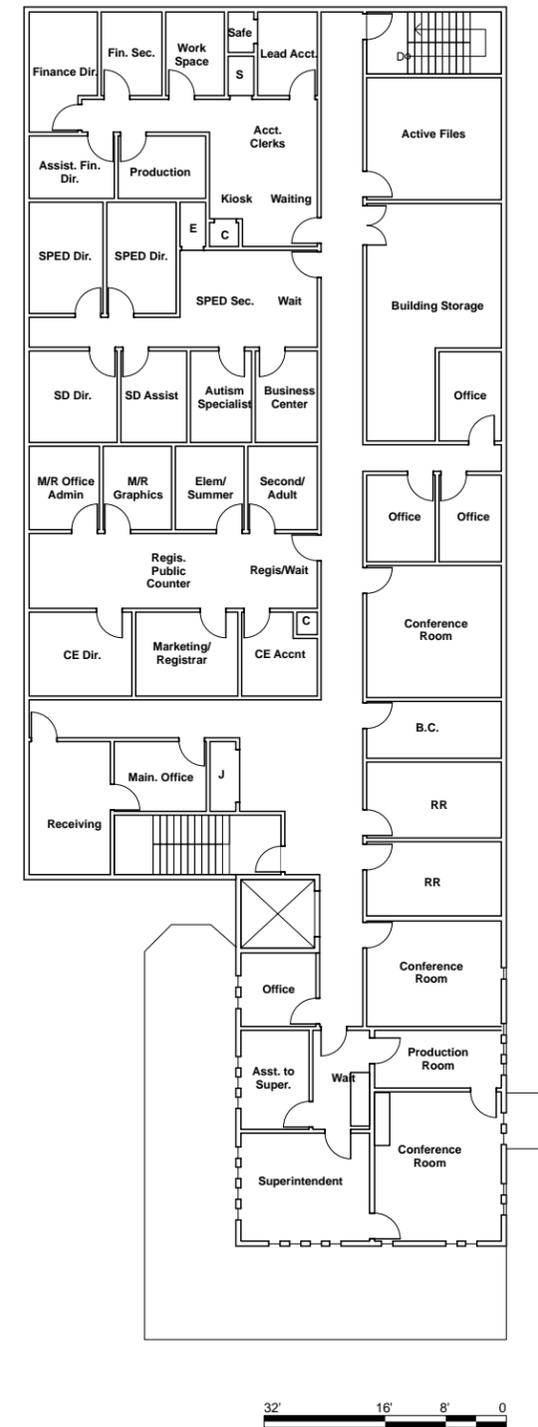
designLAB architects



BASEMENT FLOOR PLAN_ RIDGE HILL TEST FIT



FIRST FLOOR PLAN_ RIDGE HILL TEST FIT



SECOND FLOOR PLAN_ RIDGE HILL TEST FIT

**OVERVIEW OF A SCHOOL DEPARTMENT
CENTRAL ADMINISTRATION RELOCATION TO THE
RIDGE HILL RESERVATION**

School Administration departments are primarily located in the Emery Grover Building with some additional spaces dispersed in other locations. This building is not accessible for staff or visitors, does not have enough office and meeting rooms, is in poor overall condition and includes unusable space such as the attic.

School Administration Department spaces include:

- Superintendent of Schools
- Student Development
 - Student Development
 - Community Education
- Innovation Technology
- Finance Operations
 - Human Resources
 - Business / Finance Operations
 - Transportation / Food Service
- Program Development
- Shared Building Service

Description of a School Department Central Administration Relocation to Ridge Hill

The proposed solution, relocation to the portion of the Ridge Hill site currently occupied by the historic house and associated parking areas, assumes demolition of the service ell, renovation of the original house and a sizable addition on the north-south axis to house the majority of program spaces. This solution preserves the historic house, as community meeting space and shared functions, with the new wing running alongside the ridge and positioned to preserve the tree-line.

General improvements would be required for both the interior and exterior of the original house with changes to interior partitions to meet the needs of the school department.

Parking for the 102 cars would be provided by reuse of the existing parking and creation of new parking as required.