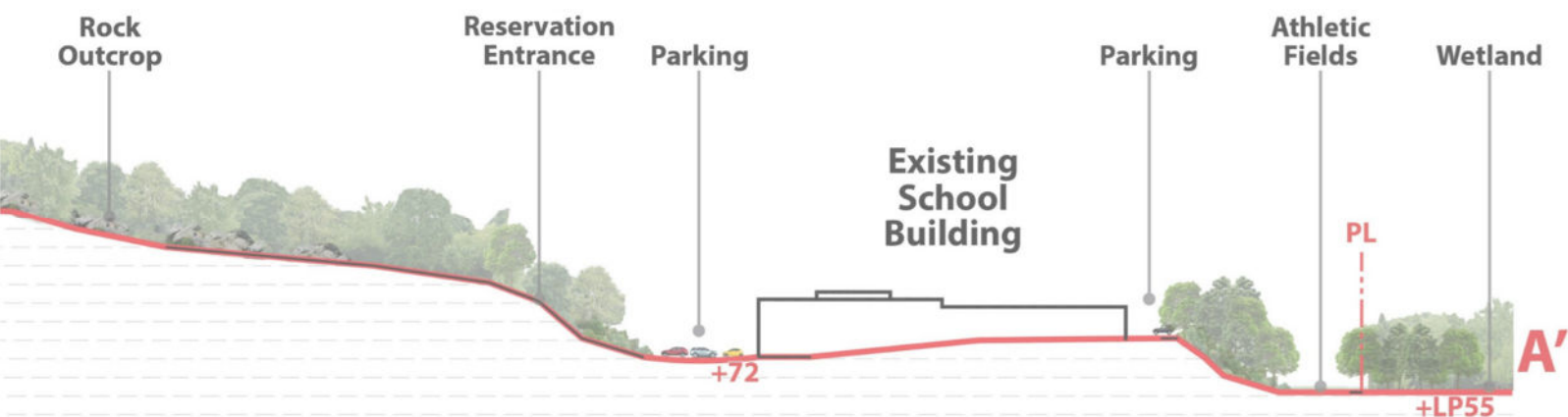




# 3.1.5

## SITE DEVELOPMENT REQUIREMENTS

## 3.1.5 SITE DEVELOPMENT REQUIREMENTS

### Structures and Fences

Due to the significant topographic changes throughout this site, retaining walls will likely be needed to address grade changes and provide accessibility. Other site structures include retrofitting or replacing the bleachers and press box as well as storage and irrigation sheds.

Fencing is required at athletic fields and outdoor courts and as well as to enclose the pre-kindergarten play area. Fencing is also needed to enclose utility and services areas as well as securing automotive storage and bus parking. Fence guards may be needed along retaining walls and along the top of exposed excavated ledge faces for safety, and perimeter fencing at portions of the site boundary is a security consideration where the school building is in close proximity.

### Site Access and Circulation

In general, improvements to the site must maintain the safe entry and exit to the site from Hemlock Road. A second site access from Farm Street will be evaluated as part schematic design, along with safety and security improvements to the existing access at Hemlock Road.

Better separation of bus and car circulation with adequate queueing distance on site will improve traffic flow and minimizing driveway crossings along pedestrian routes will improve safety.

Refer to Appendix B, sub-item k, Traffic Assessment Report.

### Facility Service

Trash and recycling pick-up areas are required in multiple locations outside service and vocational programs, including sawdust collection. There also needs to be provisions for delivery access to the kitchen and receiving area(s). Most of the vocational programs require direct vehicular access to the building and outdoor storage as do the mechanical equipment such as the generator, transformer and chillers.

### Parking and Paving

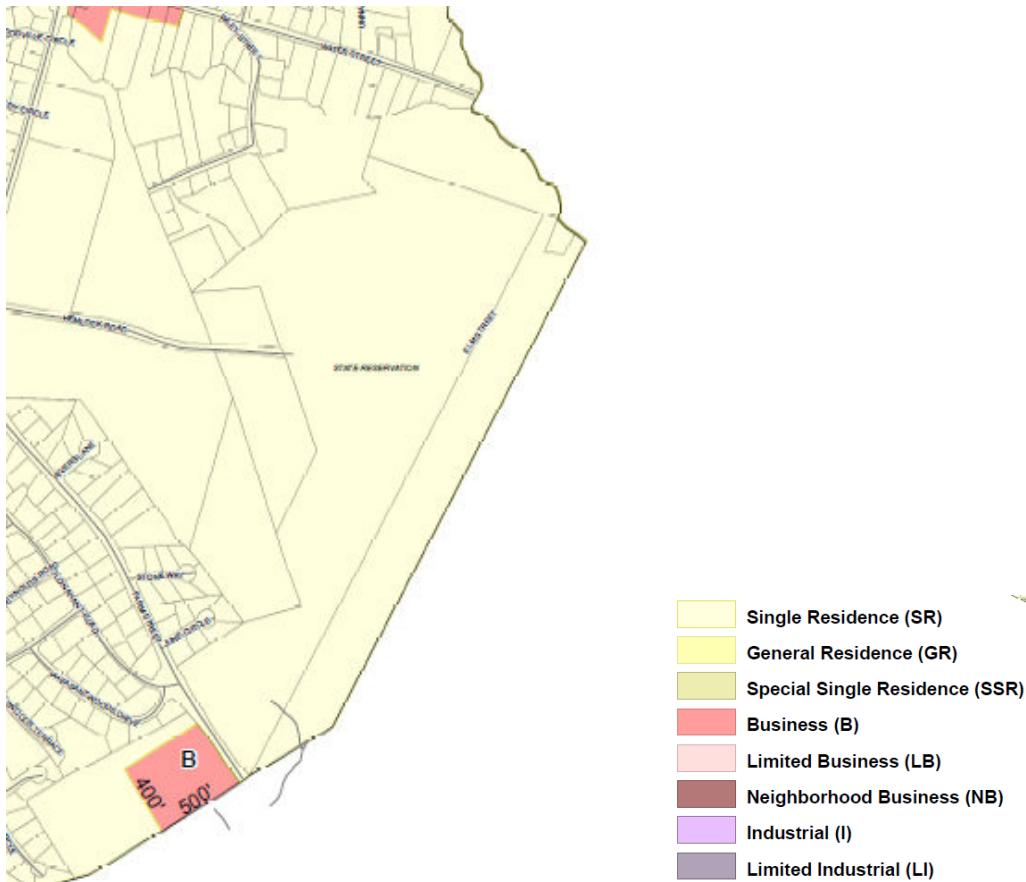
There are currently approximately 430 parking spaces at the site for passenger vehicles and vans, 1/3 of which are located within the secured fenced in area around the sides and rear of the school. The spaces that are fenced in are used for school vehicles, automotive technology and staff parking. Sixteen bus parking spaces are also located within the fenced in area behind the school. Two hundred and seventy-six parking spaces are located in front of the school including spaces reserved for accessibility, visitors and approximately 6 designated for Breakheart Reservation and 9 for the Reading Cooperative Bank.

Replicating the existing parking quantity and general proximity to supported programs in the school building is the starting point for site planning and evaluating the programmatic trade offs relative to the site constraints. All parking will be paved.

## Accessibly & Code Requirements

As noted in the Existing Conditions Report, no accessible routes exist to the athletic facilities. Accessible routes are required to all site program areas including the bleachers and press box. Accessible wheelchair seating is required to be integrated into the bleacher seating. All egress doors will need to provide accessible routes away from the building. Code compliant pedestrian guard rails will be required along the top of retaining walls that are over 30 inches in height.

## Zoning Setback and Limitations



The site is located in the Single Residence (SR) district with the following dimensional requirements:

### TABLE OF DIMENSIONAL AND DENSITY REGULATIONS

|                                      |           |
|--------------------------------------|-----------|
| Minimum Lot Area (ft.)               | 12,000 SF |
| Minimum Lot Frontage and Width (ft.) | 100 ft    |
| <u>Minimum Yard Size</u>             |           |
| Front (ft.)                          | 20'       |
| Side (ft.)                           | 15'       |
| Rear (ft.)                           | 25'       |
| Maximum Bldg Height (ft.)            | 35'       |
| Maximum Stories (no.)                | 2.5       |
| Maximum Lot Coverage (%)             | 30%       |
| Min Open Space Coverage (%)          | 40%       |

Under 2312 Educational uses are permitted in a SR District.

Adjacent properties to the east, west and north are zoned SR, while a parcel to the southwest is zoned Business (B) and is also in the Wireless Communication Services Overlay District. Attention should be paid to any specific buffer or screening requirements of which are outlined below.

#### Article VII Additional Landscaping Requirements

The Zoning By-Law should be referenced for more detailed requirements. Several applicable landscape standards are summarized below:

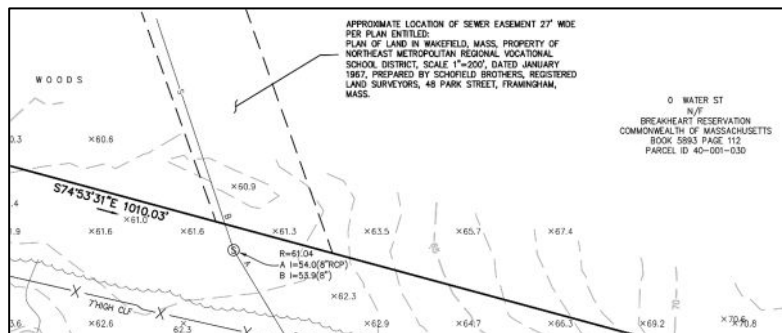
- Driveways shall not exceed a width of 20 feet in residential districts without a special permit from the Board of Appeals, and 60% of the front yard shall be maintained as open area, without parking
- Traffic visibility at driveways and corners. A fence, hedge, wall, sign or other structure shall not be over 2 ½ feet in height above the adjacent ground within 5 feet of the lot line
- Landscaping of parking lot:
  - Surfaced areas of off-street parking areas shall be set back a minimum of 7.5 feet from all buildings
  - Open parking areas shall be separated from the street line by a landscaped strip not less than 15 feet in width, except at entrances and exits
  - At least 5% of the interior of any parking lot with 40 or more parking spaces shall be landscaped
    - Planted with shade trees of a species and size approved by the Town Arborist
    - Minimum of one tree for every 2,000 square feet of parking area and location approved by Town Arborist
    - Any trees surrounded on three or more sides by pavement shall be planted with a raised island bound by a curb a minimum of six inches high, covered with a porous material for water drainage to the tree roots, and have a surface drainage area immediately around the tree a minimum of 30 square feet in area
    - Planting or screening along the perimeter shall not be counted as part of the 5%

#### Table of Required Off-Street Parking

| Principal Use | Number of Spaces Required                                                                                                                                                  |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Schools       | 2.0 per 3 staff members, plus 1.0 per 3 students of driving age<br>(unless car usage is prohibited) or 1.0 per 6 seats in largest place of assembly (whichever is greater) |

#### Easements

Northeast Metropolitan Regional Vocation School has a Sewer Easement on adjacent Breakheart Reservation.



## Wetlands and/or Flood Restrictions

### Wetlands

The Massachusetts Wetlands Protection Act grants local Conservation Commission jurisdiction over work within 100' of most wetland resources (within 200' of a river). There are wetlands located along the east side of the site associated with the brook, on site bordering vegetated wetlands and isolated vegetated wetlands in the undeveloped portions of the site, and wetlands to the north of the site (beyond the softball/practice field) that are associated with the Mill River. Work in the buffer zone of any of those jurisdictional areas will require the filing of a Notice of Intent (NOI) with the Wakefield Conservation Commission. Projects of this scale typically have their NOI's and supporting stormwater plans and calculations peer reviewed during the permitting process.

### Flood Plain

Based on the Flood Insurance Rate Map (FIRM), Community Panel Number 25017C0431E dated June 4, 2010 the existing school site is not within any mapped Flood Hazard Area (100-year flood). There are areas of Flood Hazard Areas associated with the Mill River, those areas are immediately adjacent to the Mill River and appear to not extend onto school property.

## Emergency Vehicle Access

The single site access at Hemlock Road provides access for emergency vehicles, and there is emergency vehicle access around the entire perimeter of the school building. Improvement to emergency vehicle access at athletic facilities is required.

## Safety and Security Requirements

As noted above, a second site access from Farm Street will be evaluated as part schematic design, along with safety and security improvements to the existing access at Hemlock Road. A guard shack currently exists at this site access. Maximizing the distance between the building and site access points while keeping clear sight lines along the approach to the building will be studied in the development of site plan alternatives. Fencing to secure the perimeter of program areas or the site boundary where distance is limited will also be factored into the site planning.

## Site Utilities

### Storm Drainage

Storm drainage for the site will need to comply with Massachusetts Stormwater Management standards. Massachusetts Stormwater Management standards require that the rate of stormwater flows off the site not be increased. They also require that the quality and quantity of stormwater be addressed by treating the stormwater to remove possible contaminants and that a portion of the stormwater be directed to the groundwater. Areas that see vehicular traffic could have their stormwater quality addressed through mechanical means such as water quality inlets or by "greener" systems such as rain-gardens, constructed wetlands, bio-swales, etc. Runoff from roofs and landscaped areas are considered clean and treatment prior to recharge or discharge is not required. Rates of runoff from the site would be addressed by either decreasing the existing amount of impervious area or by detaining or infiltrating stormwater on-site. Detention/retention ponds, constructed wetlands, underground infiltration systems, porous pavement and rainwater recycling are all

examples of some best-management practices (BMP's) used to address stormwater rate and volume. Typically, on large school sites, similar to NEMT, with varied topography and soils, a variety of different BMP's are employed to mitigate stormwater flows.

### **Water**

Water to the site is currently supplied via an 8-inch line that enters the site from the Hemlock Road drive and loops around the existing building. The existing service is considered inadequate for existing needs. To accommodate future demand, including fire flows, an additional connection to the Town of Wakefield water system will be required. Two connections (one existing and one new) to the Town of Wakefield system will eliminate the long dead-end service that the school currently has, will provide redundancy, and increase available flows. A second connection point to the Town of Wakefield system would preferably follow the route of a second vehicular access into the campus.

### **Sanitary Sewer**

Any future development on the site will require that sanitary flows from food-preparation areas be segregated and directed through an external grease-trap. Portions of the existing sanitary sewer system, including the connection to the Town of Wakefield system, can be incorporated into the future development after being video inspected and repaired as required. Typical repairs might include spot repairs to address broken pipe, root removal and slip-lining. The size of the existing system (8-inch), is adequate to support future development.

### **Natural Gas**

There is currently no natural gas serving the site. If future development incorporates the need for natural gas, the size and connection point of the future service will be determined by the utility provider in conjunction with the project's MEP Consultant. Having a proposed gas service parallel the route of a new second water service would be preferred to minimize site costs and disturbance.

## **Athletic Fields and Outdoor Educational Spaces**

The current athletic facilities program is summarized in the Existing Conditions Report. Recreating or renovating the existing athletic facilities depending on the overall site plan, is required to meet the needs of the school's sports programs. Improvements to access, layout, drainage and materials are needed to provide safe and durable facilities that meet the level of program use.

Synthetic turf and sports lighting is required at the primary game field for it to be able to accommodate the number of teams currently using this facility (3 football, 4 soccer and 1 field hockey in the fall and 2 boys lacrosse and 2 girls lacrosse in the spring). A new or reconstructed running track is required as the existing track is not regulation size and in unsafe condition.

The maximum bleacher seating requirement for sports is estimated to be 500-550 spectators for football homecoming, but graduation is held at the field during good weather and fills the existing bleacher to capacity, approximately 2,000+ seats at 18"/seat as defined by building code.

The current baseball field location does not allow space for dugouts or spectator seating near the infield.

Tennis is played at the adjacent Wakefield High School, basketball is played indoors exclusively, cross country utilizes Breakheart Reservation.

The softball field and football practice field at the low side of the site to the north, require drainage and irrigation improvements as well as an accessible route and safe spectator seating at the softball field.

### Outdoor Educational Spaces

The significant topographic changes in the surrounding natural environment include forested hilltop ledge outcroppings and low lying wetlands providing a wealth of opportunities for outdoor learning. Accessibility and safety (prevention from tick bites for instance) present limitations to convenience of daily use. The schematic design site plan alternatives will seek to incorporate convenient outdoor spaces shared with other uses (such as the cafeteria) that are close and easily accessible to the building with good solar exposure for comfort in fall and spring. Accessible routes required for the athletic facilities will provide opportunities to explore the surrounding natural environment safely.

### Site Orientation and Other Location Considerations

A co-occupied site with construction and school functions occurring simultaneously will be a significant factor in developing the site plan along with balancing site development costs associated with changes to existing grades due to the preponderance of ledge throughout the site. One of the biggest challenges, and opportunity, is to provide a final site and building design that is functionally uncompromised and does not reflect these site limitations in the appearance and experience of the finished construction.

Existing Site Plan

