

# SITE DEVELOPMENT REQUIREMENTS

SECTION 3.1.5

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**3.1.5 – SITE DEVELOPMENT REQUIREMENTS**

- 205 Westford Road
- 50 Norris Road

PRELIMINARY DESIGN PROGRAM, MARCH 2021

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## PRELIMINARY DESIGN PROGRAM, MARCH 2021

### **3.1.5 – SITE DEVELOPMENT REQUIREMENTS**

The Site Development Requirements for the Preliminary Design Program (PDP) Submission to MSBA are intended to help in the site selection process. This section describes a variety of options that were explored with the Tyngsborough Middle School Building Committee, the OPM and the Designer.

While the Statement of Interest excluded the analysis of alternatives sites from this study, the Building Committee requested an exploration of properties that met the following criteria:

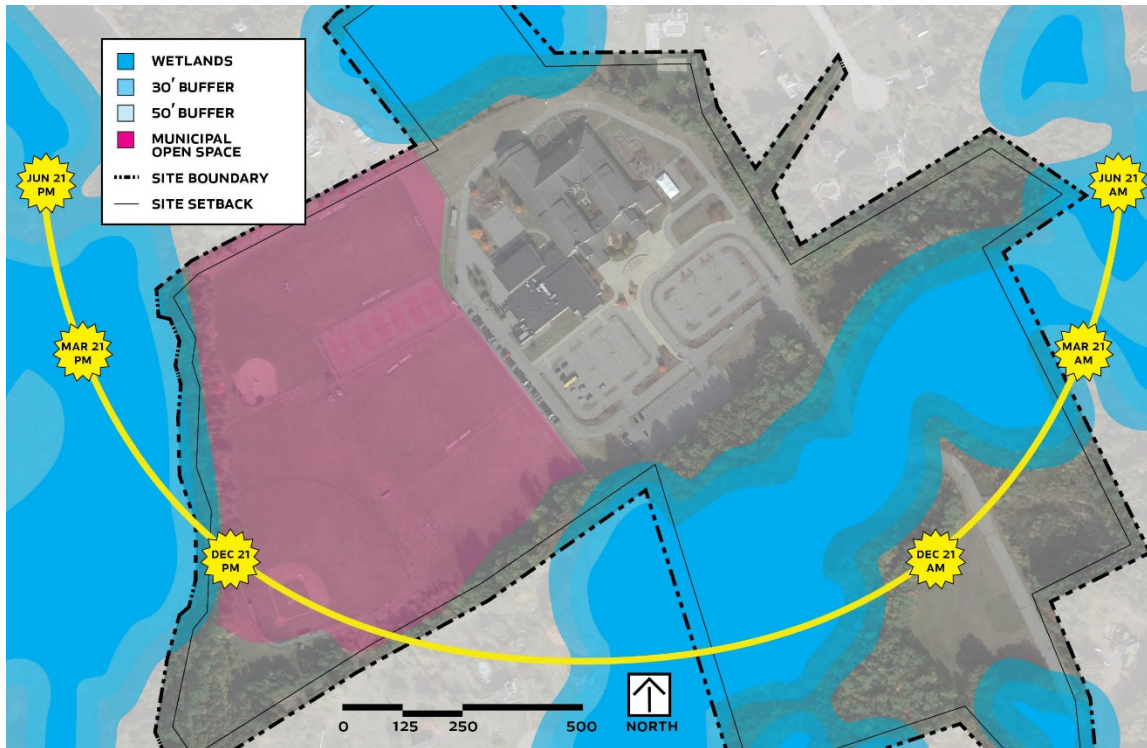
- Town/District must own and control the site for the anticipated useful life of the project.
- Site must meet the educational need, maximize the use of any available community resources and minimize adverse impact to the community (ie: costly infrastructure improvements).
- To the extent possible, the site shall be proximate to other facilities (libraries, museums, parks, natural resources, businesses) which would enhance the proposed educational program.
- The site shall be free of noxious pollution/contamination and avoid flood plains, wetlands, environmentally sensitive areas and not be located within 1,000 feet of an active landfill.
- The site shall be located to efficiently and safely serve the intended school population and be appropriately sized for the proposed program and future additions.

Applying the Association for Learning Environments (A4LE) recommended site size for middle schools at 20 acres (base) plus 1 acre for each 100 students for a 25 acres site for a 480 student school, the existing Tyngsborough Elementary School site located at 205 Westford Road and the existing Tyngsborough Middle School site located at 50 Norris Road were identified as the only two sites meeting this criteria.

At the request of the Building Committee, these two potential sites were considered as part of this Preliminary Design Program. Through a series of discussions that included an evaluation of compiled data, the 50 Norris Road site emerged as the preferred site to explore an renovation and addition option and a new construction option as part of the Preferred Schematic Report.

# PRELIMINARY DESIGN PROGRAM, MARCH 2021

## 205 WESTFORD ROAD



Tyngsborough Elementary School and Bicentennial Field Complex are located at 205 Westford Road in Tyngsborough, MA. The property is owned by the Town of Tyngsborough. The site is located in the Residential 1 Low Density (R-1) zoning district. Educational use is permitted with a special permit authorized by the Tyngsborough Board of Selectman. A copy of the property deed is included in Appendix.3.1.8.9.

In accordance with Section 2.12.50 of the *Town of Tyngsborough Zoning Bylaw amended through November 3, 2018*(Bylaw), the standard dimensional requirements for the sites located in the R-1 zoning district are as follows:

- Minimum Lot Area: 65,000 square feet
- Minimum Frontage: 200 linear feet
- Minimum Lot Width: 50 linear feet
- Front Yard Setback: 30 linear feet
- Side Yard Setback: 30 linear feet
- Rear Yard Setback: 30 linear feet
- Minimum Open Space: See Section 4.14.00
- Maximum Height: 36 linear feet
- Maximum Stories: 2-1/2 stories

In accordance with Section 4.14.00 of the Bylaw, a Special Permit approved by Town Meeting is required for an Open Space Residential Plan to establish the minimum open space requirement.

## PRELIMINARY DESIGN PROGRAM, MARCH 2021

The 70.07 acre site is abutted by single family residential properties on its north, south west and northeastern boundaries. A multi-family residential complex abuts the site along its southeastern boundary. The Bridge Meadow Brook and associated wetland areas bisects the midpoint of the site from east to west. The site topography is relatively flat.

General vehicular access to the site is limited to a single access point from the southeast corner of the site from Westford Road via an approximately 1,700 foot drive. The drive winds through open and densely wooded marsh terrain crossing the Bridge Meadow Brook over a recently improved culvert that was partially federally funded. The drive lies within the boundaries of a FEMA Flood Zone – Zone A denoting an area that is subject to a 1% annual chance flood hazard.

Emergency vehicle access is available from Westford Road drive or through a gated, secondary, limited access drive approximately 450 feet in length from the northeast from Diamond Street. A gated, fire access drive provides emergency vehicle access to the north, east and west of the school.

Service access is provided by Westford Road drive and internal drives leading to the perimeter fire lane to a service entrance on the west side of the building and a loading dock located on the northwest corner of the building.

Pedestrians access the site via the Westford Road drive and the Diamond Street drive.

The Tyngsborough Elementary School occupies the northeast corner of the site with three striped, double loaded, aisle style parking areas to south of the building providing 250 spaces and a striped, single loaded parking area west of the building along the eastern perimeter of The Bicentennial Field Complex providing 45 spaces. In total, there 285 standard (10'x20') parking spaces with 10 accessible spaces for 295 total spaces.

Buses and parent vehicles enter the site from the Westford Road drive. The school is served by fifteen (15) buses that queue in two areas; the separate bus drive located to east of the main entrance and along the curb of perimeter drive aisle in western parking lot. The parents utilize the separate drive aisle located between eastern parking lot and the main entrance for drop-off and pick-up.

The Tyngsborough Elementary School enjoys six (6) playscapes located on its perimeter to the north, east and west.

The Bicentennial Field Complex occupies the western side of the site. The complex includes one (1) baseball field, (1) softball field, three (3) multi-purpose fields (football, field hockey, lacrosse and soccer), one (1) practice field, one (1) basketball court and five (5) tennis courts with open space between each court/field. The fields are all non-irrigated, natural turf fields. Historically, the southern most fields which are closest to the wetland remain wet through the spring and fall.

Safety and security requirements on the existing Tyngsborough Elementary School site provide for good sightlines of the vehicular ingress/egress point with clear areas around the entire building perimeter. The low plantings around the building help to minimize the areas of concealment and maximize the safety lighting around the perimeter and at exterior door locations.

## PRELIMINARY DESIGN PROGRAM, MARCH 2021

The site utilities include a four (4) inch domestic water service, eight (8) inch fire service, electrical, municipal sanitary sewer, natural gas and telecommunications/cable that enter the site from Westford Road.

Through the course of the Building Committee's evaluation of this property, the attributes outlined above and below were considered about this site.

### Opportunities:

- Town owned property with no development restrictions
- Already a school site – no change of use
- Adjacent to Town fields
- Attractive building site with minimal earthwork
- Ample space to configure parking with separate bus and parent loops
- Proposed building location isolated from immediate residential neighbors

### Limitations:

- One point of vehicular access
- Traffic impact to Westford Road
- Significant impact to existing site traffic patterns
- Approximately 2,800 linear foot utility extensions required
- Reworking of recently completed Broad Meadow Brook culvert
- All fields, basketball court and tennis courts are within municipal open space
- Elimination of two (2) multi-purpose fields
- Possible impact to baseball field to accommodate the required perimeter fire access drive
- Three (3) existing NHESP Potential Vernal Pools

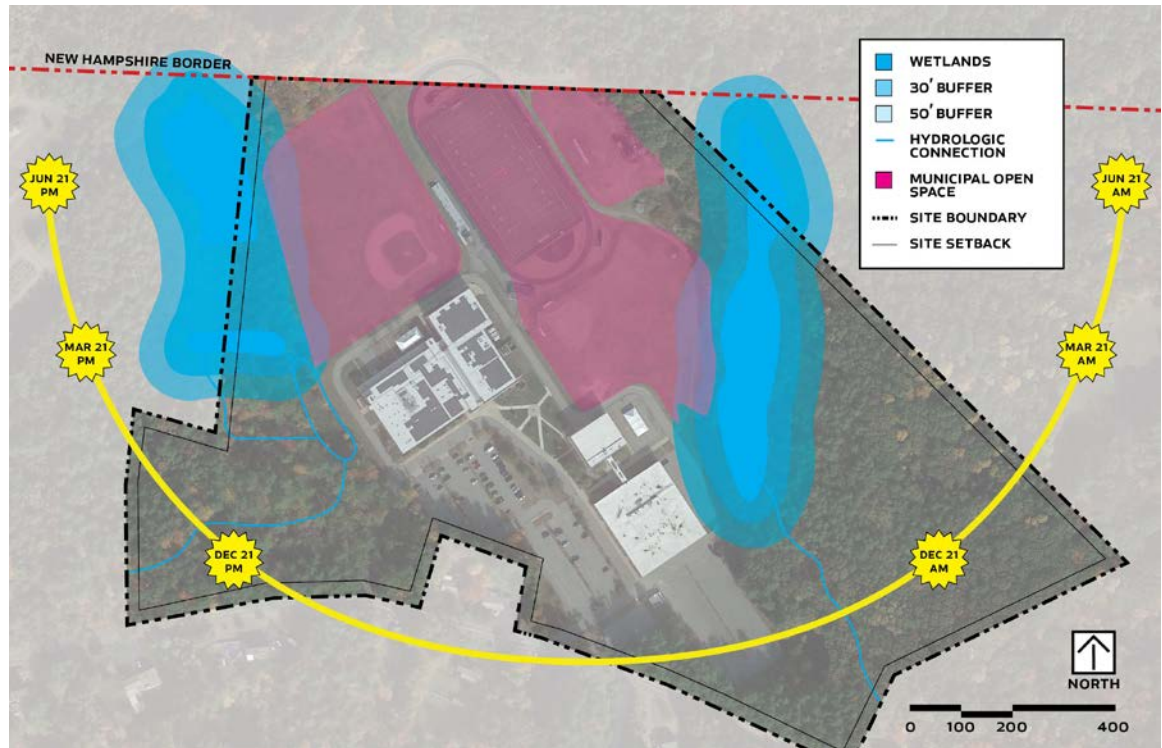
### Conclusion:

After careful consideration of the attributes, opportunities and limitations of this site, the School Building Committee decided it was unfavorable to advance the 205 Westford Road site for further study in the Preferred Schematic Report.



# PRELIMINARY DESIGN PROGRAM, MARCH 2021

## 50 NORRIS ROAD



Tyngsborough Middle School and Tyngsborough Middle School are located on a common campus at 50 Norris Road in Tyngsborough, MA. The property is owned by the Town of Tyngsborough. The site is located in the Residential 1 Low Density (R-1) zoning district. Educational use is permitted with a special permit authorized by the Tyngsborough Board of Selectman. Copies of the property deeds are included in Appendix.3.1.8.9.

In accordance with Section 2.12.50 of the *Town of Tyngsborough Zoning Bylaw amended through November 3, 2018* (Bylaw), the standard dimensional requirements for the sites located in the R-1 zoning district are as follows:

- Minimum Lot Area: 65,000 square feet
- Minimum Frontage: 200 linear feet
- Minimum Lot Width: 50 linear feet
- Front Yard Setback: 30 linear feet
- Side Yard Setback: 30 linear feet
- Rear Yard Setback: 30 linear feet
- Minimum Open Space: See Section 4.14.00
- Maximum Height: 36 linear feet
- Maximum Stories: 2-1/2 stories

## PRELIMINARY DESIGN PROGRAM, MARCH 2021

In accordance with Section 4.14.00 of the Bylaw, a Special Permit approved by Town Meeting is required for an Open Space Residential Plan to establish the minimum open space requirement.

The 56.10 acre site is comprised of two parcels: a 46.10 acre parcel located in Tyngsborough, MA and an 11.00 acre parcel located in Hudson, NH. Both parcels are owned by the Town of Tyngsborough. Based on the initial conceptual design options being considered, only the parcel located in Tyngsborough will be evaluated by the PDP. Single family residential properties abut the site to the north and south. Town owned property abuts the site on its east (protected open space) and on its west (cemetery).

The site topography provides some significant elevational changes. The existing middle school occupies the high point of the developed site area with its First Floor being approximately 3 feet higher than the east Norris Road entrance drive and is approximately 6 feet higher than the existing high school First Floor. The site continues to fall approximately an additional 8 feet to the fields to the north. In addition, the site rises approximately 12 to 15 feet to its highest point in the heavily wooded area located in the southeast corner.

There are two general vehicular access points to the site from Norris Road that runs along the site's southern boundary. Vehicles primarily enter the site from the eastern access drive and use this drive to exit the site except between 7:00A – 8:00A and 2:00P – 3:00P. The western access drive is used as a site exit only.

Emergency vehicle access is available from eastern Norris Road. A gated, fire lane provides emergency vehicle access to the north, east and west of the middle and high schools. The drive, as constructed, has insufficient turning radii to prevent vehicles from getting stuck on the adjoining lawn areas.

Service access is provided by eastern Norris Road drive and internal drives leading to the perimeter fire lane to an on-grade service entrance on the south side of the middle school and a loading dock located on the northwest corner of the high school. As previously noted, The drive, as constructed, has insufficient turning radii to prevent vehicles from getting stuck on the adjoining lawn areas. In addition, there is insufficient paved area to permit trucks to maneuver to access the high school loading dock without driving on the adjacent lawn area. The middle school does not have a loading dock.

Pedestrians access the site from either of the two Norris Road access drives.

The Tyngsborough Middle School occupies the southeast corner of the site with three striped, double loaded, aisle style parking areas to south, east and west of the building. The Tyngsborough High School is located in the middle of the site with one striped, double loaded, aisle style parking area to its south. The middle and high school share parking. In total, there are 331 standard (10'x20') parking spaces with 6 accessible spaces for 337 total spaces.

Buses and parent vehicles enter the site from the eastern Norris Road drive. The middle and high school share buses and are served by fifteen (15) buses that queue along the curb in the drive aisle located west and south of the schools. The drive aisle is separated from the parking areas by landscaped medians. The middle school parents utilize the drive aisle in the southern most parking area for drop-off and pick-up; whereas, the high school parents utilize the western drive aisles in the parking areas for drop-off and pick-up.

## PRELIMINARY DESIGN PROGRAM, MARCH 2021

The middle-high school campus includes one (1) baseball field, (1) softball field, one (1) football with four (4) lane track plus bleachers, concessions building and lighting, one (1) practice field and one (1) basketball court with open space between each field. The football field is synthetic turf; all other fields are natural turf fields. Only the baseball field is irrigated.

Safety and security requirements on the existing Tyngsborough Middle School site provide for good sightlines of the vehicular ingress/egress point with clear areas around the entire building perimeter. The low plantings, trees and landscape berm around the building help to minimize the areas of concealment and maximize the safety lighting around the perimeter and at exterior door locations.

The site utilities include water service that loops the middle and high school providing the middle school a four (4) inch domestic water service, electrical, municipal sanitary sewer, natural gas and telecommunications/cable that enter the site from Norris Road.

Through the course of the Building Committee's evaluation of this property, the attributes outlined above and below were considered about this site.

### Opportunities:

- Town owned property with no development restrictions
- Existing middle school site – no change of use or impact to traffic or busing
- Adjacent to high school allowing for shared academic and athletic programs
- All fields and track are within municipal open space
- Adjacent to Town fields
- Attractive building sites with minimal earthwork
- Ample space to configure parking with separate bus and parent loops
- Proposed building options isolated from immediate residential neighbors

### Limitations:

- Possible elimination of softball field
- Possible elimination of baseball field
- Immediate adjacency to single family residences
- One (1) existing NHESP Certified Vernal Pool located southeast of the gymnasium building

### Conclusion:

After careful consideration of the attributes, opportunities and limitations of this site, the School Building Committee decided it was favorable to advance the 50 Norris Road site for further study in the Preferred Schematic Report.

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