

## Part 1: EXECUTIVE SUMMARY

### **Problem Statement**

The Needham Public Building Committee (PPBC) described the scope of work in their RFP for a middle school site feasibility study as follows:

*“...to study the feasibility of construction a middle school through addition, renovation, demolition/new construction, on the site currently occupied by the High Rock School in Needham, Massachusetts.” Further, “...that a feasibility study be performed on the site and the proposed concept for a new middle school thereon to answer at least the following questions:*

- 1) Can the existing school be used as a second middle school ‘as is’, or with a renovation and/or addition?*
- 2) Assuming the building is torn down, is the site adequate to support a new middle school and if so, of what size?*
- 3) In light of current School Building Assistance Board regulations, what is the preferred alternative to maximize the financial benefit to the Town?”*

### **Overcrowding – Pollard Middle school**

The underlying premise of the RFP is existing overcrowding of the Pollard Middle School as evidenced by ten portable classrooms installed in September 2002. Enrollment projections for grades 6, 7 and 8 show steady growth over ten years to a total enrollment in 2011-2012 of 1,116 students.

### **Educational Capacity – Pollard Middle School**

Pollard Middle School was designed and built as a junior high school in 1960. It has 45 general classrooms (including science), many of which are undersized and inappropriate for current usage.

In 1995, Kaestle Boos Associates, as part of a comprehensive town-wide study, determined that based upon a projected enrollment of 1050 students there was a shortfall of 8,168 SF which translates to a building capacity of 922 students.

For the purposes of this report, the middle school educational capacity of Pollard was determined by fitting the educational program in Section 5 into available specialized classroom spaces at Pollard. Based upon this formulation the current Pollard School, excluding portable classrooms, is 780 students.

### **High Rock Site Evaluation – General**

The High Rock School site is bordered by Linden Street to the east, Sylvan Road to the south and Ferndale Road to the west (the existing school entry drive).

The total site including High Rock School and playfields, totals 11.71 acres of public land. The playfields, buildings and immediate site (approximately 11 acres) are under School Department control. The northeast corner of the site which contains 0.96 acres of parkland under Parks Department control is also within the wetlands setback.

### **Wetlands Delineation**

On 28 October 2002 the Needham Conservation Commission issued an *Order of Resource Area Delineation* based upon a Wetland Delineation drawing prepared by Schofield Brothers of New England (25 October 2002). The purpose of this wetlands delineation is to facilitate future planning adjacent to the wetland area. This delineation expires on 28 October 2005 unless the Permanent Public Building Committee requests an extension.

### **Geological Information**

In April 1999 GZA GeoEnvironmental, Inc. prepared a report on the High Rock school site for the town. A summary of their findings follows and a complete copy of their request is included in the appendix. Six borings and three test pits which were taken indicate four feet of topsoil/subsoil and fill over natural glacial till over bedrock. The lower playfields are build on fill (3 feet) on top of peat (3 feet) over inorganic silt.

There are rock outcroppings on the upper west site and lower east playfield. Unexposed bedrock should be anticipated at other areas of the site.

Groundwater was encountered at three feet in the lower parking area adjacent to the playfields.

### **Traffic – Impact on the Neighborhood**

Although High Rock has been used for pre-school and elementary schools in the recent past, the amount of traffic generated by these activities and the impact on the immediate neighborhood has been relatively minor.

The prospect of a new middle school for approximately 600 students is a departure in use that requires sensitivity to the impact on the neighborhood, not only for pedestrian and vehicular traffic but for placement of buildings as well.

After a general review by the School Department and the Permanent Public Building Committee, an introductory meeting with neighbors to solicit their concerns at an early planning stage is recommended.

### **Planning Options**

The purpose of this study is to determine the feasibility of a middle school at the High Rock site based upon the following variables:

1. Option A, Using all of the existing High Rock school.
2. Option B, Using part of the existing High Rock school.
3. Option C, Using none of the existing High Rock school (lower site).
4. Option D, Using none of the existing High Rock school (upper site).

The starting premise is a school enrollment of 600 students at High Rock and 600 students at Pollard.

### **Planning objectives are as follows:**

1. Conserve land in the layout of playfields, parking, site circulation and access.
2. Adhere to wetlands regulations as they apply to intrusion into buffer zones.
3. Establish equity of size, finishes and equipment for all classrooms (renovations and new construction).

### Cost Summary of Options

	Area	Construction Cost <sup>(1)</sup>	Project Cost <sup>(2)</sup>	Town Cost
<b>Option A (Reuse Existing 100%)</b>	113,000 SF	\$19,527,000	\$26,470,000	\$18,307,000
<b>Option B (Partial Reuse Existing)</b>	113,000 SF	\$20,463,000	\$27,388,000	\$19,409,000
<b>Option C (New at Playfields)</b>	113,000 SF	\$19,517,000	\$26,079,000	\$18,194,000
<b>Option D (New at Upper Site)</b>	113,886 SF	\$19,472,000	\$26,007,000	\$18,122,000

<sup>(1)</sup>Assumes November 2004 construction start.

<sup>(2)</sup>Refer to project budgets in Section 9 – Recommendations.

### Preferred Option

Option B is the most expensive option without any additional benefit and should be rejected. The town costs for Options A, C and D are so close as to be considered identical. Therefore, further analysis is based upon site and building design, and other related issues.

The design of Option A is compromised by the configuration of the existing building with the added uncertainty of higher costs for renovation rather than new construction. Since cost is not an issue, Option D, a very similar design, is unfettered by the limitations of the existing building.

Option C, which locates a new building on the lower playfields, must contend with potential soil problems created by peat and other fill materials which are acceptable for playfields but not for a structure. The location of the playfields to the upper (terraced) site is somewhat problematic with the loss of a baseball field. Further, parking for community/recreation use is at the lower level while the play activities are at the upper level.

By the process of elimination, Option D is the preferred option for the following reasons:

1. Of the three options on the upper site, it has the most compact footprint and fewest compromises to achieve the educational program.
2. The relationship between the building and playfields, although not ideal, is workable.
3. Given the limitations of a multi-level site, the flow of traffic/service on the upper and lower parts of the site are reasonably successful.
4. Unlike Option C with the problematic location of playfields on the upper site, there is an inherent logic in the location of building and playfields.
5. Lastly, the cost of Option D is the same or less than any other option.

### Next Steps

While the recommendation of a preferred option is clear-cut, there are nonetheless a number of issues that require further analysis, discussion and coordination with town officials and neighbors before proceeding to the next step.

One is the conclusion of the traffic study that will form the basis for discussion with neighbors concerning traffic issues in and around the site.

The second is the final design layout and how it is influenced by the wetlands designation and future meetings with the Conservation Commission.

### Pollard and High Rock Design Capacity

Another issue is the exact design capacity of the new middle school at High Rock. While the initial design capacity is 600 students at High Rock and 600 students at Pollard, the exact proportioning of students will depend upon other factors such as the use of that area of Pollard not necessary for a middle school and how the continued use of Pollard affects the reimbursement rate at High Rock.

The final resolution of this issue requires further study by the School Committee and School Department, and possibly meeting with DOE to agree upon a satisfactory direction.

### Other Town Space Needs

In addition to a shortage of space at the middle school level, there are other future town-wide space needs to be considered.

High School	Temporary space during HVAC repairs.
Emery Grover	The future of the school administration at Emery Grover is questionable based upon part of the structure currently deemed unsafe and the uncertain future office remainder of the building.
Senior Center	Overcrowding and/or inadequate space at the existing facility.
Town Library	Anticipated renovations/additions to the town library.
Town Hall Annex	Expansion of space at the town hall annex.

### Resolution

A summary of issues identified in Section 8 – *Recommendations* is as follows:

1. Resolution of traffic and site issues.
2. Finalize the new middle school enrollment at the High Rock site.
3. Resolve the disposition of surplus space at Pollard based upon a reduced middle school enrollment at that site.
4. Discuss with DOE the proposed educational plan for middle school students and the likely impact on the reimbursement rate at the High Rock Middle School.

### Implementation

A fast track implementation plan is as follows:

- |    |                              |   |
|----|------------------------------|---|
| 1. | January 2002 – May 2003      | Resolve outstanding issues identified above |
| 2. | May 2003                     | Appropriate preliminary design funds        |
| 3. | November 2003                | Appropriate final design/construction funds |
| 4. | November 2003 – October 2004 | Final design                                |
| 5. | November 2004                | Construction bids                           |
| 6. | December 2004                | Award contract                              |
| 7. | January 2005 – August 2006   | Construction                                |
| 8. | September 2006               | Occupancy                                   |