

# EXECUTIVE SUMMARY

## Overview

This Feasibility Study is intended to provide an independent study of the enrollment projections, a review of the current and future educational program and to determine the long-term disposition of the existing high school facility.

While the high school did undergo some renovation work in 1989 and 1991, the eight buildings have remained virtually untouched for the last 30 years. At the outset, the Wayland High School Feasibility Committee charged Dore and Whittier, Inc. with providing a comprehensive study and potential options that would address not only the issues related to the buildings and sites but also take into consideration the educational programming and long term educational plan that would be in the best interest of Wayland.

The Wayland High School facility has served the community well over the years but age, overcrowding and outdated systems have taken their toll and as a result, a number of concerns are apparent that may have an impact on learning. In addition, the educational program needed to bring the facilities into the 21<sup>st</sup> century does not match the existing school configuration.

Over the next 5 to 10 years, the community will need to expend significant funds just to maintain the physical components of the existing buildings. Additionally the educational space within the buildings is sub-standard and inefficient. Considering the continual increasing enrollments, portable classrooms would need to be purchased as well. To be a viable long-term investment, any expenditure of resources should address both the physical and educational needs of the school.

We have outlined below the key elements of the study into categories outlined by the Department of Education, Office of School Building Assistance (SBA).

## The Need

According to the criteria established by the Board of Education for determining priority of school projects applying for state reimbursement, we believe that this project meets those requirements and clearly establishes a high level of need for Wayland High School.

### **1. Wayland High School is currently experiencing severe overcrowding with enrollment projections showing a continual increase over the next 10 years.**

- A. Two separate independent enrollment projections show numbers increasing over the next 10 years.
- B. In 1991 when renovations were last completed, the student population was 596. Today the student enrollment is 875 (a 40% increase) and over the next 10 years enrollment is expected to increase an additional 20% to 30%. The need for additional space is serious now and will become worse in 2-3 years.
- C. During the 1980's, both the general population and school enrollments dropped from their historic highs of a decade before. However starting in 1990, this trend has reversed. Over the past decade, the school enrollment has grown by about 40%.
- D. Wayland resident population grew by 10.3 % (U.S. census bureau) between 1990 and

2000, which represents a relatively large increase compared to Middlesex County at 4.8% increase and the State of Massachusetts, which grew by 5.53% over the same period. The general population of Wayland is expected to grow at the same rate as the last five years, for the next five years.

- E. There is a higher percentage and a higher number of school age children now than 10 years ago.
- F. Building activity is steady, evidenced by building permits and the number of developments under review by local boards.
- G. Growth appears poised to continue at a steady pace.
- H. Listed below are a few examples of the school's overcrowding issues:
  - o Many classroom sizes range from 500 to 600 sf, well below the SBA guidelines of 750 to 850 sf. Many of these classrooms had 25 to 27 desks grouped tightly together. This not only has an impact on the quality of education but also presents a life safety concern for proper egress and a lack of space for handicap accessibility.
  - o The school currently has two storage trailers on site.
  - o Study carrels are in corridors creating a supervision issue as well as life safety concern by reducing the required egress width.
  - o Portions of the building have been converted for use by mandated programs such as Special Education, technology, and collaborative spaces, leaving limited amount of required space as outlined by SBA guidelines. The integration of these programs into the school has had an impact on the available space for other classrooms. These programs need space for small group instruction and related support areas.

**2. Wayland High School has a number of Safety Concerns and Building Deficiencies, as well as Building Code and Handicap Accessibility Code upgrades that should be addressed.**

Originally built in 1959 with additions in 1966 and 1971, Wayland High School faces several critical issues. The major components to these issues are outlined below:

- A. The population of the school has continued to grow causing overcrowding to be a serious concern. Overcrowding has resulted in a reduction in the means of egress width in classrooms and corridors.
- B. Several of the buildings have floor to ceiling window walls with single pane glass and metal panels. Some of the window units are in such a deteriorated state that they have become a safety hazard as well as the source of a large amount of heat loss. The original design of some windows, tilting into corridors and egress travel by more than 12", creates a safety concern as well.
- C. The roofing system on several buildings is inappropriate and is prone to leaking.
- D. Floor to ceiling heights throughout most of the school are below 7'6", which does not comply with current building codes.
- E. Stairs and handrails do not comply with current codes.

- F. Handicap accessibility is severely limited, with entire floors, classrooms and numerous areas throughout the school not accessible to the disabled.
- G. Portions of the heating and ventilation system are over forty years old, parts and components are difficult to find and become increasingly more costly to maintain.
- H. Ventilation rates throughout the school do not meet current code, which has an impact on indoor air quality.
- I. The existing building construction in four of the buildings (lift-slab roof structure) makes it extremely difficult and costly to make modifications to address the heating and ventilation issues as well as the ceiling height issue.
- J. The emergency lighting system and exit lighting is non-existent or outdated and poses a life safety concern.
- K. Asbestos and other hazardous materials are present in the buildings and should be removed.
- L. The Technology infrastructure is limited; the lack thereof has a negative impact on learning.
- M. The eight separate buildings with multiple entrances and no discernable front entry create a security concern.

### **3. Wayland High School Needs to Provide a Full Range of Programs and Proper Use of Space to Meet State And Local Educational Program Requirements.**

A few general comments are outlined here:

- A. There is a lack of storage space for general use and classroom use.
- B. Over the last forty years, increasing state mandates for space to accommodate special education, remedial assistance, occupational and physical therapy, technology etc. have had an impact on the amount of classroom and library space available.
- C. Classrooms and Science rooms are generally small and many are below SBA guidelines (as noted above).
- D. Athletic space needs to be re-configured to provide adequate space to meet the program.
- E. Auditorium is small and has inadequate space for storage or sets.
- F. Industrial Arts programs have changed since 1960 as have the level of technology related jobs that are demanded of high school and college graduates. This requires a shift in the type of industrial arts and technology programs that are offered so that students may compete in the constantly changing world of technology.
- G. Expansion of curriculum and educational programs is limited due to current lack of space
- H. The lack of technology has limited the ability for the school to participate in educational opportunities available to other high school students around the state and the country.

## Options Studied and Rationale for the Selected Option

As a part of this review a number of options were developed to work towards satisfying the desired educational specification approved by the School Committee. During the course of the site and building assessment it became clear that the site has significant environmental limiting factors including: The site's location is adjacent to the Sudbury River which is a National Wildlife Refuge and Priority Habitat of Rare Species, River Protection Act (200' buffer), high water table, and the site lies entirely within Zone II and partially within Zone I of the Town water supply (existing subsurface sewage disposal system is  $\pm 530$  feet of the well head). Taking these issues into consideration, the objective of the design studies was to try to work within these site constraints while satisfying the needs of the educational program. No alternate sites are available.

As the design studies developed it became apparent that in order to meet the desired program, major reconstruction would be required to modify the existing building layouts to achieve this goal. A total of 19 schemes were developed that covered 6 different categories:

- A. Deferred Maintenance & Code Upgrade with no expansion or reconfiguration to meet the educational program or enrollment projections.
- B. New High School with Renovated Field House
- C. New High School, demo existing school
- D. Additions/Renovations with demolition of varying number of buildings
- E. Renovation of entire existing building with small additions
- F. New School on New Site (No land available; this option was taken out of consideration)

Each option was put through a process where the Committee, the design team and community members reviewed and discussed: the site and building assessments, proposed designs, impact to students during construction, as well as financial impact. Some considerations used as criteria for the selection were as follows:

- Address overcrowding conditions and increasing enrollment projections
- Meet the educational program and long range educational plan
- Retain the Field House but avoid making it a focal point of the design.
- Retain the "feel" of the campus style, while providing essentially one school building.
- Utilize elements that would qualify as a "Green School" under the Massachusetts Green School Program (see more information below on the Green School Program).
- Give preference to options that can be completed in a shorter time and minimize disruptions to student learning and school operations.
- Has an overall cost that is responsible, meets needs of the school and is in the best interest of the community and Town of Wayland.

After a thorough review of the all the findings, and the advantages and disadvantages of each of the potential options, the Wayland High School Feasibility Committee unanimously recommended building a new school while retaining and renovating the field house. The selected option is based on Option "R" (estimated cost range of \$40 to 45 Million) with the understanding that further development in early stages of design will produce modifications, enhancements, and refinements as detailed meetings with staff and community occur throughout the process. The Committee discussed the possibility of retaining an existing building for other town uses or district offices and left this option open for future discussion.

The selected option consists of approximately 181,620 sf of new construction, 40,000 sf of renovations (221,620 sf Total) for a design capacity of 1200 students, grades 9-12.

## **Green School Study**

The school district recently applied for and received a grant from the Massachusetts Renewable Trust Fund to study “Green School” technologies that could be incorporated into any future project. Dore and Whittier, Inc. was selected to perform this study, which is currently underway and scheduled to be complete within the month of November 2002. Upon completion of the study, the school district may apply for additional grants for implementation of the green school technologies. The study allows the school to qualify for additional (incentive) points for State Aid reimbursement. The program is based on the Massachusetts Green School Standards, which is being developed from the prototype criteria developed by the Collaborative for High Performance Schools (CHPS). CHPS was established in 1999 by the Los Angeles Union School District in California. The Massachusetts Technology Park Corporation (MTPC) in collaboration with the Massachusetts Department of Education administers the Massachusetts Green Schools Initiative. The Initiative was created in an effort to increase energy efficiency, environmental awareness, reduce the dependency on non-renewable materials/resources, and develop benchmark performance data for schools in the Commonwealth.