

**Operations and Maintenance Advisory Group (OMAG)
Final Report: 05/28/2014**

Abstract: The Operations and Maintenance Advisory Group (OMAG) was established by the Belmont Public Schools' Superintendent, Dr. Thomas Kingston, in August, 2013. According to Dr. Kingston, the group's purpose was "Projecting the capital needs for the school district and reviewing the scheduling for general maintenance and costs... [T]here [should] emerge operational priorities based upon the work to be done." Specific to its status among other committees, subcommittees, and advisory groups Dr. Kingston noted "[T]he work of the group will conclude in February or March. Within a broad charge, it would be setting its own agenda." Membership on the committee included Gerald Boyle (Director of Facilities), Alfred Domenici (School Supervisor of Buildings and Grounds), Anthony DiCologero (Director of Finance, Business, and Operations), Rebecca Vose (Appointee to the Capital Budget Committee), and Michael McAllister (Butler School Principal).

Upon assembly, the group identified three tasks:

1. Conduct a thorough review of all pertinent documents and studies relating the facilities and maintenance. A list of these documents is available in the index section of this report.
2. Assembling priorities for future capital projects
3. Assembling priorities for future maintenance issues

Between 12/04/2013 and 04/30/2014 OMAG members met every two weeks at the School Administration Building.

I. Background: Challenges and Opportunities

The decisions the [town] is called upon to make and the direction [they must] take require deliberate and experienced thinking. Our decisions can't be made because it's the way we have always done things nor because we just want to try anything that's new. No matter what town issue we may be wrestling with...our decision making must rely on the best available expertise and the best available information."

- M. Siegenthaler, 01/09/2014

The Belmont Public Schools have had to make many difficult decisions over the past several decades, facing a common question: "Replace it now, or just fix it and hope it will last a little bit longer?" This reality is no different from what most other towns in the Commonwealth have faced in the same period, and certainly no different than the reality faced by many Belmont families. In making the latter choice year after year, there is an eventual reality that we know exists but hope does not arrive: eventually, a replacement is necessary (not necessarily a replacement of an entire building, but more likely replacement of a *system*, like windows or a boiler or a roof). Industry standards tell us that this is an unavoidable reality. Eventually, the cost of fixing becomes prohibitive, whereby a replacement is the more prudent fiscal choice.

What has compounded the challenge for the Belmont Public Schools is that some years the district focused too much on this primary question, and not enough on another important question: "What can we anticipate will need fixing or replacing in the coming months or years?" When any organization – a company, a school system, or a family – fails to answer this second question they are engaging in a process known as *deferred maintenance*. They are forced to react to situations, rather than planning and preparing for situations. Rather than investing smaller amounts in regular intervals throughout the year to maintain facilities well into the future (which we know will result in a longer lifespan for facilities overall) the district has been forced to wait to get to a point where the only remaining question is our first question: "Replace it now, or just fix it and hope it will last a little bit longer?" To be certain, it is not a lack of knowledge, experience, or willingness that has prevented us from answering the latter question; it is a lack of resources. *We have robbed Peter* – who for the sake of the cliché is the man who wants to invest along the way to keep things looking and functioning as they presently are – *to pay Paul* – the man who waits until something no longer works to make a hard decision.

In order for the Belmont Public Schools to change this dynamic, to become more proactive and less reactive, the district needs to commit to focus on the second question "What can we anticipate will need in the coming months or years?" rather than the first question "Replace it now, or just fix it and hope it will last a little bit longer?" At all times the district must approach our challenges in a level-headed and objective way. This remains the central goal of this report: To carve out a path where the district can be more proactive than reactive. To start a process of focusing on maintaining along the way, rather than waiting until a costly decision needs to be

made. To outline a vision where Peter can have more influence than Paul. Ultimately, the district must develop annual budgets that have maintenance schedules built into them.

There are many examples of where the Belmont Public Schools have, regrettably, been forced to engage in the process of deferred maintenance:

- Higginbottom Pool: The pool at Belmont High School was recently closed down for an extended period of time while numerous repairs and upgrades were made to the pool itself as well as adjoining areas. This reactive and costly process allowed the Facilities Department to “catch up” on deferred maintenance, but had an undesirable impact on operational budgets and user agencies’ schedules.
- School Playgrounds: For many years no regular maintenance was performed on the playgrounds at the elementary schools. Over time, issues like mulch or pea gravel surfacing, which should have been replaced regularly, became so packed that playgrounds became dangerous. In November of 2012, an independent Certified Playground Safety Inspector determined three of four playgrounds to be unsafe. The Butler and Winn Brook playgrounds were immediately closed and eventually removed, then replaced with new structures and surfacing totaling over \$500,000. These playgrounds could have been maintained along the way to increase their lifespan for less money.
- Belmont High School parking lot: The lifespan of any paved surface can be lengthened considerably by implementing a regular routine of crack maintenance and sealcoating every two years. Because this was not done at Belmont High School, a complete re-paving for \$300,000 was required. While this project would have had to have been undertaken eventually, it may have been possible to defer the project, if funding could have been allocated to parking lot maintenance.

Knowing that there is a history of “reactive budgeting,” the Belmont Public Schools has also been successful in finding efficiencies along the way.

- Steam Trap Repair and Replacement Initiative: This is a good example of a proactive energy conservation measure. If steam traps in a steam-driven system are maintained regularly, not only is a better than 20% first year energy savings achieved, but the replacement allows the district to qualify for rebates through National Grid.
- Systematic Repair and Replacement of Flooring: For the past three years the district has been able to purchase high quality flooring at a discounted price. Projects include the Winn Brook Elementary School, the Mary Lee Burbank Elementary School, the Chenery Middle School, and the School Administration Building. To date, the district has replaced more than 5,000 square feet of flooring through this initiative.
- Standardized Hand Towels: The district now participates in a collaborative pricing agreement, along with organizations like UMass Lowell, the Department of Corrections, and other municipalities, to secure lower prices on recycled paper products from a custodial supply company located in Franklin, MA.
- Energy Conservation: A number of projects continue to be undertaken that have resulted in energy savings for the district, such as converting fluorescent light fixtures, adding electronic occupancy sensors, and conducting steam trap surveys.
- LED Conversion: The district has changed the types of lights used, moving from 1,000 hour bulbs to 5,000 hour bulbs.

- **Service Contracts:** Traditionally the district held service contracts with large, corporate vendors for services like fire prevention and detection, elevator repairs, pest control, etc. Over time, these vendors could become more expensive and less responsive. When given the opportunity to renew service agreements to the extent allowed by procurement regulations, the district secured contracts that provided more responsive service at a lower price. Oftentimes sole proprietor vendors having smaller operational budgets were able to compete with larger corporate vendors. The move to more “mom and pop” businesses typically resulted in a decrease in costs, with comparable or better quality.
- **Natural Gas Conversion:** Prices for gas are considerably less than for oil, so this is a savings that will continue to realize results into the foreseeable future. While the conversion did take an initial investment to get the gas lines from the street into the building and to purchase and install the equipment) the projected annual savings equate to approximately a 3 year return on investment.
- **In-House Electrician:** The district previously had a service contract with an external electrical company for all of its electrical needs. Hiring an in-house electrician has resulted in significant savings, with concerns addressed in a faster manner than with a service contract from an out-of-town company. In addition, this individual is able to help perform maintenance and custodial work when there are no immediate electrical issues.
- **Ice Melt:** The district is using a new type of ice melt (Calcium magnesium acetate) as opposed to the old product (Calcium chloride). The new product is good to -20 degrees F so it will not re-freeze readily. Additionally, it will reactivate over a 48-hour span. Whereas the old product needed to be re-applied once dissolved, the new product requires fewer applications and provides longer effectiveness, resulting in both a labor savings as well as a cost savings.
- **Work Order System:** Revamping the district’s work order system is essential to tracking long- and short-term maintenance requests. Moreover, by having historical data the district is better able to project into the future and develop longer-term maintenance plans in the most cost-effective way.

The district will continue to implement these efficiencies, as well as find new efficiencies as they continue in their work. Although these efficiencies are helpful, it is worth noting that efficiencies, alone, will not be enough to offset the problem of deferred maintenance.

II. Capital Planning

In the area of capital planning, we propose the following recommendations:

- **Create a “master plan” for the town:** This plan would be a continually evolving long-term plan, and the Schools would be only one part of that plan.
- **Publish an annual list of recurring maintenance items that do not, by their very nature, qualify for capital funding consideration.**
- **Create a set of criteria for capital budget requests:** Suggested criteria include consideration of code compliance, life/safety, impact on the end-user department’s ability to carry out its mission, useful life expectancy, and ability to extend useful life expectancy with periodic upgrades of components.

- We propose that the Facilities Department place greater emphasis on long-term capital planning based on schedules established in a written maintenance manual. This process would result in a more consistent approach to capital requests based on a better understanding of the condition of a building and its systems due to a schedule of regular inspections. In line with the goal of “rely[ing] on the best available experience and the best available information” we think the best approach to identify items for consideration will be to incorporate three criteria: 1. Review the most up-to-date consultant studies the district has available, 2. Review historical work order requests, and 3. Review schedules of recommended maintenance.

It is well known that a major renovation or replacement of Belmont High School is anticipated. Beyond that, it would be useful to begin a discussion of the condition of the remaining schools that have not experienced a major construction or renovation in the past twenty years – the Daniel Butler Elementary School is the next likely school to be up for renovation, followed by either the Mary Lee Burbank Elementary School and/or the Winn Brook Elementary School. An understanding of a potential schedule of future major upgrades of these buildings will provide guidance as to the extent of capital improvements proposed for these buildings in the near future. The lack of a “master plan” has prevented the district from making as informed a decision as possible in these cases. To that end, it will also be important for the Facilities Department to work closely with the School Department to monitor enrollment trends. Otherwise, OMAG has no recommendations regarding specific priorities that would differ from those currently proposed, and is confident that any long-range capital plan established from information developed in conjunction with a written maintenance manual would sufficiently address the needs of the Belmont School Department.

III. Maintenance and Day-to-day Operations

In the area of maintenance and day-to-day planning, we propose the following recommendations:

- Create an “extraordinary maintenance” account in the budget to help address unforeseen repairs: Current operational budgets are adequate for routine maintenance and upkeep of school buildings systems and components. However, significant and unexpected repairs of substantial cost can exhaust or exceed particular line items requiring transfer of funds from other sources to maintain resources for continued routine maintenance. An extraordinary maintenance line item funded at a level of \$200,000 would be a significant starting point based on recent trends.
- Identify maintenance costs by category (painting, carpeting, etc) and make use of industry standards: These costs will become the basis for identifying resources needed for non-Capital projects; i.e., those defined as “recurring” or those less than \$10,000.
- Develop a written maintenance manual, complete with schedules: Development of a written maintenance manual for all Town and School buildings is a priority for the Facilities Department beginning in FY14. This manual will define inspections schedules and recommended upgrades to all building systems and components.
- Holding the line at future maintenance cuts: It is imperative that established maintenance budgets no longer be frequent candidates for reduction without an understanding of the long range implications of deferred maintenance that will result from such reductions.

- Implement a policy of 2.5% level funding every year: DESE data indicates that school districts identify 2.5% of their overall operating budget be dedicated to non-utility and non-custodial maintenance budgets. The 2.5% average should be considered a minimum threshold for School maintenance budgets moving forward.
- Hire licensed trades staff, rather than continuing to enter into service contracts with external contractors: The Facilities Department should continually review the cost and service level of vendor maintenance contracts to determine if hiring licensed, in-house trade staff would be a preferred option in terms of cost and flexibility.
- Share with other towns: Much like certain municipalities share the services of plumbing or electrical inspectors, the Facilities Department can explore the possibility of sharing licensed trade staff with surrounding communities. In addition, maintaining awareness of group purchasing opportunities such as State and regional supply contracts can provide additional cost savings. Lastly, combining bidding and awarding of maintenance contracts for School and Town buildings can also result in savings.
- Communication and work order systems: Continue the use of an electronic work order system for maintenance requests: The current helpdesk system allows individual teachers, themselves, to submit work orders directly from their desktops, rather than having to route requests through Building Principals or Custodians as an additional step.

IV. Annual Budgets and Maintenance Schedules

In an order to depart from the the history of deferred maintenance, it is essential that the Belmont Public Schools factor in a sense of life-cycle awareness based on industry standards into our budgets. Much like a new car, which comes with a maintenance manual (recommending oil changes every 3,000 miles, tire rotations every 10,000 miles, etc) building systems and components are designed to be maintained based on a recommended schedule. Utilizing maintenance manuals that clearly outline industry recommendations will better equip the schools in projecting and budgeting costs.

If the district cannot move away from this tradition of deferred maintenance, even our newest projects will eventually suffer the same fate.

V. Index

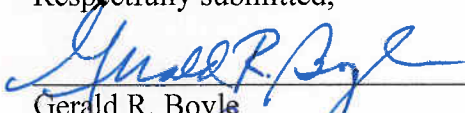
The following documents and studies were utilized by the OMAG during the process of completing this work and assembling this final report:

- School Security Advisory Group Final Report (M. McAllister, 1/22/13)
- Report of the Committee on Consolidation of Town and School Facilities Town of Belmont Public Facilities Consolidation Committee Report (M. Libenson, 4/25/11)
- Building Envelope Condition Survey (Russo Barr Associates, 10/19/07)
- Town of Belmont Facilities Audit (Edwards & Kelcey, 9/16/02)
- Town of Winthrop, MA Facilities Department Building Maintenance Manual (G. Boyle, 7/12/13)

- Belmont Facilities Department Draft FY15 Capital Budget Requests (A. Domenici, ongoing)
- Belmont Facilities Department Draft FY16 – FY20 Capital Budget Requests (G. Boyle, ongoing)
- Belmont Schools Technology and Maintenance Help Desk – My Tickets Report (A. Domenici, 1/8/14)
- DESE Reported Spending School Buildings and Grounds FY04 – FY13 (A. DiCologero, 1/8/14)

Copies of these documents are on file at the School Administration Office and are available upon request.

Respectfully submitted,



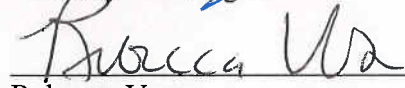
Gerald R. Boyle



Alfred Domenici



Anthony DiCologero



Rebecca Vose



Michael McAllister