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**BOW ELEMENTARY SCHOOL RENOVATION PROJECT**  
**Prepared By Duane Ford**  
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**Purpose of Paper**

In my capacity as Assistant Superintendent for School Administrative Unit 67, one of my responsibilities is facility management. For the past several years administration and the Bow School Board have been actively discussing the future facility needs of Bow Elementary School. Specifically these discussions have centered on the building's infrastructure including its roof, HVAC, lighting, security and alarm systems, backup power generation and the buildings complete lack of a fire suppression system.

The Bow School Board commissioned a study on the building which was completed by Lavallee Brensinger Architects in January 2012. This comprehensive report is available in electronic format for any interested person. This study has provided the basis for many discussions in the community on the future funding requirements of a potential project.

The purpose of this paper is to provide my thoughts on potential timelines, funding options and the overall project as a whole. It is important to understand that this paper are my opinions and any decisions on the scope of the project and ultimate approval of any project rests with the Bow School Board and the citizens of the Town of Bow.

**Background**

Bow Elementary School is a 71,400 square foot, two story school building located in Bow, NH. Currently it provides services for students in grades PK-4 and had a student enrollment of 416 on October 1, 2014, which is the official reporting date for enrollment in the State of New Hampshire. This is the lowest enrollment that has been in attendance at Bow Elementary School in recent memory and perhaps ever. I have data that goes back to October 1999. Enrollment at that time was 645 students. The enrollment and utilization of Bow Elementary School will be additionally impacted next year by the March 2015 passage of all-day kindergarten for the 2015-16 academic year.

Bow Elementary School was constructed in 1979 and became the second school building in Bow serving students in conjunction with Bow Memorial School. There was one significant addition to the building, first utilized in 1991, which consisted of the construction of a new gymnasium, changes to the front entrance of the building and the construction of several classrooms on the opposite side of the building from the new gymnasium.

The building, as it is currently being used, serves the district's youngest students very well. As enrollment has decreased school administration has been able to repurpose classroom spaces into special service spaces that serve the neediest students who attend the school. The new configuration of Bow Elementary School taking into account the all-day kindergarten program has not been finalized as of the writing of this paper which may have an impact on how repurposed educational spaces are being used. The building has been maintained very well and the infrastructure that would be part of any potential project are functioning.

## Is There a Need?

Like all school buildings (or any structure for that matter) there is a life cycle for the components that "run" the building. Based on Bow Elementary's construction in 1979 we are approaching 40 years of use for the building. We are seeing issues begin to arise with the roof and HVAC systems in particular.

The roof warranty ran out long ago, in 1999 by our records. During the comprehensive renovation of Bow Memorial School there was a specification in the construction documents that the new roof there would have a 30 year warranty. That particular roof will serve the district under warranty until 2036. Our goal will be to do something similar with the roof at Bow Elementary School.

The HVAC system, although working, is very difficult to maintain, has difficult-to-find parts, and is certainly not a modern, efficient system. The school is served by a two boiler system with one boiler installed in 1989 and one in 1991. All of the rooftop units at the school were also installed in 1991. A modern system would allow for remote control access of the system in a robust way like we have at Bow Memorial School and Bow High School. Being able to control the system remotely will save the district money because we can better control temperature set points, regulate internal temperatures, place the building into "night" and "unoccupied" modes and in some instances shut down the system when warranted. In addition, a 1991 vintage HVAC system is probably not as efficient as today's high efficiency boilers and variable speed motors.

Bow Elementary School does not have a fire suppression system currently. This is something that has been requested by the Bow Fire Department throughout my entire 10 years in Bow. If a new school building is constructed in the State of New Hampshire, a fire suppression system is mandatory. Bow Memorial and High Schools both have full suppression systems to protect the Town of Bow's investment in the buildings, its infrastructure components and all building contents.

With an installation of a fire suppression system, there will also be the need to install a backup electric generator for the building. Bow Elementary School is our only school that does not have emergency power. When power is lost, the building has great difficulty providing basic services for students because nothing works in the building including running water, heat and of course, all lights. Backup power will provide all of those necessary functions as well as running the fire suppression system in the event that the building does not have regular electrical service.

There are also upgrades that should be done to all lighting in the building, the fire alarm notification and alarm system and also the security panel and system throughout the school. I would make the case that these upgrades are as essential as a new roof and HVAC system.

The fact that the building continues to provide a safe, comfortable learning environment for our students is not a substitute for the need for renovations in the near future. There will come a time when the basic systems will stop working and will fail to provide a positive learning environment for all students. Although we are not there yet, we can sense that time is coming.

## Cost

The Bow School District undertook a comprehensive study of Bow Elementary School in January 2012. The study was done by the architectural firm of Lavallee Brensinger, who were also the lead architects when Bow High School was constructed.

Administration placed no restrictions on the study with the intention of hearing what the needs of the building were. The study was tasked with determining any building issues that called for immediate action and also other recommended changes to the building that Lavallee Brensinger would propose based on their expertise in school construction. The study was comprehensive and analyzed all aspects of the building.

The study estimated costs of a potential renovation of Bow Elementary School at \$5,206,900. The estimate was broken down into two main sections. The first was maintenance and imminent repairs/improvements which totaled \$2,755,000 and the second was recommended improvements/upgrades which was estimated at \$2,451,900. I will attempt to look at both of sections individually.

The maintenance and imminent repairs/improvements section included roof replacement, acoustic ceiling tile replacement, sprinkler system installation, HVAC upgrades and replacement, plumbing replacement, fire alarm panel replacement and lighting replacement. In this section there were also estimates for window flashing and siding repairs (\$62,500) and the removal of the oil tank (\$18,750). These two items have already been completed. Removing these items would lower the estimate for this section to \$2,673,750.

There are many recommended improvements/upgrades that would determine the scope of the project. I will list all parts of this section as well as my opinions on the various recommendations.

- Daylighting in Gymnasium – Would not recommend – (\$20,000)
- Daylighting in Cafeteria/Multipurpose Room – Would not recommend – (\$20,000)
- Gymnasium Acoustics – Would not recommend – (\$37,500)
- Kitchen Renovation and Addition – Would not recommend – (\$106,250)
- Main Entrance Renovation and Addition – Serious discussion needed on this proposal - \$437,500
- Media Center Entrance Renovation and Addition – Would not recommend – (\$625,000)
- Partition Replacement – Would not recommend – (\$93,750)
- Clock System – This has already been done – (\$12,500)
- Generator – Recommend that this be done - \$83,750
- PA System – Recommend that this be done - \$25,000
- Data Systems – Would not recommend – (\$62,500)
- Power Distribution – Recommend that this be done - \$50,000
- Site Improvements – Would not recommend – (\$546,900)
- LED Site Lighting – This is being proposed for summer 2015 – (\$37,500)
- Domestic Water Cistern – Improvements to domestic water have been done – (\$37,500)
- Domestic Water Well – Would not recommend – (\$12,500)
- Track/Athletic Field Improvements – Discussion on whether part of this project – (\$281,250)

Based on the above, the items that I would recommend to the Board with no reservations are estimated at \$158,750. Several of the items that I list as not recommended are things that would be nice to do (daylighting, acoustic upgrades, site improvements) or are maintenance type things that we should do during budget cycles (partitions, domestic water). Since there were no restrictions placed on the facility study, it is not surprising that there are items mentioned in the report that are not, in my opinion, things that should be placed in the project as proposed to the voters.

The front entrance changes are security based and will need the Board to make decisions on their applicability and necessity to the project as it will be proposed. There has also been discussion of including a large scale renovation of the BMS Track and Athletic Field area which would include a complete rebuild of the track (instead of repaving) and the complete rebuild of the field itself which would include irrigation. The price estimate is higher than it would be if a much more modest project were undertaken for that area. A scaled back project would be a repaving of the track and a less than complete rebuild of the field. I think that both the front entrance and athletic area changes could be bid as options to the base contract of the full project.

I think it would be fair to look at a proposed cost based on the figures in the comprehensive facility study as follows:

Maintenance and Imminent Repairs/Improvements - \$2,673,750  
Recommended Improvements/Upgrades - \$158,750  
Potential Based Project - \$2,832,500

Main Entrance Upgrades Option - \$437,500  
Athletic Field Upgrades Option - \$281,250

Grand Total - \$3,551,250

The estimates in the facility study include hard construction costs plus an allowance of 25% for soft costs. Soft costs include things like engineering and design fees, legal and administrative costs, owner contingency, construction fees, insurance, bond counsel, construction testing, equipment not part of the building system, utility connection charges and

permitting fees. The estimates are also from January 2012, so it is reasonable to anticipate that pricing might change from that time frame until the project commencement date.

### **Project Timeline**

Administratively, we have been discussing this upcoming project for at least five years. One of the main considerations has been timing this project so that it coincides with the final payment of the bond that was issued when Bow High School was constructed in 1997. The final bond payment will take place on August 15, 2016 and that payment will be included in the 2016-17 fiscal year budget.

If the Bow Elementary School project were to be proposed so that any potential new bond issue would start in the next budget after the final payment of the BHS bond issue, then approval for the project would need to take place at the Annual Meeting held in March 2017 for inclusion in the appropriation for the 2017-18 fiscal year. Construction would be scheduled during the summer of 2017 based on that timeline.

Bow Memorial School had a similar project to what will be proposed at Bow Elementary School. One of the major factors that went into the success of that project was the funding of all design and architectural fees one year prior to requesting approval and funding for the entire project. This would mean that a proposed article funding these items could be proposed at the March 2016 Annual Meeting. The design and architectural costs for the BMS project were paid for out of capital reserve funds. I would recommend the same course of action for this project.

### **Project Funding**

The renovation project model used for Bow Memorial School is the most straight forward, traditional model used throughout New Hampshire. This would require that the design fees be requested one year prior to the project commencement date, paid for out of capital reserve funds. The actual project would be paid for with a combination of capital reserve funds and a new municipal bond for this renovation.

Currently the Bow School District has the following capital reserve funds that are available for a project of this type. All balances are from June 30, 2014:

Bow School District CRF - \$231,740  
Bow School District HVAC CRF - \$505,176

At the March 2015 Annual Meeting an additional deposit to the Bow School District CRF of \$250,000 was approved bringing the balances up to \$986,916.

There is a possibility that the Bow School District may withdraw money from the AREA School Capital Improvements – Dunbarton CRF for parts of this project that meet the requirements set forth in the approved AREA agreement. This would be any potential BMS track/athletic field renovation if included in the complete proposed project since that is the only part of the project that deals with an AREA school. Presently this fund has no money in it because this is the first year of the AREA agreement and the collection of the first CIF fees from Dunbarton is happening in the current 2014-15 fiscal year.

### **Alternative Funding Idea**

Observing the current climate in the Town of Bow has led me to explore alternatives to the traditional funding approach described in the section above. Any alternative would focus on attempting to pay for this particular project without the issuance of bonds or any other long-term borrowing.

In 2013, there was a new law passed that provides a potential method to spread the project out over multiple budget years, using this method, along with some capital reserve funds, would allow for the potential payment of the project with cash.

State of New Hampshire RSA 32:7-a allows for the legislative body by a 2/3 vote to appropriate funds for a term beyond one fiscal year, but not to exceed five fiscal years. The RSA has some requirements which are as follows:

- Appropriation must be made for a project that it would be lawful to issue a bond or note for.
- Article authorizing the appropriation shall state the years of the appropriation, the total amount of the appropriation and the amount to be appropriated each term
- For each year after the first year, the amount designated for that year shall be deemed appropriated without further vote by the legislative body, unless the article is rescinded (see below).
- If the amount appropriated for any year is not spent during the year, the unexpended amount shall not lapse but shall be available for expenditure in a subsequent year during the term, all unexpended amounts shall lapse at the end of the term.
- The appropriation that is made in this method does not establish a capital reserve fund and any amounts appropriated cannot go into a capital reserve fund.
- Prior to the expiration of the term, the legislative body may, at any annual meeting, rescind the appropriation by an affirmative vote of a majority of those voting on the question. If rescinded, any unexpended amounts shall lapse immediately.

So what does all that mean? It means that the District could request that this project be approved at an Annual Meeting, propose in the warrant article seeking approval that a set amount be appropriated for more than one fiscal year, list the estimated appropriation in each of the proposed years and if approved appropriate that money without any more approval.

In this particular project, I think in a very preliminary way that we could stage the project over two to five summers. This would create a longer construction period but would also allow for this alternative type of funding to be considered.

Currently we pay \$805,000 in principal on the BHS bond. The District receives building aid revenue on the principal payment equal to 30% of the cost or \$241,500 in revenue. This creates a net savings to the Bow School District budget of \$563,500 starting in the 2017-18 fiscal year. In this funding mechanism, the District could propose using a yearly amount similar to the net savings from the bond in order to fund the project without the need to borrow.

Certainly the drawback to this alternative would be the potential that a petitioned article would be proposed to rescind the original approval. This would then end the project, potentially before its completion, leaving the project unfinished.

### **Final Thoughts**

I think that there is always hesitation to put a paper like this together. There are many unknowns in any construction project. These unknowns can create a much different financial picture than what has been written in this paper. My hope is that the reader will take that into consideration, knowing that the figures and thoughts presented are based on a study done in January 2012 and also based on current conditions in May 2015.