

REPORT OF FINDINGS
TO THE
RAYMOND SCHOOL BOARD
ON THE PLAN FOR
LAMPREY RIVER
ELEMENTARY SCHOOL

ISSUED BY THE:
LAMPREY RIVER ELEMENTARY SCHOOL BUILDING COMMITTEE

T.B.D, 2021

**REPORT OF FINDINGS
LAMPREY RIVER ELEMENTARY SCHOOL**

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1.0 SCHOOL BOARD CHARGE to the COMMITTEE:

On July 25, 2019, the Raymond School Board issued a Charge¹ to create a Committee of Raymond Citizens, and selected Raymond School District Employees, to evaluate the Lamprey River Elementary School Building and associated grounds and make recommendation as to what is required to “provide Raymond students with a safe, healthy and efficient school Building”.

The Primary requirements of the Charge were as follows:

- Evaluate the Building for the development for Kindergarten thru Fourth Grade Classrooms
- Evaluate for a School size of 750 students (core capacity).
- Evaluate the possibility to renovate/ expand at the existing location.
- Evaluate the possibility to develop a new facility on a new location.
- Determine a Building Size and type suitable to the needs of Raymond

2.0 LRES BUILDING COMMITTEE MEMBERS:

In August of 2019, a Building Committee identified as the Lamprey River Elementary School Building Committee (LRES BC) was impaneled to respond to the Raymond School Board charge to evaluate and make recommendations to the School Board regarding Lamprey River Elementary School.

The Committee comprises the following Private Citizens and Raymond School District Representatives:

RAYMOND CITIZEN REPRESENTATIVES:

- Ken Hajjar – Chairperson
- Carlos Maldonado – Vice Chairperson
- Shelley Roy– Secretary
- Beth Clark
- Michael Manley
- Rick Senecal

RAYMOND SCHOOL DISTRICT REPRESENTATIVES:

- Tina McCoy – Superintendent of Schools
- Jennifer Heywood – Administrative Assistant to the Superintendent of Schools
- Laura Yacek – Principal LRES
- Todd Ledoux – Facilities Director
- Marjorie Whitmore – Business Administrator SAU 33

¹ Refer to Attachment “A” for Raymond School Board Charge document

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3.0 EXISTING FACILITY ASSESSMENT STUDY:

Barker Architects, PLLC, completed a Facility Assessment Study² of the existing Lamprey River Elementary School Building and Property to evaluate the current condition of the facility and property, to determine current programming needs and requirements, to identify required educational program needs and requirements, to identify code requirements that to provide options for review o .

The Facility Assessment Study included the following evaluations:

BUILDING NEEDS ANALYSIS:

An evaluation of the existing facility for deficiencies relating to the building or property was completed under this phase of the study.

Data from reviews of previous studies completed in the past, a review of existing building drawings, and various visits to the building as well as interviews with staff members were completed as part of this part of the study.

A review of current Building and Energy Code compliance issues was performed on the current facility as well as for all proposed facility renovations and / or new construction work.

PROGRAM ANALYSIS:

A review of current facility operational needs and operation requirements were completed on the existing facility. A detailed evaluation of development needs and operational requirements to meet current educational needs was completed under part of the study.

An evaluation of current student enrollment numbers and future student enrollment projections was completed to determine the number of students that a facility would need to be designed to accommodate.

COST ANALYSIS:

Order-of-Magnitude cost estimates were generated for the various development options identified in the Facility Assessment Study.

The cost analysis estimates developed for the various development options, included the following costs:

- Project Costs
- Bond Costs
- Life Cycle Costs for the Building which included the following:
 - Maintenance Costs for the Building
 - Utility Costs for operating the Building
 - Human Resources (employee salaries)
 - Financing Costs
 - Tax Revenue
 - Inflation

² Refer to Attachment "B" - Barker Architects, PLLC Facility Assessment Report, Dated January 13, 2021

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4.0 STATE DEMOGRAPHIC AND HISTORICAL STUDENT ENROLLMENT VALUES:

In reviewing current State demographic studies, the study identifies the current generation of prime childbearing age having children is the “X” Generation, which is significantly smaller than the “Millennials” Generation or their parents’ generation known as the “Baby Boomer” Generation.

Millennials are having fewer children than previous generations and are having them later in life, which is lowering the “X” Generation numbers and thus lowering the number of children enrolling in school systems statewide.

Other factors playing an important role in school enrollments numbers is the economic status of the population having children. Lower economic areas may have higher child birth rates due to the affordability of lower housing values but these areas then see a decline in school enrollments as families improve their economic status and move to other more favorable locations when their children are ready for school enrollment.

A study of enrollment projections completed by New England School Development Council (NESDEC) shows the number of students enrolling and continuing to attend LRES has been declining steadily over the seven-year period of the study as detailed below.

Raymond School District Enrollment from 2012 - 2018³

Based on October 1 figures as reported on NH Department of Education website

Updated October 24, 2018

	2012	2013	2014	2015	2016	2017	2018
Preschool	51	50	49	53	36	39	42
Kindergarten	89	102	100	85	93	84	104
Grade 1	115	107	110	110	88	92	85
Grade 2	88	108	107	107	94	92	83
Grade 3	125	85	104	104	105	91	93
Grade 4	101	118	85	109	99	104	87
Elem. School Total	569	570	555	568	515	502	494

³ Refer to Attachment “C” – Raymond School District Enrollment from 2012 – Updated October 24, 2018

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LAMPREY RIVER ELEMENTARY SCHOOL

5.0 BUILDING NEEDS WORKSHEET:

After touring the existing facility and property, and reviewing current code requirements, Barker Architects issued a "Building Needs Worksheet"⁴ and provided a three-tier priority rating assessment, "HIGH", "MEDIUM" & "LOW" for each identified need of the current Building and property.

HIGH PRIORITY NEEDS:

Needs identified under this category are critical in nature and directly affects the educational requirements and should be addressed immediately to prevent additional secondary issues or needs.

MEDIUM PRIORITY NEEDS:

Needs identified under this category have less of a direct effect on educational requirements, but are serious enough to be considered important and should be evaluated on an item by item basis, but are not of a critical level as needs identified in the category above.

LOW PRIORITY NEEDS:

Needs identified under this category have little direct effect on educational requirements, but will cause disruption of educational operations while the work is being completed.

The Building Needs Worksheet also provides an "estimated" value for completing the identified need of the Building or property and provides a total value for all the work if completed at a single period of time.

The identified needs can be scheduled for completion over an extended time period at the discretion of the School Board.

6.0 PROJECTED LRES ENROLLMENT VALUES:

Based upon the State Demographic and Historic Student Enrollment values identified above, and including updated Historical Student Enrollment number identified by the Raymond School District for school years 2019 and 2020, Project Student Enrollment values were determined out to School Year 2030.

The Projected Enrollment Values show a continuing decline in the number of students enrolling and/ or staying enrolled at Lamprey River Elementary School.

In reviewing the State Demographic and the Historical and Projected Student Enrollment numbers anticipated over the next ten years, the 750-student enrollment core value appears to be a significantly higher value than can be justified for the evaluation of any development option.

In addition to lower enrollment values identified, the Raymond School Board moved the Pre-Kindergarten Program to the Raymond High School Building and moved the Fourth Grade Program to the Iber Holmes Gove Middle School. This decision greatly decreases the number of students that would be attending the Lamprey River Elementary School, increasing the requested 750-student design core number to be unjustifiable for any development option.

⁴ Refer to ATTACHMENT 'D' – Building Needs Worksheet for identification and priority assessment of identified facility needs

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7.0 STUDENT POPULATION DETERMINATION for DEVELOPMENT OPTIONS:

Although the Grade Four Program was moved to the middle School, the Raymond School Board requested that all Development Options be evaluated for a school containing students in Kindergarten up through and including Grade 4 students.

The Projected Student Design Population value for grades K - 4 assumes that student population would carry over from one grade to the next without any loss in the student population between grade changes.

STUDENT ENROLLMENT DESIGN CAPACITY VALUE:

A Design Capacity of **FIVE HUNDRED (500)** Students and a Core Capacity design value of **FIVE HUNDRED NINETY (590)** Students is the basis of design and evaluation for the all Proposed Development Options in this report.

The Proposed Student Population for design is as follows:

- Kindergarten: 100 Students
- Grade One: 100 Students
- Grade Two: 100 Students
- Grade Three: 100 Students
- Grade Four: 100 Students

8.0 CURRICULUM ANALYSIS & SPACE NEEDS WORKSHEET:

The current LRES student population and spatial requirements were assessed with state average and maximum classroom population values to determine the number of classrooms needed for all development options.

The Current State Average Classroom Population by Grade is as follows:

Grade	Average Size	Maximum Size
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The projected classroom numbers and educational needs and requirements were determined based upon the Design Capacity of 500 and a Core Capacity of 590 students.

The Projected Classroom Requirements by Grade is as follows:

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9.0 DEVELOPMENT OPTIONS:

The LRES BC evaluated THREE (3) Options for Development that will “provide Raymond students with a safe, healthy and efficient school Building”, as charged by the Raymond School Board in the Building Committee Charter, and with financial consideration to the Town.

The three Development Options that considered in this Report are as follows.

DEVELOPMENT OPTION #1 – REPAIRS ONLY TO THE EXISTING FACILITY⁵:

Under this development option, only repairs and minor improvements identified in the Building Needs Worksheet would be completed.

Development Option #1 Benefits:

- Lowest upfront cost option
- Costs of repairs would be spread out over a Ten Year time period
- Least disruptive to current school operations if work is scheduled during vacation time

Development Option #1 Detriments:

- The Building and Property would remain as they currently are with only minor maintenance improvements made to outdated equipment and systems
- Provide NO Educational, Core or Special Educational Need or Requirements
- The Building and Property remain in a flood prone area without any added protection implemented
- Operational costs of the Building will continue to escalate with older equipment and systems remaining in operation
- Energy efficiencies will not be addressed and the existing masonry walls, existing roof insulation and existing exterior windows will all continue to lose heat and increased fuel costs for heating the Building

DEVELOPMENT OPTION #2 – RENOVATION & ADDITION TO THE EXISTING FACILITY⁶:

Under this development option, the identified, the current and project Educational, Core and Special Educational Needs identified in the Barker Architects Report have been considered and planned for.

This development options includes renovation and expansion of the existing Building and improvements to the Property to provide the Educational, Core and Special Education Needs and Requirements identified in the Facility Spatial Needs Assessment Worksheet.

The Educational and Facility Needs addressed as part of this development option are as follow:

- Development of the required number and size Classrooms by identified grade
- Development of Special Education areas
- Development of Core Support Areas
- Reorientation of the Administration area for better Student and Public access to the Building, and for greater security control of the Building and Property
- Restructuring of Bus traffic patterns for more efficient collection and discharge of students
- Restructuring vehicular traffic patterns for cars to provide a more efficient system of collection and discharge of students
- Construction of a purposed built Gymnasium area to separate the current dual use Cafeteria / Gymnasium area solely for Cafeteria and Lunch use
- Flood proofing the Building and Property

⁵ Refer to Attachment “E” – Repair Only Cost Estimate

⁶ Refer to Attachment “F” – Addition & Renovation Cost Estimate

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- Replacement of existing inefficient windows throughout the Building.
- Installation of new exterior insulation and finishes to improve the Building envelope energy efficiency
- Installation of additional roofing insulation and new roofing membrane to improve the Building envelope energy efficiency
- Installation of New HVAC units on the room and distribution throughout the Building to improve interior air quality
- Installation of a new metal pipe Fire Protection system throughout the existing and new Building areas
- Creating isolated access to selected areas of the Building for use by other Town departments and agencies for after-school uses and needs

Development Option #2 Benefits:

- Provides solutions for Educational Needs and Requirements
- Provided solutions for Core Needs and Requirements
- Provides solutions for Special Educational Needs and Requirements
- Provides added measures of protection against flooding
- Replaces existing utility systems with newer updated and more energy efficient HVAC equipment.
- Provides for higher level of Fire Protection
- Provides more energy efficient Building that would reduce operational costs
- Provides easier use of Building for after-school programs and operations
- Provides for improved Bus traffic patterns
- Provided improved security to the Building and Property
- Provides for healthier environment for students and staff
- Would eliminate last remaining portable classrooms with new Classroom construction
- Would be viable for State Aide in Financing the renovation and upgrades

Development Option #2 Detriments:

- Initial upfront cost is high
- Would require Bonding to finance the Renovations and Upgrades
- Building would remain in a flood plan zone
- Existing underground utilities would not be improved or upgraded
- Existing open plan building areas would remain in place with identified deficiencies
- Considerable disruption to School Operations during the Renovation and new Construction period

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DEVELOPMENT OPTION #3 – NEW CONSTRUCTION⁷:

Under this development option, construction of a New School Building would be completed on a new parcel of property.

This development option would allow for the development of a new building and property that would be designed from the ground up to provide all the Educational, Core and Special Educational needs and requirements for the student population and facility.

An identification of parcel of land for this development option was not completed by the LRES Building Committee, as this requirement was not in the Building Committee Charge from the Raymond School Board.

Development Option #3 Benefits:

- Provides solutions for Educational Needs and Requirements
- Provided solutions for Core Needs and Requirements
- Provides solutions for Special Educational Needs and Requirements
- Removes concerns of flooding by moving out of the flood plane
- Provide all new utility systems to meet current code requirements and that are more energy efficient
- Provides more energy efficient Building that would reduce operational costs
- Provides easier use of Building for after-school programs and operations
- Provides for improved Bus traffic patterns
- Provided improved security to the Building and Property
- Provides for healthier environment for students and staff
- Would be viable for State Aide in Financing the renovation and upgrades

Development Option #2 Detriments:

- Initial upfront cost is high
- Would require Bonding to finance the Renovations and Upgrades
- Land would need to be purchased for development

⁷ Refer to Attachment "G" – New Construction Cost Estimate

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10.0 STUDY EVALUATION SUMMARY:

After reviewing historical, and future projected demographics for the Town and for student enrollment levels, the Committee feels that a Student Population of 500 Students with a Core Design Value for 590 Students was more in alignment with identified trends for Lamprey River Elementary School.

The decision of the School Board to relocate Pre-Kindergarten Program to the Raymond High School facility and the Fourth Grade Program to the Iber Holmes Grove Middle School facility added additional confidence in our opinion to reduce the Proposed Student Population to the 500 Student level in the Development Options evaluated and presented.

A number of critical factors were evaluated during the study period, which included but were not limited to the age of the existing Building, the original construction method of the building, the cost of operations of the existing facility and the potential flood hazard posed by the proximity to the Lamprey River.

Increased energy efficiency, to lower operational costs, increased security for student and staff members and improved vehicular traffic circulation routes on and off the site were evaluated as part of all development options.

The disruption, fear and concern caused by the Corona Virus Pandemic required additional consideration and evaluation of the existing and any future mechanical ventilation systems and the internal building environment, to limit the potential of spreading future viruses throughout the facility to protect the students and staff members.

11.0 COMMITTEE RECOMMENDATION:

It is the recommendation of the Lamprey River Elementary Building Committee that the Raymond School Board proceed with **DEVELOPMENT OPTION #3 – NEW SCHOOL CONSTRUCTION** on a new parcel of property, to be identified and purchased by the Raymond School District and the Raymond School Board.

It is also the recommendation of the Lamprey River Elementary School Building Committee, that a New Elementary School be considered with Kindergarten through Grade Three Programs servicing a projected student population of 500 Students, and a Core design value of 590 students.

The Committee feels that designing a New School or renovating the existing facility for a student population that includes Pre-Kindergarten and Grade Four Programs would create a Facility that is oversized, based on projected future enrollment levels, and would have increased costs for construction and long term operation, beyond what could be considered practical.



ATTACHMENT 'A'

RAYMOND SCHOOL BOARD CHARGE

Charge to Lamprey River Elementary School Building Committee

Approved June 19, 2019, Updated July 25, 2019

1. The goal of the Raymond School Board is to develop (with the input of Raymond's Citizens) a plan that will provide Raymond students with safe, healthy, efficient school buildings.
2. It is understood that the School Building Committee is charged with developing the above mentioned plan. The Building Committee, by law, can only function in an advisory capacity and cannot commit the School Board and/or the School District to any binding agreement, written or oral. The School Board recognizes the Building Committee as representatives of the voting public and will maintain an advisory Building Committee.
3. The School Board believes in planning to meet the educational needs of our students as soon as possible. With thoughtful planning, buildings can be built, rehabilitated and/or expanded without burdening the taxpayers beyond their ability to pay.
4. The Board has solicited a citizens committee of six voting members, non-voting School District representatives and the Town Manager to help develop a plan that will result in a sound recommendation to the Board on the Lamprey River Elementary School site and building(s).
5. The Committee may consult with the Superintendent, the Business Administrator or other administrators in the District, the Maintenance and Food Service Directors, as well as, Raymond School Staff Members. The Committee may also consult with state, federal and community officials as the need arises.
6. The Committee will be established in August 2019. The Committee is expected to complete its recommendations and submit a report to the School Board no later than October 2020.
7. The Committee will hold posted meetings on a regular basis, be responsible to inform the School Board, have representatives attend Board meetings to report on the progress of the Committee, and receive input and feedback from the Board.
8.
 - a. The Committee shall select a Chairperson and Vice Chairperson. The Chair shall prepare agendas and conduct all meetings.
 - b. In the absence of the Chairperson, the Vice Chairperson shall take over the duties of the Chairperson.
 - c. The Chairperson shall develop a written plan for the conduct of business.
 - d. A Secretary will be chosen to record minutes of the meeting.
9. The Building Committee will determine a building size and type suitable to the needs of Raymond, whether this should be new or rehabilitated/expanded; on current property or at a different location. The Committee should consider school size of 750 (core capacity) students.
10. The Building Committee will compare construction project delivery methods and report to the Board.
11. Building on information gathered in the past, the Building Committee will use (as reference) any and all relevant previous studies and information obtained, including: the Board approved Lamprey River Elementary School Facility Study, the Lamprey River Elementary School Fact-Finding Report, the 5-Year Plan, the Educational Specifications report, the District's Strategic Plan, and the completed report of the Building Committee's presentation to the School Board in July 2015.
12. Energy efficiencies will be considered fundamental to the building plan.



ATTACHMENT 'B'

BARKER ARCHITECTS FACILITY ASSESSMENT REPORT

**RAYMOND
SCHOOL DISTRICT**

**LAMPREY RIVER
ELEMENTARY SCHOOL**

FACILITY ASSESSMENT STUDY

Revised March 10, 2021

 **Barker Architects** PLLC

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PURPOSE AND ASSUMPTIONS

PURPOSE

The charge of this study is to analyze the building and space needs of the Lamprey River Elementary School for the Raymond School District and suggest alternatives with associated costs. The intent is to create a comprehensive, broad picture analysis of the building for use in future planning. Further design and planning will be needed for developing the project and getting public approval. The report will simply provide the statement of need and basic data for beginning that work.

The report will suggest multiple options for comparison purposes. These will not be actual designs meant for a construction project but rather theoretical possible solutions to give relative differences in costs and to provide the positives and negatives for each. This will give the decision-makers and the general public the information necessary for choosing the best path forward.

When the study began in January 2020 the Lamprey River Elementary School housed grades Preschool, Kindergarten and grades 1 through 4. Starting in the Fall of 2020 the preschool will be at Raymond High School and 4th grade will be at Iber Holmes Gove Middle School. However, the new configuration of K through 3rd grade may be temporary so this report will focus on a K-4 configuration.

Key to determining the configuration, size and scope of any building project for this district lies in understanding the demographics and long-term population change. Models traditionally have shown increases over time, but newer information may point to a leveling off or even decline. Population change is influenced by birth rates, mortality and immigration. This in turn has an impact on the economy of a region. A more in-depth analysis of the demographics is likely necessary to better predict future enrollments.

ASSUMPTIONS

Existing Conditions

The building was visited on February 20th and 24th of 2020. The existing floor plans were previously developed, and recent changes were noted. Actual dimensions were not verified. There may be some small inaccuracies, but these do not affect the outcome of the study. Verification of existing conditions should be part of any final plan.

Building and Life Safety Codes and Department of Education Rules

The work outlined is based on the following codes: The 2015 NFPA 101 Life Safety Code, The State Building Code (2015 International Building Code, 2015 International Existing Building Code, 2015 Mechanical Code, 2017 National Electric Code, and others), The State Energy Code and The State Barrier Free Access Code. Because of the generalized scope of the study, it is not possible to list every possible item that falls within these codes. It is assumed that any areas impacted by proposed changes would have all code issues resolved.

There is often a misconception that code compliance problems are “grandfathered” if they have existed for a long time. The State of NH Department of Education Administrative Rules (ED 306.07) requires all approved schools to meet NFPA 101 Life Safety Code as well as other codes. Other codes such as the State of NH Fire Code and the State of NH Building Code refer to this code as well thus giving local code enforcement officers the authority to require upgrades regardless of how long the situation has existed. However, it happens quite often that review for compliance is not done until a major construction project is proposed.

Chapter 15 of NFPA 101 is specifically designed for existing educational facilities. We suggest that the local authorities as well as the State Fire Marshal’s office be invited to walk through the building and review this study to ensure that the District fully understands what is required.

ENROLLMENT PROJECTIONS

Understanding anticipated enrollments is the first step in understanding the function of a school facility. As important to the calculations as the total number of students are the individual class sizes. It is possible for a school facility to reach maximum capacity long before the stated capacity if one year’s enrollment is much larger than others. One large cohort of students will put stress on the core facilities as if the entire school were much larger. It is therefore important to design the core facilities for a larger number of students than simply the anticipated total.

This report includes enrollment projections based on data provided by the District. Actual enrollments can be significantly different and should be monitored each year. The projections are a tool for identifying trends that are useful in determining design parameters.

PROGRAM DATA

It is important to analyze the building usage in order to determine areas that might require changes to improve the function of the building. The first step in identifying space needs is to develop the program or a list of spaces and their correlating size. To do this we rely on several sources including: NH Department of Education Standards, Association for Learning Environments (formerly; Council for Educational Facility Planners Inc.), other State Standards, examples of other similar projects and our own experience.

We also, possibly more importantly, rely on the Owner to supply us information for their programs. This was collected by interviewing the Principal and by analyzing how the building is currently used. This data includes: enrollment per course, periods per day, meetings per week and other information. Changes in this data would therefore change the results in this report.

It is also important to note that we did not always use the “minimum” standards when analyzing the data. Class size can greatly affect the space needs of a school. Current trends are to limit class sizes. The Raymond School District has a policy of limiting class sizes and this was taken into account for this study.

COSTS

There are several sources that we rely on for cost data. RS Means is a construction cost index that helps establish a range of costs. Other similar projects are also used. For a report with this broad a scope, however, it is not possible to produce accurate estimates due to the level of detail. Also, that cost data is almost immediately outdated due to inflation. We have prepared this report based on an average cost per square foot per task. This will give us an “Order of Magnitude” estimate on cost for determining budgets.

New construction costs are based on the NH Department of Education cost per square foot maximum cap. This helps establish the benchmark for the limit any project generated from this report needs to meet. It is not meant as a final construction estimate.

All costs are given in “today’s numbers”. Inflation for building materials is very difficult to forecast. At the time of this report, many resources are seeing increased inflation. The costs in this study will need to be verified before proceeding with a construction project.

EXPECTATIONS

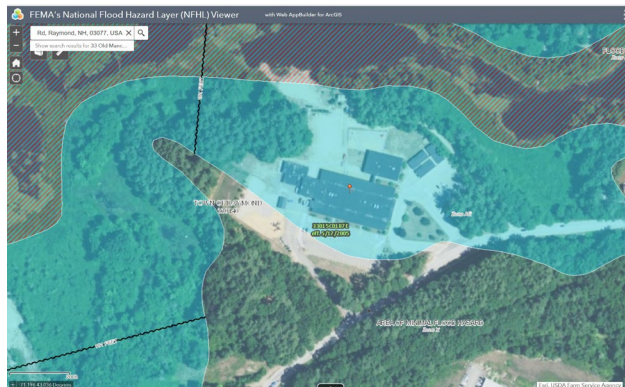
As with any renovation project there are areas that will be left undone. It is not economically feasible to upgrade every aspect of an older building to meet the same criteria of new construction. It is important to set limits on expectations to avoid an endless amount of project growth.

BUILDING NEEDS ANALYSIS

This section studies the existing facility for deficiencies relating to the building or property. Most data were obtained from previous studies and additional data was generated from site visits, interview with staff and extracted from original drawings.

Overall, the Lamprey River Elementary School (LRES), although well maintained, is simply tired. Many of the building elements are reaching their expected life-span. The materials and methods used to construct the building were at the time considered innovative but now are archaic. The style of design itself was once state-of-the-art but has proven to be a poor choice over time. The effect is a building that has outlived its intended purpose.

One of the key factors is the siting of this building next to its namesake, the Lamprey River. The Lamprey River has been changing with the frequency and severity of flooding increasing. According to a study through UNH, the Lamprey River's 5 worst floods have all occurred withing the last 25 years. It expects this trend to continue. Go to 100yearfloods.org for details.



FEMA Floodplain Map of LRES

When it was first constructed LRES was likely not built within the floodplain, but FEMA revised the estimated flood levels effective 5/17/2005 and the building is now entirely within the floodplain. The floor level itself is 1'-2" above the anticipated flood level but the surrounding grade is below it. This has proven correct in the last two floods in 2005 and 2006. The town of Raymond has adopted an ordinance that requires new construction to be 1'-6" above the floodplain.

The issue is not simply meeting code but also if it is good judgement to have a large community asset such as LRES located in the floodplain. The 100-year flood line is an estimated maximum but could be exceeded. If it is, the damage to books, materials, computers, electrical system, finishes and the structure itself could be significant. Also, schools are often a place for shelter in emergencies and having LRES surrounded by flood could put people who rely on using this building at risk. There is not an easy answer to this issue.

This report catalogs deficiencies found with costs listed by priority. High priority items are those that need to be done within the next two years. They include issues such as code deficiencies or maintenance items that could cause damage if left undone. Medium priority items should be completed within five to ten years. They are important but do not pose an immediate need. Low priority items are worth considering due to cost savings or improved efficiency. They could be done at any time and often can be done more cost effectively if combined within a larger project. It is worth noting that all the district facilities are clean and well maintained. The staff obviously put pride into the buildings, and this helps with the value of education provided. This intent of this report however is to point out the deficiencies and this should not be misconstrued with criticism of the staff.

BUILDING NEEDS ASSESSMENT MATRIX

During the site tours held in February 2020, data was gathered with deficiencies noted based on a checklist of 77 items. These items are in 11 categories: *Site, Envelope, Life Safety, Building Code, Structural Integrity, Handicap Accessibility, Indoor Environmental Quality, Building Services, Interior Finishes, Security and Other*. Each deficiency was then assigned a cost estimate for remediating the problem and those costs prioritized into *High, Medium and Low*.

The State has two thresholds when reviewing renovation projects. There is a minimum for renovations of 25% the replacement value of an existing building. Below this level renovations are considered by the state as maintenance and not a capital project. There is also a maximum of 60% the replacement value of a building. Above this the state encourages districts to consider building new theorizing that continued investment in a building with such great needs is not a good use of municipal funds.

The total of the building needs falls between these two thresholds but lands close to the upper limit with the cost of renovations being over 50% of the replacement value.

General Observations

The Lamprey River Elementary School was designed as a quasi-open-concept school with demountable partitions between classrooms for easy reconfiguration. The shell of the building is a very simple rectangle with narrow ribbon windows at or below eye level. There is a substantial amount of windowless interior space. The walls are simply concrete block. The first few feet of the north and south walls were designed as earth sheltered. This design is meant to be energy efficient by minimizing the exterior surface area compared to the habitable area.

What we know now is that those design concepts that were considered innovative at the time of construction have proven to not work as intended. The open-concept style of education has long been abandoned. The windows create over-heating and glare at the first few feet of the south-facing wall but otherwise provide little to no natural light elsewhere in the building. The walls have no insulation and show signs of moisture issues.

The Lamprey River Elementary School when built in 1975 was a low-cost solution at a time when the country was having economic hardship. Its simple design and materials made it easy to build but also made it become outdated very quickly.

Site and Exterior

As mentioned, LRES sits on a property bordering the Lamprey River. The soil is very sandy except for a hill area. The school has made an outdoor classroom near the river. There is also a public access to the river next to the school property.

The majority of the site is within the floodplain and therefor does have issues with drainage. The soil drains when the water level is low but if the water level is high, and not necessary flooding, there are pockets of wet that happen around the school.

There are two septic fields, one from the 1970's and the other from the 1990's. They appear to be functioning so can continue to operate as they are. If they were to fail it is possible to repair them even though they are in the floodplain. If an entirely new septic system were to be building on this site it would need to be placed outside of the floodplain and a pump installed.

The driveway system appears to be working but should be improved. There is limited signage and the route to the front entrance is not immediately clear. It often creates a conflict with individuals accessing the building while busses are loading or unloading. Parent drop-off and pick-up is well organized but labor intensive. The loading zone occupies a large area of parking. There are no sidewalks or curbs, so the staff rely on pylons and jersey barriers to keep students safe from moving cars.



Parent Pick-Up Zone Through Parking

The exterior of the building shows considerable efflorescence which is a sign of moisture pushing out of the building. Considering there is no insulation in the wall this is not surprising. The windows are relatively new but exterior doors are energy inefficient and need weather-seals. The roof is in good shape although past its warrantee period. The foundation is partially earth-sheltered and some of this has been altered.

Building and Life Safety Code and HC Accessibility

The simple design of the building actually makes for safe egress out. Corridors are fairly wide and straight. The exit doors however are small thus reducing egress width just at the exit. Also, some rooms that have been altered do not provide the correct width at doorways.

The protection of spaces with fire or smoke rated construction is a significant problem. Because the majority of the walls in the facility are demountable, there is no air seal at the ceiling meaning all spaces share the same atmosphere. If a fire were to start in a closed room, smoke could easily enter the corridor creating panic as people leave. There are some rooms that require additional fire ratings but do not have it.

The fire alarm is aging and in need of replacement with an addressable system. The local fire department is expecting this at some point soon. The building has a sprinkler system, but the pipes are PVC and prone to sagging. These could break causing significant damage. It is likely the entire system will need to be replaced with metal pipes.

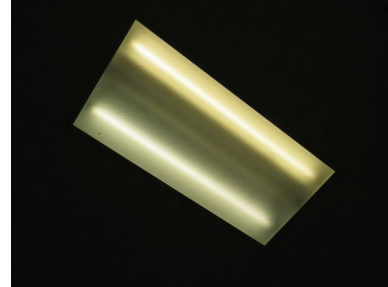
The building is existing so therefore is exempt from some building code issues. If a major addition were to be constructed however, parts or all of the building would need to be brought up to current codes. The building is unlikely to meet snow or seismic loading simply due to the differences in codes from when it was built to now.

The handicap accessibility is a significant problem in that many doors and toilet fixtures do not comply. There have been changes recently that make this situation better but still several more tasks need to be completed.

Indoor Environmental Quality

The ventilation is primarily delivered through four roof-top air handling units. These are scheduled to be replaced soon. The current system is unlikely designed to provide current code required levels of fresh air. An entirely new system is recommended.

The control system for the heating and cooling is mostly archaic. It does not allow for effective monitoring and control. A new digitally controlled system would allow for more efficient operation of the systems and produce data that can be used to trouble-shoot problems. There is just limited air conditioning for the facility.



Aging Light Fixture

Many of the light fixtures have been upgraded but with technology changing rapidly it is probably time for another upgrade. When they were upgraded the ballasts and lamps were changed but the housing and lenses were not. The lenses have yellowed and do not supply very good quality light. Entirely new LED fixtures is recommended.

Building Services

Building Services relates to the mechanical, electrical and plumbing equipment that form the main sources for heat, electricity and water. Most systems are in reasonable condition, but all are aging and need upgrades. The most critical is the main electrical panel. All electrical panels have been replaced with the exception of the main panel which is original to the building and made by a manufacturer which is no longer in business. If this panel fails, it would be difficult to get parts to fix it.



Light Switch Remote from Door

The electrical distribution has had upgrades over the years, but many outlets are still original to the building. The risk is that the plastic and porcelain in the outlet can crack over time and cause short-circuits. Light switches in many rooms are in inappropriate locations because many rooms over time have been reconfigured. These should be replaced with switches withing easy reach of the door that enters the room. The backup generator is beginning to age and is only sized to service the boilers.

The kitchen hood does not appear to have a fire-suppression system and some of the appliances do not have the proper plumbing drains. These are top priority items for health and safety concerns.

Other lower but still important issues include the heat distribution and phone systems. Currently heat is only supplied to the exterior rooms leaving the interior rooms without a source of heat. Because they are interior there is less heat loss and some heat permeate inward. However, there is heat loss through the roof and without heat these rooms can become very cold. The phone system is working but outdated.

Interior Finishes

The interior finishes are in various stages of wear with most needing some attention. The flooring needs to be replaced in large areas of the building. The walls are mostly metal panels and have numerous coats of paint. The ceilings are considerably worn and should be replaced throughout. Casework in the classrooms are residential quality and lacking. There are few base cabinets and wall cabinets in the classrooms are located over the windows creating a hazard.

Security and Safety

The main entrance has had a secure vestibule constructed in the last year. However, any after-hours use of the building is not restricted. There is no ability to lock off the multi-purpose room or the library from the classroom corridors and parents and student wander the halls when the Multi-Purpose room is in use. The classroom doors do have locks but they are not school security or "Columbine" locksets.

PROGRAM ANALYSIS

Programs have changed over the years and older buildings can become inefficient without modifications. Additions often exacerbate the problem by prohibiting building components from functioning the way they were originally meant.

The Lamprey River Elementary School is a good example of this. Many rooms have been co-opted from a previous use to a new use as the education style has changed. Special Education is a prime example of this. When originally designed, special education was limited and there were a few flexible rooms near the library assigned to this. Now, several regular classrooms have been converted to special education. The downside to this is that the space is often too large for a single teacher who normally works in small groups or one-to-one. Therefore, a classroom will have two or more teachers in the same space resulting in disruption and lack of privacy.

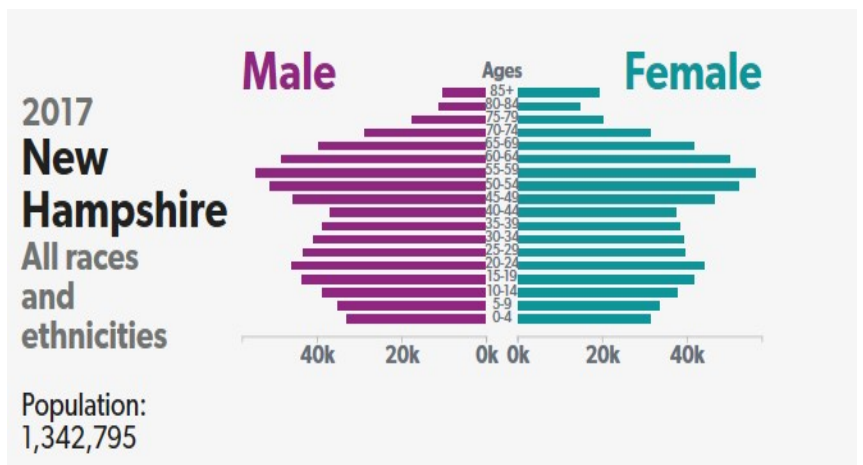
ENROLLMENT PROJECTIONS

The first step in preparing space needs recommendations is to determine the number of students the building will be designed to serve. Enrollments are predicted in this report using a nomothetic calculation or an estimate based on probability. For this study we used a cohort survival enrollment projection. Historic enrollments and births are used to calculate the likelihood of future students moving in or out of the district. Figures are calculated using a 5-year average, 3-year weighted average and simple projection. Creating projections beyond what is available for data is unreliable. Therefore only 5 years' worth of enrollments are reliable for the elementary school level which reflects the available birth data.

The difficulty in preparing enrollment projections is determining probable future enrollments for kindergarten. Once that is established tracking the progression of students through the grades is more set. Many school districts throughout New Hampshire have experienced a drop in enrollments due to low birth rates. To understand why that is happening it is necessary to look at the larger picture of demographics.

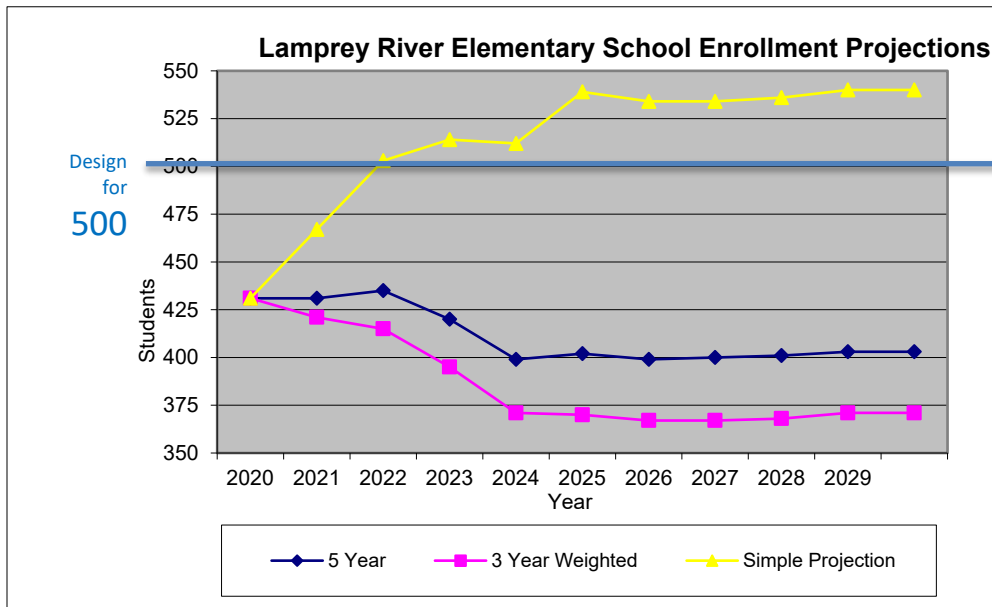
NH Population Pyramid

Demographics show that the generation in prime years for having children is the "X" Generation, which is significantly smaller than the Millennials or their parents the Baby Boomers. Millennials are having fewer children and having them later in life. They are just reaching the age where their children are starting to attend school. This means that there could be a slow decline in enrollments as Millennial children reach school age.



Other factors also play an important role in enrollments. Districts in economically depressed areas may have a high birth rate due to the affordability of housing but then see a decline in enrollments as families that are improving in economic status, move in search of more favorable locations. The condition of the schools themselves can play a large roll in increased or decreased enrollments as families often make choices on which town they live in based on the quality of the schools.

The enrollment projections in Raymond tells an interesting story. Birth rates have ranged from 97 to 134 births per year and have been declining for the last 5 years. The average over 10 years has been around 114. The number of students that enroll in kindergarten 5 years later has been on average 20% lower than the birth rate. Once in the school system the attrition rate for students is only about 2% for the elementary school and 1% for the middle school.



This suggests that one out of five families of young children make a choice to leave Raymond before their children attend school, but the rest generally stay. Although not necessarily the only reason, it is a reasonable conclusion to say that the condition of the school itself could be the cause.

For planning purposes, designing for 100 students per grade, with some room for growth would cover the district needs for the foreseeable future.

CAPACITY CALCULATIONS

Once a target capacity is determined using the enrollment projections the number of teaching stations is calculated (Table B – Curriculum Worksheet). The target capacity is represented by two numbers: the design capacity and the core capacity.

The design capacity is defined as the number of students that the building design will accommodate and function normally. The design capacity uses the average amount of students in each of the classrooms to generate an overall picture of the functionality of the school. It is possible that the school could exceed the designated design capacity

but with every additional student there would be some decrease in the quality of education.

The core capacity is defined as the number of students that the core areas of the building will accommodate and function normally even with peak years and future growth factored in. The core areas are further defined as the spaces that all students in all the grades use to some degree. They include the gymnasium, library, main office, cafeteria, and other similar areas. These areas need to be designed to accommodate the peak number of students possible in any one particular grade or grouping. The effect is that the core capacity needs to be a higher amount than the design capacity to handle anomalies that invariably occur in enrollments.

The design capacity is divided into groups representing individual grades and/or by curriculum depending on grade level. The average class size, the number of meetings per week and a utilization rate all factor into the total number of rooms required. From this data a core capacity is established using a maximum room capacity multiplied by the number of teaching stations.

The utilization rate represents unutilized space that is necessary to schedule activities and otherwise allow a school to function smoothly. Utilization rates at elementary schools can be as high as 90% while at middle and high schools where students change class throughout the day the utilization rates are usually as low as 85% or 75%.

SPACE NEEDS

The Space Needs Worksheets (Table F) utilized the capacity calculations to create a program of space required for each building. The number of teaching stations is multiplied by the required space for each. The net of the program areas is multiplied by a factor that represents non-program space such as corridors, toilet rooms, thickness of walls, and other miscellaneous areas.

This creates a snapshot of the school if that school were to be built new. This is compared to the actual spaces. Program deficiencies and inadequacies in space need can then be identified.

General Observations

The Lamprey River Elementary School met educational needs when it was first constructed but now fails in a number of different ways. The largest space deficiency is with the core spaces and not classrooms.

Educational Space

Most classrooms are adequate in size with the exception of specialized classrooms. Art and Music share a space that is 830 square feet which is small for that program. Music and Art are currently in regular education classrooms which are small for these programs and not specifically designed with those programs in mind. Both should have additional storage space for materials and equipment and should have extra room for activities.

Special Education is located in various rooms throughout the facility. Due to a lack of more appropriate office space, some special education support staff have been moved into large, regular education classrooms with at least 3 staff sharing a space. The sharing of space creates problems for privacy and occupies a large amount of space.

Core Space

Core spaces are where the space deficiencies are more prominent. There is a Multi-Purpose Room with no separate gymnasium making scheduling between physical education and lunches a problem. It is too small for a full basketball court. The kitchen is also small for the population. There is not a built-in stage making presentations and performances more difficult and takes away from seating.

The library slightly undersized for the population but is also open concept with no walls to separate it from the corridor. This lowers the efficiency because to gain privacy there needs to be more distance between the reader and noise from the corridor.

Office space appears to be adequate, but this is deceiving because the arrangement is inefficient. There are circulation areas through offices making usable space small. The nurse's office does not have enough room to provide appropriate privacy.



Office with Lack of Privacy

COST ANALYSIS

The final step in the analysis is to put a cost to the work outlined to give a general sense of the value of the work. This will be an “Order-of-Magnitude” cost estimate and is not intended to be the final cost proposal. This rough estimate cost will allow the District to make decisions and to compare costs between alternatives.

PROJECT COST

The Project Cost is the total capital cost for a construction project. These costs are in two categories: Hard Costs and Soft Costs. Hard Costs are the direct costs for constructing the building including new construction, renovations and site development. Soft Costs include indirect costs such as design fees, furniture, financing and contingency. Soft Costs are generally a percentage of the Hard Costs and therefore follow it higher or lower. The total between the two gives a comprehensive view with no hidden costs.

BOND COST

The amount needed to be borrowed to complete construction might be less if State Building Aid is available. The NH State Legislature has lifted the moratorium on school building aid that has been in place since 2008. There is no guarantee that it will remain that way, but it is worth planning for. If eligible, it would be very favorable for the Raymond School District. The current rate is 45% and paid up front with 80% before construction and 20% at completion of the project. This means that the district would not need to bond the entire amount as it was in the past. The eligibility consists of a competitive process so that if there is not enough for the number of projects that apply, the State can award based on priority. It is likely that Raymond would score well. There are several limiting factors that are imposed by the State on Building Aid. These are:

- 35-year period before a previously funded project can be replaced.
- A maximum of 120 square feet per student.
- A maximum of \$190 per square foot for construction costs (exclusive of site and soft costs).

The kindergarten classroom wing was constructed within the 50-year period and therefore that area needs to be deducted from the allowable square footage funded. Meeting the square foot caps for space and cost can be a challenge because they are often influenced by conditions out of our control.

LIFE-CYCLE COST

The Life-Cycle cost is the total cost for a facility when considering all costs for operating a building long-term. This can include many items such as energy, materials for maintenance and repair and also the additional cost of salaries that are impacted but building conditions. It is important to note that operations and maintenance usually only account for less than 10% of any school district budget. The remaining 90% + is for salaries, so quantifying how much a facility impacts salaries can be a significant factor in the true cost of a project.

Building Needs

As a building ages parts can wear out and need to be replaced. For Lamprey River Elementary School this has been established in the Building Needs Assessment portion of this study. The Life-Cycle analysis then takes those items and arranges them in order of when they are expected to wear out and need to be replaced. They are also arranged in a way to group similar work together. The effect is a reasonable long-term improvement plan.

Utility Costs

The Utility Costs are simply an estimate of the cost of heat and electricity for the building. There are three different figures used. One each for Existing, Renovations and New Construction. The Existing figure is based on the last two years energy bills. The Renovation figure is based on improving the existing by 20%. Lastly, New Construction is based on designing to be 20% more efficient than any existing building in the district.

A study of the energy bills for all the buildings in the district shows that Lamprey River Elementary School bills are 1/3 higher for electricity and 3 times higher for heating per square foot than any other building in the district.

Human Resources

Salaries affected by a building can be directly associated with the cost for cleaning, maintaining and repairing it. New surfaces are generally easier to clean taking less time. New LED lights can last as much as 20 years compared with fluorescent and incandescent bulbs which wear out regularly. There are flooring materials that do not require waxing which consumes a lot of time to perform.

Other salaries can be indirectly impacted by a building. Poor lighting and ventilation can cause air-borne diseases, asthma and headaches. This leads to absenteeism. A study of the amount of time off for all the district schools shows that Lamprey River Elementary School has a 30% higher absenteeism rate for teachers than either of the other schools. This has a cost implication.

Almost more importantly, national studies have shown that quality space can improve performance of both teachers and students. Test scores improve when students and teachers perform better. Teacher retention can increase saving the district the cost of training new teachers. This intangible benefit cannot be calculated easily into a dollar value but should be considered when evaluating future options.

Financing

If a project is funded through a bond, then the cost to the taxpayer is spread out over a 20-year span. The interest rate paid on that loan changes every year, but the current rate set in January of 2020 was 2.15% which is the lowest rate that the NH Municipal Bond Bank has published going back 25 years. Since then, the Federal Reserve has lowered its rate that it charges member banks meaning that the low rate should continue for a year or more.

Tax Revenue

The existing building would still have value if it were not used as a school. It could be sold to a private developer and the property put on the tax base. It is also possible that the town could have another use for it but even then, it is important to demonstrate that the property has value and if the building is no longer a school, it would still serve a purpose.

Inflation

Inflation needs to be factored each year. The cost of work that is delayed would be more expensive each year. The Federal Reserve tries to limit inflation to around 2%. In 2019 the rate of inflation was 2.15%. However, this year has seen monetary quantitative easement by the Federal Reserve in an effort to bolster the economy as it has slipped. This should help short-term to increase economic activity but usually after quantitative easing inflation increases.

Baseline Calculations

The method thus described is then applied to the existing Lamprey River Elementary School and then also to a hypothetical replacement school of the exact same size to produce a baseline example between “Repairs Only” and “Replacement” options. These are not true future alternatives because neither address all building or program needs. It is assumed that the new school would be on a new property which the cost of would be offset by selling the existing school building. It also assumes that State Building Aid would be available.

In this comparison only the high and medium priorities are used for the “Repairs Only” option. This leaves many issues unresolved. No energy improvements were considered so as to highlight the energy use differences between the two. Also, energy upgrades take years to show a return meaning it would probably not change the total cost within the 10-year window of the analysis.

The result is that a new building replacing the existing would likely cost over \$500,000 less over a 10-year period. There are three major reasons: First, the new would have less than half the cost for energy than new. Second, the cost in salaries to operate the building would be significantly less. Third, the bond interest rates are low and the risk of rising inflation high creating a favorable environment for financing.

There is obviously a lot of variables in this analysis that could change. The most significant is the availability of State Building Aid. We also do not know what the inflation rate or interest rates will be in the future. With the model established we can adjust the numbers to explore other scenarios. The main purpose of this particular exercise is to show that true cost of a project is not always well understood and that sometimes, what first appears to be the more expensive option can end up being the least expensive.

CONCLUSIONS

This report establishes that the Lamprey River Elementary School has significant building and program needs. The floodplain in particular creates a situation where a major community investment is at risk. The enrollment projections suggest that the condition of the school might contribute to the declining enrollments.

Moving forward the community needs to consider the benefits and concessions of future proposals and not simply the capital cost. Core at this is to look at a broad picture of the impact of each option. Any project needs to be acceptable to the public, the users of the building and the voting body.

End Report

Lamprey River Elementary School

Building Needs Worksheet

Cat	Item	Problem	Corrective Measure	Area		
				Perimeter		
				1,364		
				Cost / Priority		
				High	Medium	Low
Site	1 Minimum Size Lot	There is roughly 9.5 acres of building land once wetland setbacks and steep slopes are deleted from total. This supports 450 students which is lower than the current population.	Need waiver from the state or reduce the number of students on site.			
	2 Water and Septic	Water is municipal, septic dates to '70's and '90's. Septic might need to be replaced at some point or enlarged for additions.	The capacity of the system should be determined. Any covers or openings should be resealed to prevent flood waters from entering system.	\$ 20,000		\$ 200,000
	3 Bus/Car Separation	Separate car and bus areas exist but better configuration could be done. Driveways lack definition. No curbing between drive and walkway.	Redesign to more safely separate car and bus.	\$ 50,000		
	4 Parking	Kindergarten conflicts with busses. Parent pick-up queues to 60+ cars and conflicts with parking.				
	5 Grading and Drainage	Parking meets current needs.				
	6 Playground/Playfields	Most of site within floodplane limits. Recent floods have reached the doors to the school but have not flooded the building. Several areas do not drain properly with average rainfall. No retention exists and runoff is directed into the river without treatment.	Provide new detention and subsurface drainage. Making this work and getting permits may be difficult. Pervious pavement may help for treatment within a small change of grade.	\$ 200,000		
	7 Site Features	Playfield recently constructed but not to any regulation size.				
	8 Oil, Propane Tank Age/Condition	Visitor parking and entrance not immediately clear.	Provide directional signage.	\$ 10,000		
	9 Roof Condition	Oil storage is old, undersized and not commercial grade.	Provide new underground 10,000 gal tank.	\$ 40,000		
Envelope	10 Wall Condition (insulation and moisture protection)	Roof 6 years past warrantee. Will likely need to be replaced within the next 10 years.	Monitor condition and budget to replace.		\$ 244,000	
	11 Door Condition (energy efficiency and operation)	Walls have no insulation. Some areas above ceiling can freeze threatening sprinkler system.	Recommend adding 3" sprayfoam to exterior of walls and cover with siding.			\$ 218,000
	12 Window Condition (energy efficiency and operation)	Most doors are older, worn and antiquated. Some have been replaced. Many have worn-out or missing seals. Some hollow-metal doors are showing rust and should be cleaned and repainted.	Replace doors that have not been replaced. Add weatherstripping to doors that require it.	\$ 30,000		
	13 Foundation Condition (insulation and moisture protection)	Windows are newer aluminum thermally broken energy efficient windows. The design however is undesirable. The low ribbon style causes overheating and glare.	No clear alternative.			
	14 K-2 location based on LED	The walls are partially earth sheltered. This has been removed on the north side due to moisture issues. This could expose the footings to frost heaving.	Install insulation, drainage plane and foundation drain along perimeter.		\$ 34,000	
	15 Panic devices	Complies	Not applicable			
	16 Stair Details (Rise/Run, Railings)	Some panic devices have been replaced and more are scheduled to be replaced. Closers and other hardware that remain are antiquated and worn but still operational.	Replace panic devices and closers where needed (assume 15).	\$ 15,000		
	17 Areas of Refuge	Not applicable.	Not applicable			
	18 Capacity of Means of Egress	The area near the MPR does not meet.	Make other doors exits to spready the egress load.	\$ 12,000		
Life Safety	19 Exit Width	Numerous double doors have 30" leafs.	Replace doors to meet code. See related items #11			
	20 Corridor Width	The connecting corridor to the kindergarten wing does not meet the minimum corridor width.	No clear alternative.			
	21 Number of Exits	Several rooms do not have a second, remote means of egress. These rooms do have doors to adjoining rooms. But remoteness of exits is a problem and clear path cannot be verified.	Install new doors to the exterior or in the corridor heading in a different direction in rooms with no 2nd exit.	\$ 8,000		
	22 Dead-end Corridors	Complies	Not applicable			
	23 Exits through Intervening Rooms	A number of rooms have as a second exit, doors through adjoining rooms. These rooms are not ancillary and are not maintained as a means	Abandon exits through intervening rooms. Install exits as required.	\$ 15,000		
	24 Door Arrangement	Rooms over 1,000 sq. ft. need to have doors that swing towards the path of egress.	Replace doors in MPR that do not swing out.	\$ 10,000		
	25 Travel Distance	Complies	Not applicable			
	26 Means of Escape	Building is sprinklered therefor windows comply and single means of egress from classrooms allowed.	Not applicable			
	27 Protection of Vertical Openings	Not applicable.	Not applicable			
Building Code	28 Protection of Hazards	Storage of hazardous materials is in unrated space that is shared with gym storage and offices.	Separate spaces and install fire rated partitions and doors.	\$ 20,000		
	29 Protection of Corridors	Corridors are not rated for fire or smoke. The library is completely open to the corridor. This room needs to be fully enclosed.	Provide an assembly at the corridor ceilings to smoke seal the corridor. Enclose the library.	\$ 57,000		
	30 Smoke Compartments	Smoke doors exist but are not rated therefore the efficacy cannot be substantiated.	Test existing and upgrade as needed.	\$ 10,000		
	31 Fire Alarm, Emergency lights and Exit lighting	Mircom fire alarm system appears to be in good working shape but is older and not addressable.	Install new addressable fire alarm system.	\$ 200,000		
	32 Furnishings, Decorations and Personal Effects in the Corridor					
	33 Height and Area Limitations	Allowable area is 38,000 square feet without separation due to wood frame of attached portables.	The attached portables should be removed or separated from the existing by a fire rated wall.	\$ 23,000		
	34 Construction Classification	Building type appears to meet specifications for 2b construction with the exception of the attached portables which is 5b. Some investigation may be necessary to maintain that.	Upgrade materials, remove combustible materials as necessary.	\$ 5,000		
	35 Fire Rated Construction	Several rooms that need to be rated are not. Rated assemblies have been breached.	Upgrade rooms that need to be rated. Add fire rated material and replace doors with rated doors.	\$ 10,000		
	36 Interior Finishes	Interior finishes appear to comply with fire spread code specifications.	Verify and ensure finishes meet code.	\$ 5,000		
Structural	37 Sprinklers	Sprinkler system relatively new but installed with PVC pipe. The pipe over time is sagging leaving low points and potentially stressing joints.	Appears to meet code as is but will be a maintenance problem in the near future. Replace with steel pipe if necessary.	\$ 195,000		
	38 Fire Protection	The fire extinguishers appear to meet code although some additional and better signage is required.	Review and install new as required.	\$ 5,000		
	39 Snow Load Capacity	The original building likely does not meet current codes for snow due to the codes that the original building was built under. The building does not appear however to be deflecting or show any signs of distress.	If there is a major addition or change to the system of more than 10%, the entire structure will need to be brought to code.			\$ 100,000
	40 Wall Condition (seismic capacity, cracks or deflection)	Lateral bracing not observed. Reinforcing in the walls cannot be seen but due to age of the building it is unlikely that it exists. The presence of ribbon windows indicates that the walls likely do not have reinforcing or lateral bracing since these would interrupt the windows.	Building has to be brought up to current code if major renovation/addition is performed. Install lateral bracing.			\$ 245,000
	41 Foundation Condition (cracks or rot)	Foundation is in relatively good shape with only minor cracks. The berms on the north side have been removed and it is possible the existing footings no longer have frost coverage.	Added insulation horizontally over the footings or replacing the berm will provide the required coverage. See item #13 in conjunction with this item.			\$ 34,100
	42 Parking	6 spaces required, 3 provided.	Restripe converting 4 existing spaces into 3 HC spaces.		\$ 5,000	
	43 Building Access	The main entrance is at grade. Curb ramps are used to allow HC accessibility but are not properly sloped or positioned.	Revise curb ramps.		\$ 5,000	
	44 Accessible Route	Corridor system appears to comply with accessible route. Internal to rooms may have issues with equipment. Not all toilet rooms are accessible. There are numerous projections that exceed 4".	Move equipment or furniture to make a clear route. Add wing walls next to equipment that cannot be moved.		\$ 5,000	
	Accessibility	45 Door Clearances	Several doors do not have proper clearances.	Reconfigure doors as necessary.	\$ 25,000	
46 Door Hardware		Most doors have new lever handles. Some side doors still have knob handles but these doors are rarely used.	Replace remaining handles	\$ 5,000		
47 Stair Details		Not applicable.	Not applicable			
48 Toilet Facilities		Gang toilets are not accessible. Nurse toilet is not accessible. Toilets in kindergartens are not accessible. Office toilet room and teachers toilets are not accessible.	Remodel all toilet facilities to be handicap accessible.	\$ 60,000		
49 Signage		Signage is outdated.	Review and replace as required.	\$ 5,000		
50 Elevator		Not applicable.	Not applicable			
51 Ventilation		Some new ventilation has been installed but it is not adequate for the demand. The system is constant-on and not energy efficient.	Install new Energy Recovery Ventilators with Demand Control.	\$ 60,000		\$ 977,440
52 Thermal Control		Controls are pneumatic controls which are antiquated and lack the capabilities of a DDC system.	Install new DDC control system.			\$ 183,270
53 Moisture / Mold		Some problems have been experienced in the past but currently the building appears to have no mold problems on the interior.	Complies.			
Indoor Environmental Quality	54 Lighting	Lighting is in good shape but relatively old and past its life span.	Install new energy efficient LED's. (note: rebates will cover a significant portion of costs).			\$ 122,180
	55 Acoustics					
	56 Sanitation	Toilet rooms lack proper ventilation. Janitor's closets need ventilation.	Install new exhaust vents and new finishes.	\$ 20,000		
	57 Boiler / Heat Distribution Condition	The boiler is relatively new. Heat distribution only services the perimeter of the building leaving the interior core without its own heat.	Install additional radiation in core spaces	\$ 73,000		
	58 Water Supply					
	59 Plumbing / Fixture Count	The number of fixtures exceeds the occupant load, however the arrangement an lack of accessibility reduce the effective amount. Teachers toilets lack separate sex facilities.	Reconfigure when renovating for handicap accessibility. Allow for loss of some fixtures.			
	60 Roof Drains					
	61 Main Electrical Service	The main transformer needs replacement. The main electrical entrance is a Federal Pacific panel and needs to be replaced. The majority of the system after the main panel is relatively new and in good condition.	Replace transformer and main panel.	\$ 50,000		
	62 Backup Power	Existing generator functions well but only services boilers.	Install new generator that services more essential equipment.	\$ 75,000		
Build. Services	63 Power Distribution	Power in the classrooms has been added to over time. Older wiring and outlets need to be replaced. Additional outlets would be optimal but not absolutely necessary. Light switches in many cases are in inappropriate locations due to reconfiguration of the room.	Replace old devices, install new outlets as needed. Relocate and replace light switches that are not within reach of room entrance doors.	\$ 16,000		
	64 Equipment (kitchen)	The hood does not appear to have a fire suppression system. The 3-bay sink does not have indirect waste. Other fixtures do not have floor sinks.	Install fire suppression and additional waste drainage.	\$ 20,000		
	65 Phone, Intercom, Security	A new integrated phone and intercom system is scheduled to be installed. Security is relatively new.	The district is moving towards VOIP. Install new equipment as necessary.	\$ 98,000		
	66 Ceilings	Ceilings appear to be highly worn and need of replacement.	Install new ceiling tiles.	\$ 122,000		
	67 Walls	Many of the walls are demountable partitions. These allow sound transimission between classrooms and can shake with doors being closed.	Replace demountable partitions with new CMU and/or drywall walls.			\$ 391,000
	68 Doors	Some doors that were recently replaced are residential quality with wood frames. Many other are original in good condition but beyond their life span.	Replace classroom doors with new commercial grade solid core wood doors.	\$ 30,000		
	69 Floors	The original vinyl tile with asbestos in the mastic remains. Much has been covered over with carpet tile.	Replace flooring with new durable, low maintenance materials.	\$ 147,000		
	70 Cabinetry	Cabinetry in the original building is in poor condition. Most of the original cabinets have been replaced with residential cabinets. The quantity has been reduced and is not very useful.	Install new cabinets at sinks in classrooms. Install additional cabinets for storage.			\$ 183,000
	71 Fixed Equipment (gym equipment)					
Security	72 Visual Display Boards	Many boards have been repaced with new.	complies			
	73 Secure Visitor Check-in	A new door set has been installed giving some security and a window exists to the secretary.	complies			
	74 Lock-down of Public Areas	The building does not currently have the capability of locking down sections of the building. The library is open to the corridor.	Install hardware capable of lockdown. Enclose library. Install hardware on corridor doors to lock certain areas.	\$ 10,000		
	75 Technology (cameras, motion sensors)					
	76 Visibility	The main office has good views to most of the parking and driveways and the entrance is clear and direct. It is possible for someone to enter into the kindergarten wing if the door is unlocked.	complies			
	77 Asbestos	Asbestos exists under the vinyl tile which in turn is under carpet tile. According to the maintenance report, other asbestos does not exist.	Abate remaining asbestos.	\$ 50,000		
Other	78					

\$ 838,000 \$ 1,256,000 \$ 2,653,990

\$ 4,747,990 Grand Total

State Funding Thresholds	Value of Existing	Renovation Minimum (25%)	Renovation Maximum (60%)
Construction Cost per SF Cap	\$190.00	\$ 9,285,680	\$ 2,321,420
		\$ 5,571,408	

Table A

Raymond School District
Lamprey River Elementary School

Student Historic Enrollments

	Number Actual		Number Estimate										5 year	3 yr Wtd
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021		
Births	104	97	125	124	134	119	113	108	106	104	108	108	110	105
PK	47	51	51	50	49	53	36	39	42	47	38		41	44
K	84	97	89	102	100	85	93	84	104	106	81		94	102
1	118	87	115	107	110	110	88	92	85	104	106		96	96
2	116	125	88	108	107	107	94	92	83	83	95		92	85
3	92	107	125	85	104	104	105	91	93	79	72		94	86
4	113	87	101	118	85	109	99	104	87	89	77		98	91
Total	570	554	569	570	555	568	515	502	494	508	469		85.8333	83.7222

Cohort Survival Ratios

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	5 year	3 year	Wtd	Simple
K					0.917359	0.958763	0.872	0.83371	0.791945	0.898672	0.788238	0.743803		1
1	1.035714	1.185567	1.202247	1.078431	1.1	1.035294	0.989247	1.011905	1	1	1.007289	1.001984		1
2	1.059322	1.011494	0.93913	1	0.972727	0.854545	1.045455	0.902174	0.976471	0.913462	0.938421	0.932583		1
3	0.922414	1	0.965909	0.962963	0.971963	0.981308	0.968085	1.01087	0.951807	0.96743	0.955908	0.919482		1
4	0.945652	0.943925	0.944	1	1.048077	0.951923	0.990476	0.956044	0.956989	0.974684	0.966023	0.965679		1
Avg.	0.99078	1.03525	1.01282	1.01035	1.02319	0.95577	0.99832	0.97025	0.97132	0.9389	0.96691	0.95493		1

Barker Architects, PLLC

1/13/2021

Raymond School District
Lamprey River Elementary School

Enrollment Projections

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	5 Year
K	81	89	85	84	82	85	85	85	85	85	85	
1	106	82	90	86	85	83	86	86	86	86	86	
2	95	99	77	84	81	80	78	81	81	81	81	
3	72	91	95	74	80	77	76	75	77	77	77	
4	77	70	88	92	71	77	74	73	72	74	74	
K-3Total	354	361	347	328	328	325	325	327	329	329	329	
K-4Total	431	431	435	420	399	402	399	400	401	403	403	

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	3 Year Weighted
K	81	84	80	79	77	80	80	80	80	80	80	
1	106	81	84	80	79	77	80	80	80	80	80	
2	95	99	76	78	75	74	72	75	75	75	75	
3	72	87	91	70	72	69	68	66	69	69	69	
4	77	70	84	88	68	70	67	66	64	67	67	
K-3Total	354	351	331	307	303	300	300	301	304	304	304	
K-4Total	431	421	415	395	371	370	367	367	368	371	371	

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Simple Projection
K	81	113	108	106	104	108	108	108	108	108	108	
1	106	81	113	108	106	104	108	108	108	108	108	
2	95	106	81	113	108	106	104	108	108	108	108	
3	72	95	106	81	113	108	106	104	108	108	108	
4	77	72	95	106	81	113	108	106	104	108	108	
K-3Total	354	395	408	408	431	426	426	428	432	432	432	
K-4Total	431	467	503	514	512	539	534	534	536	540	540	

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Max size: K-4=18

5 CRS

6 CRS

7 CRS

1/13/2021

TABLE B

Lamprey River Elementary School Additions/Renovations

Curriculum Analysis

Design Capacity	500
Core Capacity (Theoretical Max.)	590
Periods Per Day	6
Number of grades (include K)	5

<u>Subject</u>	Avg. Students/ grade	Avg. Size (4)	Max. Students/ grade	Max Size	Teaching Stations
Kindergarten (1)	100	15	126	18	7.0
1 Grade Classrooms	100	17	120	20	6.0
2 Grade Classrooms	100	17	120	20	6.0
3 Grade Classrooms	100	20	110	22	5.0
4 Grade Classrooms	100	20	110	22	5.0
				Total	22.0
	% enrolled	Total	Max Size	Meetings / Week	Required Stations
Special Ed. /Specialists (2) Resource OT / PT Speech Reading	26%	153	6	10	9.0
Regular Ed Special Rooms					
Science					
Art	100%	590	20	1	1.0
Music	100%	590	20	1	1.0
Phys. Ed. (3)	100%	590	20	2	2.0

1 Pre-Kindergarten is half-day and Kindergarten is full-day.

Actual Special Ed and Specialists required spaces varies considerably from school to school.

2 Specialists include regular ed small group instruction. Above calculation is solely for computing purposes. Required spaces should be base on actual programs.

3 Gymnasium to be designed for 2 teachings stations simultaneously.

4 State Avg for Class Size: Gr 1&2 = 17.2 Gr 3&4 = 18.7 Gr 5 to 8 = 19.2

Table C

Barker Architects, PLLC

1/13/2021

**Lamprey River Elementary School
Additions/Renovations**

Space Needs Worksheet

Design Capacity 500
Core Capacity 590

ELEMENT	DESIGN			EXISTING				COMMENT	
	#	SIZE	TOTAL	#	SIZE	TOTAL			
EDUCATIONAL SPACES	Kindergarten	7	1000	7000	6	1034	6204	89%	Most General Classrooms close to standard size, with some exceptions. Interior windowless rooms exist. Open Concept design is obsolete and problems associated with it still exist. Special classrooms are mostly in standard classrooms that have been repurposed.
	Classrooms	22	900	19800	21	859	18031	91%	
	Art	1	1000	1000	1	867	867	87%	
	Music	1	1000	1000				0%	
	Special Ed. /Specialists	9	360	3240	7	277	1942	60%	
	Phys Ed			5600			0	0%	
CORE SPACES	Food Service			3933			3978	101%	Gym and Cafeteria are one Multi-Purpose Room. Scheduling and capacity require separate facilities. No stage or platform exists for performances. Library is open to the corridor creating noise and privacy issues. Offices are small and laid out inefficiently.
	Caf. / Multi-Purpose Rm		2950			3333			
	Kitchen		983			645			
	Assembly			1000				0%	
	Library			2360			1655	70%	
	Stacks	1	1960			1655			
	Computer	1	400			0			
	Offices			2360			2939	125%	
	Admin.		1180						
	Guid.		295						
	Faculty / Work		885						
	Nurse			472			396	84%	
	Subtotal			47765			36012		
Misc. -Circ, Mech, Toilets, Janitor Storage		40%	19106		36%	12860			

Totals

66871

48872

Table D

**Lamprey River Elementary School
Additions/Renovations**

Project Cost Worksheet

Student Capacity 500

1. Site Development Costs					\$200,000
Land Acquisition					
Grading and Drainage					
Floodproofing				\$200,000	
Playfields	0	Field		\$0	
Paving					
2. General Construction					\$8,140,000
New Constuction	17,999	s.f.	\$ 171	per s.f.	\$3,080,000
Renovation	48,872	s.f.	\$ 97	per s.f.	\$4,747,990
Construction Contingency	5.00%				\$154,000
Construction Manager Fee	5.00%				\$154,000
3. Design Fees					\$490,000
Civil Engineering	6.00%				\$10,000
A&E New Construction	5.00%				\$150,000
A&E Renovation	7.00%				\$330,000
4. Furniture, Equipment and Services					\$340,000
Loose Equipment	2.50%				\$200,000
Phone Service	0.50%				\$40,000
Computers	1.00%				\$80,000
Utility Charges	0.25%				\$20,000
5. Administrative Costs					\$150,000
Testing	0.25%				\$20,000
Survey, Borings	0.25%				\$20,000
Owner's Project Representativ	1.00%				\$80,000
Bonding/Legal	0.30%				\$30,000
6. Design Contingency					\$628,800
New Construction	5%				\$154,000
Renovation	10%				\$474,799

Total Project Cost **\$9,948,800**

Table E.1
Barker Architects, PLLC 1/13/2021

**Lamprey River Elementary School
Additions/Renovations**

Bond Cost Worksheet

Student Capacity 500 Core Capacity 590

Square Foot Allowance

State Allowable Formula	120 square feet / student	70,800 based on core capacity
Previous < 50 y.o.		
Original School	1975	Need Waiver
Portables	1980	No State Aid
Kindergartens	2000	9,177 K Grant
	Total	9,177
Allowable Size		61,623

Construction Cost Allowance

State Allowable Formula	\$ 190 per square foot =	\$11,708,370
Site and Soft Cost		\$1,808,800
Allowable Cost		11,769,993
Actual Cost		9,948,800

Reimbursement

Allowed Project Cost		\$ 9,948,800
State Aid	45%	\$4,476,960
	80% At Start	\$3,581,568
	20% At Completion	\$895,392

Total Project Cost **\$9,948,800**

Total State Aid **\$4,476,960**

Total Bond Amount **\$6,367,232**

Table F.1

Lamprey River Elementary School

Baseline - Repairs Only

Life-Cycle Cost Analysis

		Year										
Task		1	2	3	4	5	6	7	8	9	10	
BUILDING NEEDS	Division 0	22,226	40,183	40,858	36,998	50,530	36,504	29,867	24,134	47,339	38,930	
	Site	-	84,707	-	224,229	-	47,485	-	-	-	-	
	Envelope	-	31,765	-	-	39,224	-	-	-	315,594	-	
	Life Safety	86,436	-	217,909	-	72,680	-	-	-	-	-	
	Building Code	-	24,353	27,239	-	-	-	-	-	-	259,530	
	Structural	-	-	-	-	-	-	-	-	-	-	
	Accessibility	-	63,530	27,239	-	-	23,742	-	-	-	-	
	Indoor Environment	61,740	-	-	-	-	23,742	-	-	-	-	
	Building Services	-	52,942	-	22,423	84,217	89,034	19,545	123,183	-	-	
	Interior	-	-	-	-	140,746	-	179,566	37,709	-	-	
	Security	-	10,588	-	-	-	-	-	-	-	-	
	Asbestos Abatement	-	-	-	-	-	59,356	-	-	-	-	
	SUBTOTAL		170,402	308,070	313,245	283,649	387,398	279,862	228,978	185,025	362,933	298,460
	UTILITIES	Water	\$ 0.05	2,514	2,587	2,662	2,740	2,819	2,901	2,985	3,072	3,161
Electricity												
Grid		\$ 1.02	51,295	52,783	54,313	55,888	57,509	59,177	60,893	62,659	64,476	66,346
Alternative Heating Fuel												
Oil		\$ 1.16	58,336	60,027	61,768	63,559	65,403	67,299	69,251	71,259	73,326	75,452
Propane												
Wood												
Electricity												
Other												
Cooking Fuel	\$ 0.01	503	517	532	548	564	580	597	614	632	650	
SUBTOTAL		112,648	115,915	119,276	122,735	126,295	129,957	133,726	137,604	141,595	145,701	
HUMAN RESOURCES	Cleaning	\$ 4.00	201,157	206,991	212,993	219,170	225,526	232,066	238,796	245,721	252,847	260,180
	Repairs	\$ 0.40	20,116	20,699	21,299	21,917	22,553	23,207	23,880	24,572	25,285	26,018
	Productivity Loss	0.90%	16,973	17,465	17,971	18,492	19,029	19,581	20,148	20,733	21,334	21,953
	Bussing	\$ 5.00	251,446	258,738	266,242	273,963	281,908	290,083	298,495	307,152	316,059	325,225
	SUBTOTAL		489,692	503,893	518,506	533,543	549,015	564,937	581,320	598,178	615,525	633,376
PROPERTY & FINANCE	Principal	-	-	-	-	-	-	-	-	-	-	
	Interest	-	-	-	-	-	-	-	-	-	-	
	Tax Income on Sale	-	-	-	-	-	-	-	-	-	-	
	Building Aid Reimbursement	-	-	-	-	-	-	-	-	-	-	
	SUBTOTAL		-	-	-	-	-	-	-	-	-	-
YEAR TOTAL		772,742	927,878	951,027	939,927	1,062,708	974,756	944,024	920,807	1,120,053	1,077,536	

GRAND TOTAL \$ 9,691,458

Bond Amt:	\$ -	Building Size:	48,872	Total Project Cost:	\$ -
Bond Term:	20	Inflation Rate:	2.90%	Building Aid Rate:	45% Nominal
Bond Rate:	2.15%	Value of Exist:	0	State Building Aid:	\$ -

Table G.1

**New Elementary School
New Construction**

Project Cost Worksheet

Student Capacity 500

1. Site Development Costs					\$900,000
Land Acquisition					
Grading and Drainage				\$400,000	
Floodproofing					
Playfields	1		Field	\$300,000	
Paving				\$200,000	
2. General Construction					\$12,650,000
New Constuction	66,871	s.f.	\$ 172	per s.f.	\$11,500,000
Renovation					
Construction Contingency	5.00%				\$575,000
Construction Manager Fee	5.00%				\$575,000
3. Design Fees					\$630,000
Civil Engineering	6.00%				\$50,000
A&E New Construction	5.00%				\$580,000
A&E Renovation	7.00%				\$0
4. Furniture, Equipment and Services					\$540,000
Loose Equipment	2.50%				\$320,000
Phone Service	0.50%				\$60,000
Computers	1.00%				\$130,000
Utility Charges	0.25%				\$30,000
5. Administrative Costs					\$240,000
Testing	0.25%				\$30,000
Survey, Borings	0.25%				\$30,000
Owner's Project Representativ	1.00%				\$140,000
Bonding/Legal	0.30%				\$40,000
6. Design Contingency					\$575,000
New Construction	5%				\$575,000
Renovation	10%				\$0

Total Project Cost **\$15,535,000**

Table E.2

Barker Architects, PLLC

1/25/2021

**New Elementary School
New Construction**

Bond Cost Worksheet

Student Capacity 500 Core Capacity 590

Square Foot Allowance

State Allowable Formula	120 square feet per student	70,800 based on core capacity
Previous < 50 y.o.		
Original School	1975	More than 35 yo
Portables	1980	No State Aid
Kindergartens	2000	9,177 K Grant
	Total	9,177
Allowable Size		61,623

Construction Cost Allowance

State Allowable Formula	\$ 190 per square foot =	\$11,708,370
Site and Soft Cost		\$2,885,000
Allowable Cost		11,769,993
Actual Cost		15,535,000

Reimbursement

Allowed Project Cost		\$ 11,769,993
State Aid	45%	\$5,296,497
	80% At Start	\$4,237,197
	20% At Completion	\$1,059,299

Total Project Cost **\$15,535,000**

Total State Aid **\$5,296,497**

Total Bond Amount **\$11,297,803**

Table F.2

Lamprey River Elementary School

Baseline - New Replacement

Life-Cycle Cost Analysis

		Year										
Task		1	2	3	4	5	6	7	8	9	10	
BUILDING NEEDS	Division 0	-	-	-	-	-	-	-	-	-	-	
	Site	-	-	-	-	-	-	-	-	-	-	
	Envelope	-	-	-	-	-	-	-	-	-	-	
	Life Safety	-	-	-	-	-	-	-	-	-	-	
	Building Code	-	-	-	-	-	-	-	-	-	-	
	Structural	-	-	-	-	-	-	-	-	-	-	
	Accessibility	-	-	-	-	-	-	-	-	-	-	
	Indoor Environment	-	-	-	-	-	-	-	-	-	-	
	Building Services	-	-	-	-	-	-	-	-	-	-	
	Interior	-	-	-	-	-	-	-	-	-	-	
	Security	-	-	-	-	-	-	-	-	-	-	
	Asbestos Abatement	-	-	-	-	-	-	-	-	-	-	
	SUBTOTAL		-	-	-	-	-	-	-	-	-	-
	UTILITIES	Water	\$ 0.05	2,514	2,587	2,662	2,740	2,819	2,901	2,985	3,072	3,161
Electricity		\$ -	-	-	-	-	-	-	-	-	-	-
Grid		\$ 0.60	30,174	31,049	31,949	32,876	33,829	34,810	35,819	36,858	37,927	39,027
Alternative		-	-	-	-	-	-	-	-	-	-	-
Heating Fuel		\$ -	-	-	-	-	-	-	-	-	-	-
Oil		\$ 0.30	15,087	15,524	15,975	16,438	16,914	17,405	17,910	18,429	18,964	19,513
Propane		-	-	-	-	-	-	-	-	-	-	-
Wood		-	-	-	-	-	-	-	-	-	-	-
Electricity		-	-	-	-	-	-	-	-	-	-	-
Other		-	-	-	-	-	-	-	-	-	-	-
Cooking Fuel	\$ 0.02	1,006	1,035	1,065	1,096	1,128	1,160	1,194	1,229	1,264	1,301	
SUBTOTAL			47,775	49,160	50,586	52,053	53,562	55,116	56,714	58,359	60,051	61,793
HUMAN RESOURCES	Cleaning	\$ 2.00	100,579	103,495	106,497	109,585	112,763	116,033	119,398	122,861	126,424	130,090
	Repairs	\$ 0.20	10,058	10,350	10,650	10,959	11,276	11,603	11,940	12,286	12,642	13,009
	Productivity Loss	1%	11,315	11,643	11,981	12,328	12,686	13,054	13,432	13,822	14,223	14,635
	Bussing	\$ 5.00	251,446	258,738	266,242	273,963	281,908	290,083	298,495	307,152	316,059	325,225
	SUBTOTAL			373,398	384,227	395,369	406,835	418,633	430,773	443,266	456,120	469,348
PROPERTY & FINANCE	Principal		564,890	564,890	564,890	564,890	564,890	564,890	564,890	564,890	564,890	564,890
	Interest		230,758	218,612	206,467	194,322	182,177	170,032	157,887	145,742	133,597	121,451
			-	-	-	-	-	-	-	-	-	-
	Tax Income		48,278	49,678	51,118	52,601	54,126	55,696	57,311	58,973	60,683	62,443
	Building Aid Reimbursement		1,090,019	-	-	-	-	-	-	-	-	-
SUBTOTAL			(342,649)	733,825	720,239	706,611	692,941	679,226	665,466	651,659	637,803	623,898
YEAR TOTAL			78,524	1,167,212	1,166,194	1,165,499	1,165,136	1,165,115	1,165,446	1,166,138	1,167,202	1,168,650

GRAND TOTAL \$ 10,575,116

Bond Amt: \$ 11,297,803
 Bond Term: 20
 Bond Rate: 2.15%

Building Size: 48,872
 Inflation Rate: 2.90%
 Value of Exist: \$ 1,954,880

Total Project Cost: \$ 15,535,000
 Building Aid Rate: 45% Nominal
 State Building Aid: \$ 5,296,497

Table G.2

REVISIONS

KEY PLAN

NOTES

CONSULTANTS



8 KEARSARGE STREET CONCORD, NH 03301
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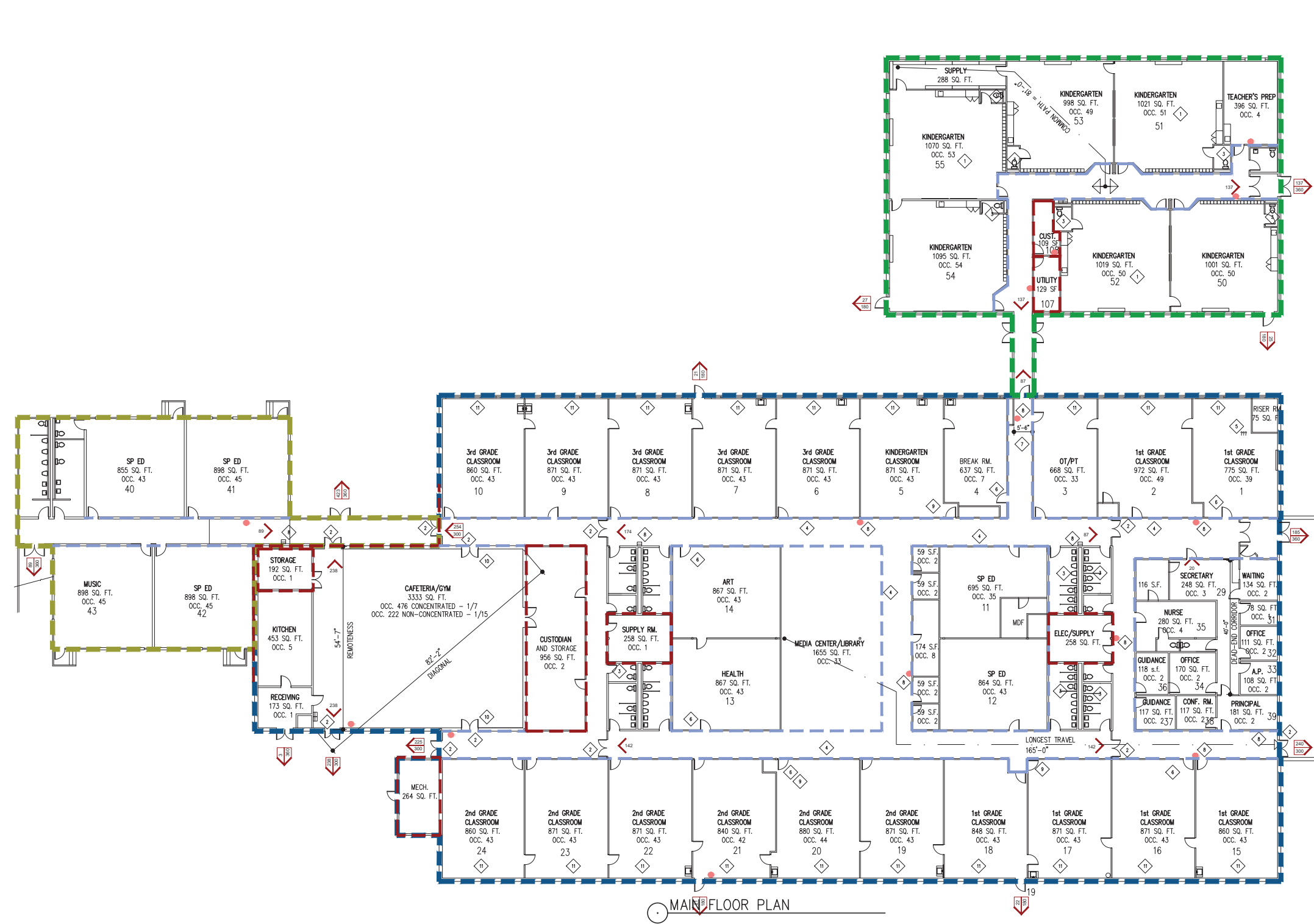
RAYMOND SCHOOL DISTRICT
ELEMENTARY SCHOOLS ASSESSMENT STUDY
LAMPREY RIVER ELEMENTARY SCHOOL
EXISTING SITE PLAN

DATE : MARCH 9, 2020
SCALE : AS NOTED

EX1



SITE PLAN
1" = 40'-0"



MAIN FLOOR PLAN

CODE NOTES	
1	ROOMS LARGER THAN 1000 SF REQUIRE 2 EXITS
2	MINIMUM EGRESS WIDTH OF 34" REQUIRED
3	ADA REQUIRES ACCESSIBLE FIXTURES
4	CORRIDORS ARE REQUIRED TO BE SMOKE RESISTANT
5	ROOMS ARE REQUIRED TO BE FIRE RATED
6	LIGHT SWITCH CANNOT BE REMOTE FROM ENTRANCE
7	MINIMUM CORRIDOR WIDTH 6'-0"
8	PROJECTIONS INTO PATH CANNOT EXCEED 4"
9	ADA REQUIRES MINIMUM CLEARANCES
10	DOORS W/ LOAD OVER 50 TO SWING IN DIRECTION OF EGRESS
11	PROJECTIONS AT WALKING SURFACES NOT LOWER THAN 6'-8"
12	
13	
14	
15	

REVISIONS

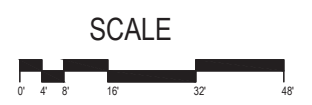
KEY PLAN

NOTES

CONSULTANTS



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LEGEND	
	OCCUPANT LOAD AND EGRESS DIRECTION
	EXIT WITH OCCUPANT LOAD (ABOVE) CAPACITY (BELOW)
	REQUIRED FIRE RATED AREA
	LONGEST TRAVEL DISTANCE TO EXIT
	LONGEST COMMON PATH OF TRAVEL TO 2 MEANS OF EGRESS
	ASSEMBLY DIAGONAL DISTANCE
	ASSEMBLY EXIT REMOTENESS

RAYMOND SCHOOL DISTRICT
ELEMENTARY SCHOOLS ASSESSMENT STUDY
LAMPREY RIVER ELEMENTARY SCHOOL
EXISTING CONDITIONS PLANS

DATE : MARCH 9, 2020
SCALE : AS NOTED

EX2

REVISIONS

KEY PLAN

NOTES

CONSULTANTS



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RAYMOND SCHOOL DISTRICT
 ELEMENTARY SCHOOLS ASSESSMENT STUDY
 LAMPREY RIVER ELEMENTARY SCHOOL
 EXISTING CONDITIONS PLANS

DATE : MARCH 9, 2020
 SCALE : AS NOTED

EX3



ATTACHMENT 'C'

RAYMOND SCHOOL BOARD 2012 – 2018 STUDENT ENROLLMENT DATA

Raymond School District Enrollment from 2012

Based on October 1 figures as reported on NH Department of Education website

Updated October 24, 2018

	2012	2013	2014	2015	2016	2017	2018
Preschool	51	50	49	53	36	39	42
Kindergarten	89	102	100	85	93	84	104
Grade 1	115	107	110	110	88	92	85
Grade 2	88	108	107	107	94	92	83
Grade 3	125	85	104	104	105	91	93
Grade 4	101	118	85	109	99	104	87
Elem. School Total	569	570	555	568	515	502	494
Grade 5	95	92	122	93	99	99	104
Grade 6	113	97	95	124	91	93	101
Grade 7	109	103	97	92	120	91	88
Grade 8	117	106	103	102	91	118	87
Middle School Total	434	398	417	411	401	401	380
Grade 9	143	145	125	135	134	116	120
Grade 10	118	118	132	110	95	109	85
Grade 11	103	113	111	125	100	78	96
Grade 12	81	72	80	71	91	70	67
High School Total	445	448	448	441	420	373	368
District Total	1448	1416	1420	1420	1336	1276	1242



ATTACHMENT 'D'

BUILDING NEEDS LIST

Lamprey River Elementary School

Building Needs Worksheet

Cat	Item	Problem	Corrective Measure	Area		
				Perimeter		
				1,364		
				Cost / Priority		
				High	Medium	Low
Site	1 Minimum Size Lot	There is roughly 9.5 acres of building land once wetland setbacks and steep slopes are deleted from total. This supports 450 students which is lower than the current population.	Need waiver from the state or reduce the number of students on site.			
	2 Water and Septic	Water is municipal, septic dates to '70's and '90's. Septic might need to be replaced at some point or enlarged for additions.	The capacity of the system should be determined. Any covers or openings should be resealed to prevent flood waters from entering system.	\$ 20,000		\$ 200,000
	3 Bus/Car Separation	Separate car and bus areas exist but better configuration could be done. Driveways lack definition. No curbing between drive and walkway.	Redesign to more safely separate car and bus.	\$ 50,000		
	4 Parking	Kindergarten conflicts with busses. Parent pick-up queues to 60+ cars and conflicts with parking.				
	5 Grading and Drainage	Parking meets current needs.				
	6 Playground/Playfields	Most of site within floodplane limits. Recent floods have reached the doors to the school but have not flooded the building. Several areas do not drain properly with average rainfall. No retention exists and runoff is directed into the river without treatment.	Provide new detention and subsurface drainage. Making this work and getting permits may be difficult. Previous pavement may help for treatment within a small change of grade.	\$ 200,000		
	7 Site Features	Playfield recently constructed but not to any regulation size.				
	8 Oil, Propane Tank Age/Condition	Visitor parking and entrance not immediately clear.	Provide directional signage.	\$ 10,000		
	9 Roof Condition	Oil storage is old, undersized and not commercial grade.	Provide new underground 10,000 gal tank.	\$ 40,000		
Envelope	10 Wall Condition (insulation and moisture protection)	Roof 6 years past warrantee. Will likely need to be replaced within the next 10 years.	Monitor condition and budget to replace.		\$ 244,000	
	11 Door Condition (energy efficiency and operation)	Walls have no insulation. Some areas above ceiling can freeze threatening sprinkler system.	Recommend adding 3" sprayfoam to exterior of walls and cover with siding.			\$ 218,000
	12 Window Condition (energy efficiency and operation)	Most doors are older, worn and antiquated. Some have been replaced. Many have worn-out or missing seals. Some hollow-metal doors are showing rust and should be cleaned and repainted.	Replace doors that have not been replaced. Add weatherstripping to doors that require it.	\$ 30,000		
	13 Foundation Condition (insulation and moisture protection)	Windows are newer aluminum thermally broken energy efficient windows. The design however is undesirable. The low ribbon style causes overheating and glare.	No clear alternative.			
	14 K-2 location based on LED	The walls are partially earth sheltered. This has been removed on the north side due to moisture issues. This could expose the footings to frost heaving.	Install insulation, drainage plane and foundation drain along perimeter.		\$ 34,000	
	15 Panic devices	Complies	Not applicable			
	16 Stair Details (Rise/Run, Railings)	Some panic devices have been replaced and more are scheduled to be replaced. Closers and other hardware that remain are antiquated and worn but still operational.	Replace panic devices and closers where needed (assume 15).	\$ 15,000		
	17 Areas of Refuge	Not applicable.	Not applicable			
	18 Capacity of Means of Egress	The area near the MPR does not meet.	Make other doors exits to spready the egress load.	\$ 12,000		
Life Safety	19 Exit Width	Numerous double doors have 30" leafs.	Replace doors to meet code. See related items #11			
	20 Corridor Width	The connecting corridor to the kindergarten wing does not meet the minimum corridor width.	No clear alternative.			
	21 Number of Exits	Several rooms do not have a second, remote means of egress. These rooms do have doors to adjoining rooms. But remoteness of exits is a problem and clear path cannot be verified.	Install new doors to the exterior or in the corridor heading in a different direction in rooms with no 2nd exit.	\$ 8,000		
	22 Dead-end Corridors	Complies	Not applicable			
	23 Exits through Intervening Rooms	A number of rooms have as a second exit, doors through adjoining rooms. These rooms are not ancillary and are not maintained as a means	Abandon exits through intervening rooms. Install exits as required.	\$ 15,000		
	24 Door Arrangement	Rooms over 1,000 sq. ft. need to have doors that swing towards the path of egress.	Replace doors in MPR that do not swing out.	\$ 10,000		
	25 Travel Distance	Complies	Not applicable			
	26 Means of Escape	Building is sprinklered therefor windows comply and single means of egress from classrooms allowed.	Not applicable			
	27 Protection of Vertical Openings	Not applicable.	Not applicable			
Building Code	28 Protection of Hazards	Storage of hazardous materials is in unrated space that is shared with gym storage and offices.	Separate spaces and install fire rated partitions and doors.	\$ 20,000		
	29 Protection of Corridors	Corridors are not rated for fire or smoke. The library is completely open to the corridor. This room needs to be fully enclosed.	Provide an assembly at the corridor ceilings to smoke seal the corridor. Enclose the library.	\$ 57,000		
	30 Smoke Compartments	Smoke doors exist but are not rated therefore the efficacy cannot be substantiated.	Test existing and upgrade as needed.	\$ 10,000		
	31 Fire Alarm, Emergency lights and Exit lighting	Mircom fire alarm system appears to be in good working shape but is older and not addressable.	Install new addressable fire alarm system.	\$ 200,000		
	32 Furnishings, Decorations and Personal Effects in the Corridor					
	33 Height and Area Limitations	Allowable area is 38,000 square feet without separation due to wood frame of attached portables.	The attached portables should be removed or separated from the existing by a fire rated wall.	\$ 23,000		
	34 Construction Classification	Building type appears to meet specifications for 2b construction with the exception of the attached portables which is 5b. Some investigation may be necessary to maintain that.	Upgrade materials, remove combustible materials as necessary.	\$ 5,000		
	35 Fire Rated Construction	Several rooms that need to be rated are not. Rated assemblies have been breached.	Upgrade rooms that need to be rated. Add fire rated material and replace doors with rated doors.	\$ 10,000		
	36 Interior Finishes	Interior finishes appear to comply with fire spread code specifications.	Verify and ensure finishes meet code.	\$ 5,000		
Structural	37 Sprinklers	Sprinkler system relatively new but installed with PVC pipe. The pipe over time is sagging leaving low points and potentially stressing joints.	Appears to meet code as is but will be a maintenance problem in the near future. Replace with steel pipe if necessary.	\$ 195,000		
	38 Fire Protection	The fire extinguishers appear to meet code although some additional and better signage is required.	Review and install new as required.	\$ 5,000		
	39 Snow Load Capacity	The original building likely does not meet current codes for snow due to the codes that the original building was built under. The building does not appear however to be deflecting or show any signs of distress.	If there is a major addition or change to the system of more than 10%, the entire structure will need to be brought to code.			\$ 100,000
	40 Wall Condition (seismic capacity, cracks or deflection)	Lateral bracing not observed. Reinforcing in the walls cannot be seen but due to age of the building it is unlikely that it exists. The presence of ribbon windows indicates that the walls likely do not have reinforcing or lateral bracing since these would interrupt the windows.	Building has to be brought up to current code if major renovation/addition is performed. Install lateral bracing.			\$ 245,000
	41 Foundation Condition (cracks or rot)	Foundation is in relatively good shape with only minor cracks. The berms on the north side have been removed and it is possible the existing footings no longer have frost coverage.	Added insulation horizontally over the footings or replacing the berm will provide the required coverage. See item #13 in conjunction with this item.			\$ 34,100
	42 Parking	6 spaces required, 3 provided.	Restripe converting 4 existing spaces into 3 HC spaces.		\$ 5,000	
	43 Building Access	The main entrance is at grade. Curb ramps are used to allow HC accessibility but are not properly sloped or positioned.	Revise curb ramps.		\$ 5,000	
	44 Accessible Route	Corridor system appears to comply with accessible route. Internal to rooms may have issues with equipment. Not all toilet rooms are accessible. There are numerous projections that exceed 4".	Move equipment or furniture to make a clear route. Add wing walls next to equipment that cannot be moved.	\$ 5,000		
	Accessibility	45 Door Clearances	Several doors do not have proper clearances.	Reconfigure doors as necessary.	\$ 25,000	
46 Door Hardware		Most doors have new lever handles. Some side doors still have knob handles but these doors are rarely used.	Replace remaining handles	\$ 5,000		
47 Stair Details		Not applicable.	Not applicable			
48 Toilet Facilities		Gang toilets are not accessible. Nurse toilet is not accessible. Toilets in kindergartens are not accessible. Office toilet room and teachers toilets are not accessible.	Remodel all toilet facilities to be handicap accessible.	\$ 60,000		
49 Signage		Signage is outdated.	Review and replace as required.	\$ 5,000		
50 Elevator		Not applicable.	Not applicable			
51 Ventilation		Some new ventilation has been installed but it is not adequate for the demand. The system is constant-on and not energy efficient.	Install new Energy Recovery Ventilators with Demand Control.	\$ 60,000		\$ 977,440
52 Thermal Control		Controls are pneumatic controls which are antiquated and lack the capabilities of a DDC system.	Install new DDC control system.			\$ 183,270
53 Moisture / Mold		Some problems have been experienced in the past but currently the building appears to have no mold problems on the interior.	Complies.			
Indoor Environmental Quality	54 Lighting	Lighting is in good shape but relatively old and past its life span.	Install new energy efficient LED's. (note: rebates will cover a significant portion of costs).			\$ 122,180
	55 Acoustics					
	56 Sanitation	Toilet rooms lack proper ventilation. Janitor's closets need ventilation.	Install new exhaust vents and new finishes.	\$ 20,000		
	57 Boiler / Heat Distribution Condition	The boiler is relatively new. Heat distribution only services the perimeter of the building leaving the interior core without its own heat.	Install additional radiation in core spaces	\$ 73,000		
	58 Water Supply					
	59 Plumbing / Fixture Count	The number of fixtures exceeds the occupant load, however the arrangement an lack of accessibility reduce the effective amount. Teachers toilets lack separate sex facilities.	Reconfigure when renovating for handicap accessibility. Allow for loss of some fixtures.			
	60 Roof Drains					
	61 Main Electrical Service	The main transformer needs replacement. The main electrical entrance is a Federal Pacific panel and needs to be replaced. The majority of the system after the main panel is relatively new and in good condition.	Replace transformer and main panel.	\$ 50,000		
	Build. Services	62 Backup Power	Existing generator functions well but only services boilers.	Install new generator that services more essential equipment.	\$ 75,000	
63 Power Distribution		Power in the classrooms has been added to over time. Older wiring and outlets need to be replaced. Additional outlets would be optimal but not absolutely necessary. Light switches in many cases are in inappropriate locations due to reconfiguration of the room.	Replace old devices, install new outlets as needed. Relocate and replace light switches that are not within reach of room entrance doors.	\$ 16,000		
64 Equipment (kitchen)		The hood does not appear to have a fire suppression system. The 3-bay sink does not have indirect waste. Other fixtures do not have floor sinks.	Install fire suppression and additional waste drainage.	\$ 20,000		
65 Phone, Intercom, Security		A new integrated phone and intercom system is scheduled to be installed. Security is relatively new.	The district is moving towards VOIP. Install new equipment as necessary.	\$ 98,000		
66 Ceilings		Ceilings appear to be highly worn and need of replacement.	Install new ceiling tiles.	\$ 122,000		
67 Walls		Many of the walls are demountable partitions. These allow sound transimission between classrooms and can shake with doors being closed.	Replace demountable partitions with new CMU and/or drywall walls.			\$ 391,000
68 Doors		Some doors that were recently replaced are residential quality with wood frames. Many other are original in good condition but beyond their life span.	Replace classroom doors with new commercial grade solid core wood doors.	\$ 30,000		
69 Floors		The original vinyl tile with asbestos in the mastic remains. Much has been covered over with carpet tile.	Replace flooring with new durable, low maintenance materials.	\$ 147,000		
70 Cabinetry		Cabinetry in the original building is in poor condition. Most of the original cabinets have been replaced with residential cabinets. The quantity has been reduced and is not very useful.	Install new cabinets at sinks in classrooms. Install additional cabinets for storage.			\$ 183,000
Security	71 Fixed Equipment (gym equipment)					
	72 Visual Display Boards	Many boards have been repaced with new.	complies			
	73 Secure Visitor Check-in	A new door set has been installed giving some security and a window exists to the secretary.	complies			
	74 Lock-down of Public Areas	The building does not currently have the capability of locking down sections of the building. The library is open to the corridor.	Install hardware capable of lockdown. Enclose library. Install hardware on corridor doors to lock certain areas.	\$ 10,000		
	75 Technology (cameras, motion sensors)					
	76 Visibility	The main office has good views to most of the parking and driveways and the entrance is clear and direct. It is possible for someone to enter into the kindergarten wing if the door is unlocked.	complies			
	77 Asbestos	Asbestos exists under the vinyl tile which in turn is under carpet tile. According to the maintenance report, other asbestos does not exist.	Abate remaining asbestos.	\$ 50,000		
	78					

\$ 838,000 \$ 1,256,000 \$ 2,653,990

\$ 4,747,990 Grand Total

State Funding Thresholds	Value of Existing	Renovation Minimum (25%)	Renovation Maximum (60%)
Construction Cost per SF Cap	\$190.00	\$ 9,285,680	\$ 2,321,420
		\$ 5,571,408	

Table A



ATTACHMENT 'E'

DEVELOPMENT OPTION #1 – REPAIRS ONLY – LIFE CYCLE COSTS

Lamprey River Elementary School

Option #1 - Repairs Only

Life-Cycle Cost Analysis

Student Capacity		500										
Year												
Task		1	2	3	4	5	6	7	8	9	10	
BUILDING NEEDS	Division 0	22,226	40,183	40,858	36,998	50,530	36,504	29,867	24,134	47,339	38,930	
	Site	-	84,707	-	224,229	-	47,485	-	-	-	-	
	Envelope	-	31,765	-	-	39,224	-	-	-	315,594	-	
	Life Safety	86,436	-	217,909	-	72,680	-	-	-	-	-	
	Building Code	-	24,353	27,239	-	-	-	-	-	-	259,530	
	Structural	-	-	-	-	-	-	-	-	-	-	
	Accessibility	-	63,530	27,239	-	-	23,742	-	-	-	-	
	Indoor Environment	61,740	-	-	-	-	23,742	-	-	-	-	
	Building Services	-	52,942	-	22,423	84,217	89,034	19,545	123,183	-	-	
	Interior	-	-	-	-	140,746	-	179,566	37,709	-	-	
	Security	-	10,588	-	-	-	-	-	-	-	-	
	Asbestos Abatement	-	-	-	-	-	59,356	-	-	-	-	
	SUBTOTAL		170,402	308,070	313,245	283,649	387,398	279,862	228,978	185,025	362,933	298,460
UTILITIES	Water	\$ 0.05	2,514	2,587	2,662	2,740	2,819	2,901	2,985	3,072	3,161	3,252
	Electricity											
	Grid	\$ 1.02	51,295	52,783	54,313	55,888	57,509	59,177	60,893	62,659	64,476	66,346
	Alternative Heating Fuel											
	Oil	\$ 1.16	58,336	60,027	61,768	63,559	65,403	67,299	69,251	71,259	73,326	75,452
	Propane											
	Wood											
Electricity												
Other												
Cooking Fuel	\$ 0.01	503	517	532	548	564	580	597	614	632	650	
SUBTOTAL		112,648	115,915	119,276	122,735	126,295	129,957	133,726	137,604	141,595	145,701	
HUMAN RESOURCES	Cleaning	\$ 4.00	201,157	206,991	212,993	219,170	225,526	232,066	238,796	245,721	252,847	260,180
	Repairs	\$ 0.40	20,116	20,699	21,299	21,917	22,553	23,207	23,880	24,572	25,285	26,018
	Productivity Loss	0.90%	16,973	17,465	17,971	18,492	19,029	19,581	20,148	20,733	21,334	21,953
	Bussing	\$ 500.00	257,250	264,710	272,387	280,286	288,414	296,778	305,385	314,241	323,354	332,731
SUBTOTAL		495,496	509,865	524,651	539,866	555,522	571,632	588,209	605,267	622,820	640,882	
PROPERTY & FINANCE	Principal		-	-	-	-	-	-	-	-	-	
	Interest		-	-	-	-	-	-	-	-	-	
	Tax Income		-	-	-	-	-	-	-	-	-	
	Building Aid Reimbursement		-	-	-	-	-	-	-	-	-	
SUBTOTAL		-	-	-	-	-	-	-	-	-	-	
YEAR TOTAL		778,546	933,849	957,172	946,251	1,069,215	981,451	950,913	927,897	1,127,347	1,085,043	

GRAND TOTAL \$ 9,757,684

Bond Amt:	\$ -	Building Size:	48,872	Total Project Cost:	\$ -
Bond Term:	20	Inflation Rate:	2.90%	Building Aid Rate:	45% Nominal
Bond Rate:	2.15%	Value of Exist:	0	State Building Aid:	\$ -

* Inflation based on current RS Means Historic Cost Index
 ** Bond Rate is last reported sale by the NH Municipal Bond Bank.



ATTACHMENT 'F'

DEVELOPMENT OPTION #2 – RENOVATION & ADDITION – LIFE CYCLE COSTS

Lamprey River Elementary School

Option #2 - Renovations and Additions

Life-Cycle Cost Analysis

Student Capacity		500											
Year													
Task		1	2	3	4	5	6	7	8	9	10		
BUILDING NEEDS	Division 0	-	-	-	-	-	-	-	-	-	-		
	Site	-	-	-	-	-	-	-	-	-	-		
	Envelope	-	-	-	-	-	-	-	-	-	-		
	Life Safety	-	-	-	-	-	-	-	-	-	-		
	Building Code	-	-	-	-	-	-	-	-	-	-		
	Structural	-	-	-	-	-	-	-	-	-	-		
	Accessibility	-	-	-	-	-	-	-	-	-	-		
	Indoor Environment	-	-	-	-	-	-	-	-	-	-		
	Building Services	-	-	-	-	-	-	-	-	-	-		
	Interior	-	-	-	-	-	-	-	-	-	-		
	Security	-	-	-	-	-	-	-	-	-	-		
	Asbestos Abatement	-	-	-	-	-	-	-	-	-	-		
	SUBTOTAL		-	-	-	-	-	-	-	-	-	-	
	UTILITIES	Water	\$ 0.05	3,441	3,540	3,643	3,749	3,857	3,969	4,084	4,203	4,325	4,450
Electricity		\$ -	-	-	-	-	-	-	-	-	-	-	
Grid		\$ 0.82	56,424	58,061	59,744	61,477	63,260	65,094	66,982	68,925	70,923	72,980	
On-Site		-	-	-	-	-	-	-	-	-	-	-	
Heating Fuel		\$ -	-	-	-	-	-	-	-	-	-	-	
Oil		\$ 0.93	63,994	65,849	67,759	69,724	71,746	73,827	75,968	78,171	80,438	82,770	
Propane		\$ -	-	-	-	-	-	-	-	-	-	-	
Wood		-	-	-	-	-	-	-	-	-	-	-	
Electricity		-	-	-	-	-	-	-	-	-	-	-	
Other		\$ -	-	-	-	-	-	-	-	-	-	-	
Cooking Fuel	\$ 0.01	688	708	729	750	771	794	817	841	865	890		
SUBTOTAL		124,547	128,158	131,875	135,699	139,635	143,684	147,851	152,139	156,551	161,091		
HUMAN RESOURCES	Cleaning	\$ 3.00	206,431	212,417	218,577	224,916	231,439	238,150	245,057	252,163	259,476	267,001	
	Repairs	\$ 0.30	20,643	21,242	21,858	22,492	23,144	23,815	24,506	25,216	25,948	26,700	
	Productivity Loss	0.70%	19,353	19,914	20,492	21,086	21,697	22,327	22,974	23,640	24,326	25,031	
	Bussing	\$ 500.00	257,250	264,710	272,387	280,286	288,414	296,778	305,385	314,241	323,354	332,731	
	SUBTOTAL		503,677	518,283	533,314	548,780	564,694	581,070	597,921	615,261	633,104	651,464	
PROPERTY & FINANCE	Principal		318,362	318,362	318,362	318,362	318,362	318,362	318,362	318,362	318,362	318,362	
	Interest		130,051	123,206	116,361	109,516	102,672	95,827	88,982	82,137	75,293	68,448	
	Tax Income		-	-	-	-	-	-	-	-	-	-	
	Building Aid Reimbursement		921,358	-	-	-	-	-	-	-	-	-	
	SUBTOTAL		(472,946)	441,568	434,723	427,878	421,033	414,188	407,344	400,499	393,654	386,809	
YEAR TOTAL		155,277	1,088,009	1,099,911	1,112,357	1,125,362	1,138,943	1,153,116	1,167,899	1,183,308	1,199,364		

GRAND TOTAL \$ 10,423,547

Bond Amt:	\$ 6,367,232	Building Size:	66,871	Total Project Cost:	\$ 9,948,800
Bond Term:	20	Inflation:	2.90% *	Building Aid Rate:	55% Nominal
Bond Rate:	2.15% **	Value Exist:	\$ -	State Building Aid:	\$ 4,476,960

* Inflation based on current RS Means Historic Cost Index
 ** Bond Rate is last reported sale by the NH Municipal Bond Bank.



ATTACHMENT 'G'

DEVELOPMENT OPTION #3 – NEW CONSTRUCTION – LIFE CYCLE COSTS

Lamprey River Elementary School

Option #3 - New Construction

Life-Cycle Cost Analysis

Student Capacity		500											
Task		Year											
		1	2	3	4	5	6	7	8	9	10		
BUILDING NEEDS	Division 0	-	-	-	-	-	-	-	-	-	-		
	Site	-	-	-	-	-	-	-	-	-	-		
	Envelope	-	-	-	-	-	-	-	-	-	-		
	Life Safety	-	-	-	-	-	-	-	-	-	-		
	Building Code	-	-	-	-	-	-	-	-	-	-		
	Structural	-	-	-	-	-	-	-	-	-	-		
	Accessibility	-	-	-	-	-	-	-	-	-	-		
	Indoor Environment	-	-	-	-	-	-	-	-	-	-		
	Building Services	-	-	-	-	-	-	-	-	-	-		
	Interior	-	-	-	-	-	-	-	-	-	-		
	Security	-	-	-	-	-	-	-	-	-	-		
	Asbestos Abatement	-	-	-	-	-	-	-	-	-	-		
	SUBTOTAL		-	-	-	-	-	-	-	-	-	-	
	UTILITIES	Water	\$ 0.05	3,441	3,540	3,643	3,749	3,857	3,969	4,084	4,203	4,325	4,450
Electricity		\$ -	-	-	-	-	-	-	-	-	-	-	
Grid		\$ 0.60	41,286	42,483	43,715	44,983	46,288	47,630	49,011	50,433	51,895	53,400	
Alternative		-	-	-	-	-	-	-	-	-	-	-	
Heating Fuel		\$ -	-	-	-	-	-	-	-	-	-	-	
Oil		\$ 0.30	20,643	21,242	21,858	22,492	23,144	23,815	24,506	25,216	25,948	26,700	
Propane		-	-	-	-	-	-	-	-	-	-	-	
Wood		-	-	-	-	-	-	-	-	-	-	-	
Electricity		-	-	-	-	-	-	-	-	-	-	-	
Other		-	-	-	-	-	-	-	-	-	-	-	
Cooking Fuel	\$ 0.02	1,376	1,416	1,457	1,499	1,543	1,588	1,634	1,681	1,730	1,780		
SUBTOTAL			65,370	67,265	69,216	71,223	73,289	75,414	77,601	79,852	82,167	84,550	
HUMAN RESOURCES	Cleaning	\$ 2.00	137,621	141,612	145,718	149,944	154,292	158,767	163,371	168,109	172,984	178,001	
	Repairs	\$ 0.20	13,762	14,161	14,572	14,994	15,429	15,877	16,337	16,811	17,298	17,800	
	Productivity Loss	0.60%	15,482	15,931	16,393	16,869	17,358	17,861	18,379	18,912	19,461	20,025	
	Bussing	\$ 500.00	257,250	264,710	272,387	280,286	288,414	296,778	305,385	314,241	323,354	332,731	
	SUBTOTAL			424,115	436,414	449,070	462,093	475,494	489,283	503,473	518,073	533,097	548,557
PROPERTY & FINANCE	Principal		564,890	564,890	564,890	564,890	564,890	564,890	564,890	564,890	564,890	564,890	
	Interest		230,758	218,612	206,467	194,322	182,177	170,032	157,887	145,742	133,597	121,451	
	Tax Income		66,058	67,974	69,945	71,973	74,060	76,208	78,418	80,692	83,032	85,440	
	Building Aid Reimbursement		1,090,019	-	-	-	-	-	-	-	-	-	
	SUBTOTAL			(360,429)	715,529	701,413	687,239	673,007	658,714	644,359	629,939	615,454	600,901
YEAR TOTAL			129,055	1,219,209	1,219,699	1,220,556	1,221,790	1,223,412	1,225,433	1,227,864	1,230,719	1,234,009	

GRAND TOTAL \$ 11,151,745

Bond Amt:	\$ 11,297,803	Building Size:	66,871	Total Project Cost:	\$ 15,535,000
Bond Term:	20	Inflation Rate:	2.90%	Building Aid Rate:	45% Nominal
Bond Rate:	2.15%	Value of Exist:	\$ 2,674,840	State Building Aid:	\$ 5,296,497

* Inflation based on current RS Means Historic Cost Index
 ** Bond Rate is last reported sale by the NH Municipal Bond Bank.

Table G.3