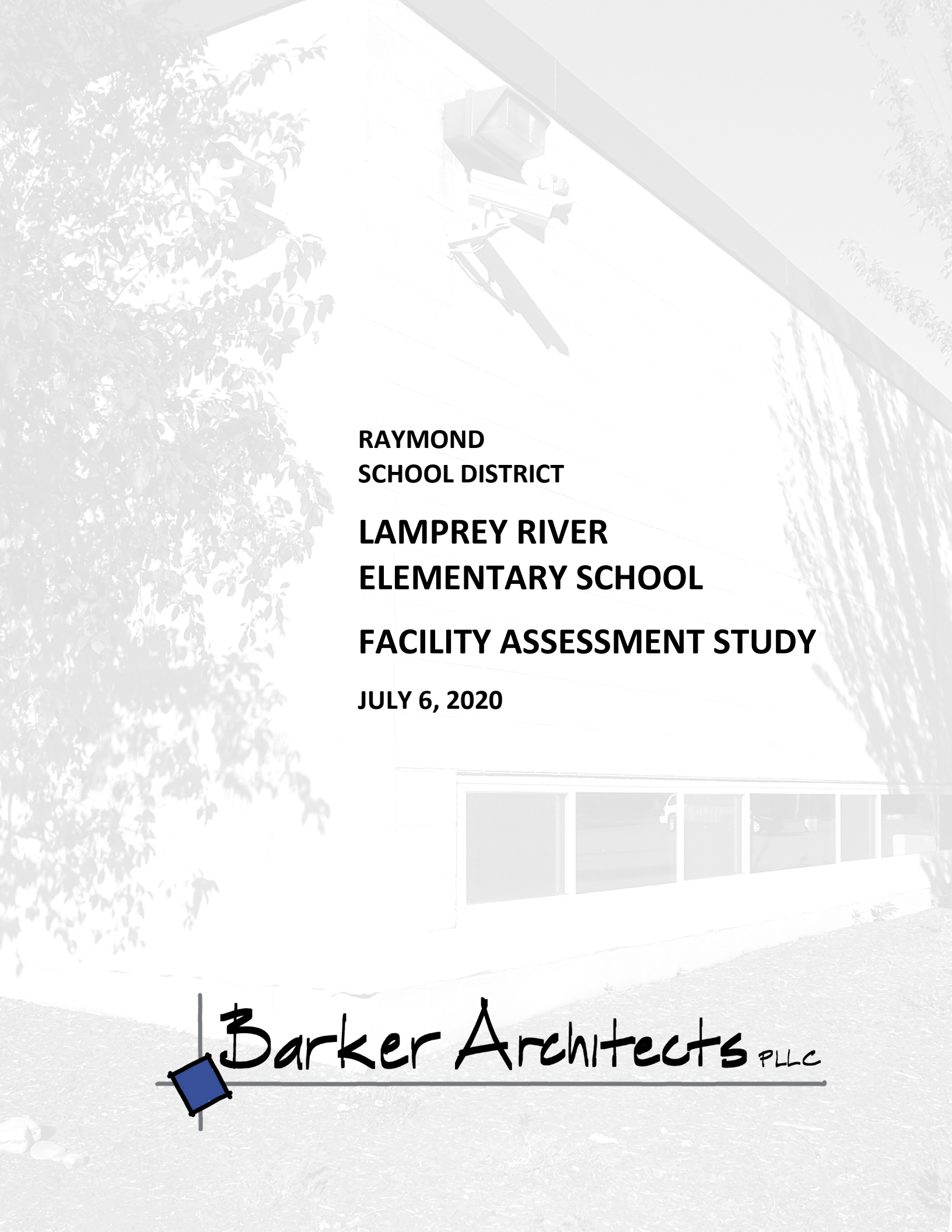

RAYMOND
SCHOOL DISTRICT

LAMPREY RIVER ELEMENTARY SCHOOL

FACILITY ASSESSMENT STUDY

JULY 6, 2020

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. Therefore, the new configuration of K through 3rd grade will be what the report is based on even though there has yet to be a time in that configuration before the report is finished.

That shift in grade configuration has had a positive impact on the building needs and programming. The first obvious positive is the removal of the portable classrooms in the front of the building. Next is the overall easing of overcrowding in the school and the improvement of available special education space. Still, this does not completely resolve the overcrowding and the four portable classrooms behind the school remain occupied.

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 where 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

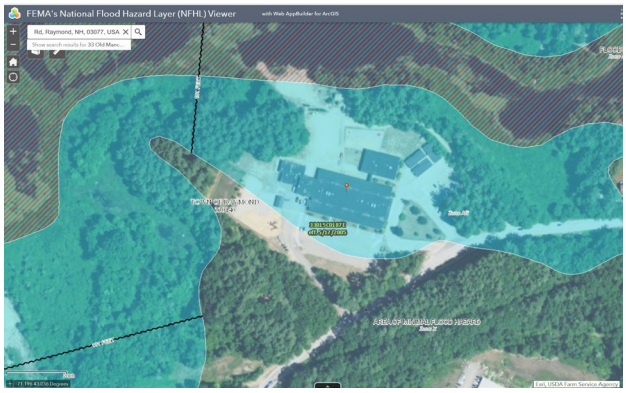
As with any renovation project there are areas that will be left undone. It is not economically feasible to upgrade every aspect of an older building to meet the same criteria of new construction. It is important to set limits on expectations to avoid an endless amount of project growth.

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.

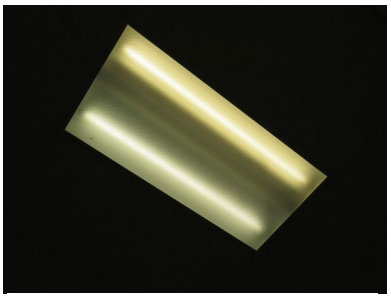
The building is existing so therefore is exempt from some building code issues. If a major addition where to be constructed however, parts or all of the building would need to be brought up to current codes. The building is unlikely to meet snow or seismic loading simply due to the differences in codes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

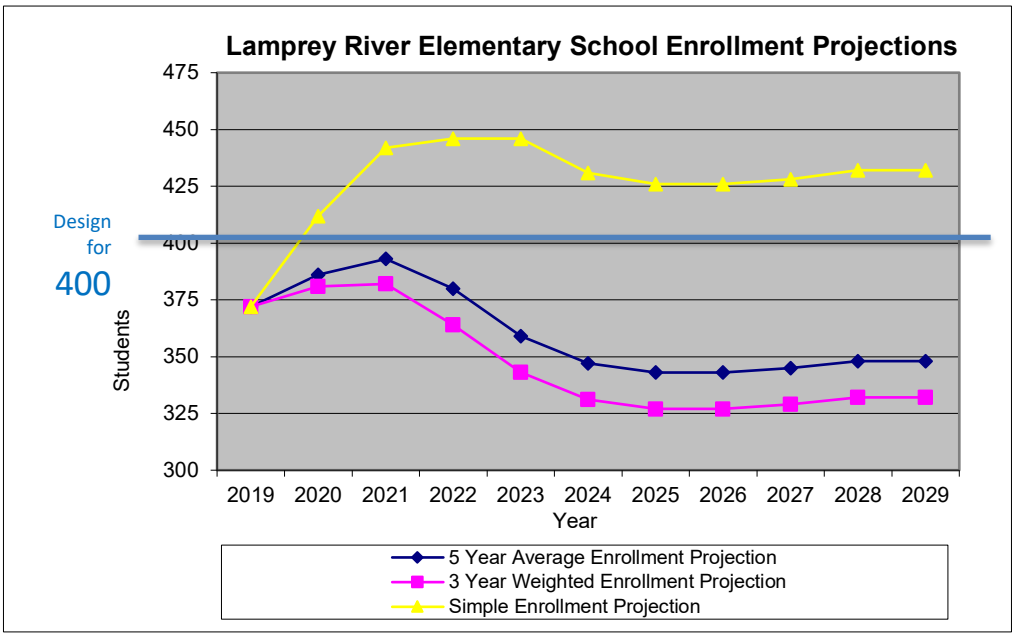
The difficulty in preparing enrollment projections is determining probable future enrollments for kindergarten. Once that is established tracking the progression of students through the grades is more set. Many school districts throughout New Hampshire have experienced a drop in enrollments due to low 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 that 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 incline 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 55% 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:

- 50-year period before a previously funded project can be replaced.
- A maximum of 120 square feet per student.
- A maximum of $186 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-bourne 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 — Enrollment Projections

Student Historic Enrollments

Number Actual Number Estimate

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	5 year	3 yr Wtd
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			41	44
K	84	97	89	102	100	85	93	84	104	106			94	102
1	118	87	115	107	110	110	88	92	85	104			96	96
2	116	125	88	108	107	107	94	92	83	83			92	85
3	92	107	125	85	104	104	105	91	93	79			94	86
Total	*457*	*467*	*468*	*452*	*470*	*459*	*416*	*398*	*407*	*419*			*83.48*	*82.3*

Cohort Survival Ratios

	2011	2012	2013	2014	2015	2016	2017	2018	2019	5 year	3 year Wt	Simple
K					0.8173	0.9588	0.872	0.8387	0.791	0.8156	0.7971	1
1	1.0357	1.1856	1.2022	1.0784	1.1	1.0353	0.9892	1.0119	1	1.0273	1.0022	1
2	1.0593	1.0115	0.9391	1	0.9727	0.8545	1.0455	0.9022	0.9765	0.9503	0.9632	1
3	0.9224	1	0.9659	0.963	0.972	0.9813	0.9681	1.0109	0.9518	0.9768	0.9742	1
Avg.	*1.0058*	*1.0657*	*1.0358*	*1.0138*	*1.0149*	*0.957*	*1.0009*	*0.975*	*0.9761*	*0.9848*	*0.9799*	*1*

5 Year Average Enrollment Projection

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
K	106	97	92	88	86	85	88	88	88	88	88
1	104	109	100	95	90	88	87	90	90	90	90
2	83	99	104	95	90	86	84	83	86	86	86
3	79	81	97	102	93	88	84	82	81	84	84
Total	*372*	*386*	*393*	*380*	*359*	*347*	*343*	*343*	*345*	*348*	*348*

3 Year Weighted Enrollment Projection

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
K	106	94	89	85	83	82	85	85	85	85	85
1	104	106	94	89	85	83	82	85	85	85	85
2	83	100	102	91	86	82	80	79	82	82	82
3	79	81	97	99	89	84	80	78	77	80	80
Total	*372*	*381*	*382*	*364*	*343*	*331*	*327*	*327*	*329*	*332*	*332*

Simple Enrollment Projection

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
K	106	119	113	108	106	104	108	108	108	108	108
1	104	106	119	113	108	106	104	108	108	108	108
2	83	104	106	119	113	108	106	104	108	108	108
3	79	83	104	106	119	113	108	106	104	108	108
Total	*372*	*412*	*442*	*446*	*446*	*431*	*426*	*426*	*428*	*432*	*432*

Max size: K-4=18 5 CRS 6 CRS 7 CRS

Table B

Barker Architects, PLLC 6/16/2020

Lamprey River Elementary School — Curriculum Analysis
Existing Conditions

Design Capacity	400
Core Capacity (Theoretical Max.)	490
Periods Per Day	6
Number of grades (include K)	4

Subject	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	17	120	20	6.0
				Total	18.0

	% enrolled	Total	Max Size	Meetings / Week	Required Stations
Special Ed. /Specialists (2)	26%	127	6	10	8.0
Resource					
OT / PT					
Speech					
Reading					
Regular Ed Special Rooms					
Science					
Art	100%	490	20	1	1.0
Music	100%	490	20	1	1.0
Phys. Ed. (3)	100%	490	20	2	2.0

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

2 Actual Special Ed and Specialists required spaces varies considerably from school to school. Secialists 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 6/16/2020

Lamprey River Elementary School — Space Needs Worksheet

Existing Conditions

Design Capacity 400
Core Capacity 490

	ELEMENT	DESIGN #	DESIGN SIZE	DESIGN TOTAL	EXISTING #	EXISTING SIZE	EXISTING TOTAL		COMMENT
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.
	Classrooms	18	900	16200	21	859	18031	111%	
	Art	1	1000	1000	1	867	867	87%	Special classrooms are mostly in standard classrooms that have been repurposed.
	Music	1	1000	1000				0%	
	Special Ed. /Specialists	8	360	2880	7	277	1942	67%	
CORE SPACES	Phys Ed			5600			0	0%	
	Food Service			3267			3978	122%	Gym and Cafeteria are one Multi-Purpose Room. Scheduling and capacity require separate facilities.
	Caf. / Multi-Purpose Rm		2450			3333			
	Kitchen		817			645			
	Assembly			1000				0%	No stage or platform exists for performances.
	Library			1960			1655	84%	Library is open to the corridor creating noise and privacy issues.
	Stacks	1	1560			1655			
	Computer	1	400			0			
	Offices			1960			2939	150%	Offices are small and laid out inefficiently.
	Admin.		980						
	Guid.		245						
	Faculty / Work		735						
	Nurse			392			396	101%	
	Subtotal			42259			36012		
	Misc. -Circ, Mech, Toilets, Janitor Storage		40%	16903		36%	12860		
	Totals			59162			48872		

Table D

Barker Architects, PLLC 6/16/2020

Lamprey River Elementary School **Project Cost Worksheet**

Existing Conditions

	Student Capacity	400					
1.	Site Development Costs						$200,000
	Land Acquisition						
	Grading and Drainage						
	Floodproofing					$200,000	
	Playfields	0		Field		$0	
	Paving						
2.	General Construction						$6,700,000
	New Constuction	10,290	s.f.	$ 172	per s.f.	$1,770,000	
	Renovation	48,872	s.f.	$ 97	per s.f.	$4,747,990	
	Construction Contingency	5.00%				$89,000	
	Construction Manager Fee	5.00%				$89,000	
3.	Design Fees						$430,000
	Civil Engineering	6.00%				$10,000	
	A&E New Construction	5.00%				$90,000	
	A&E Renovation	7.00%				$330,000	
4.	Furniture, Equipment and Services						$290,000
	Loose Equipment	2.50%				$170,000	
	Phone Service	0.50%				$30,000	
	Computers	1.00%				$70,000	
	Utility Charges	0.25%				$20,000	
5.	Administrative Costs						$130,000
	Testing	0.25%				$20,000	
	Survey, Borings	0.25%				$20,000	
	Owner's Project Representativ	1.00%				$70,000	
	Bonding/Legal	0.30%				$20,000	
6.	Design Contingency						$563,300
	New Construction	5%				$88,500	
	Renovation	10%				$474,799	

Total Project Cost **$8,313,300**

Table E

Barker Architects, PLLC 6/16/2020

Lamprey River Elementary School **Bond Cost Worksheet**

Existing Conditions

Student Capacity	400	Core Capacity	490	

Square Foot Allowance

State Allowable Formula	120	square feet / student	58,800	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			49,623	

Construction Cost Allowance

State Allowable Formula	$ 189	per square foot =	$9,378,747	
Site and Soft Cost			$1,613,300	
Allowable Cost			9,428,370	

Reimbursement

State Aid	55%		$5,185,604
	80%	At Start	$4,148,483
	20%	At Completion	$1,037,121

Total Project Cost **$8,313,300**

Total State Aid **$5,185,604**

Total Bond Amount **$4,164,817**

Table F

Barker Architects, PLLC 6/16/2020

Lamprey River Elementary School — Baseline - Repairs Only — Life-Cycle Cost Analysis

				Year 1	2	3	4	5	6	7	8	9	10
	Task			1	2	3	4	5	6	7	8	9	10
BUILDING NEEDS	Division 0			22,064	39,599	39,971	35,931	48,715	34,936	28,376	22,762	44,323	36,183
	Site			-	83,477	-	217,763	-	45,445	-	-	-	-
	Envelope			-	31,304	-	-	37,816	-	-	-	295,485	-
	Life Safety			85,806	-	213,179	-	70,070	-	-	-	-	-
	Building Code			-	24,000	26,647	-	-	-	-	-	-	241,223
	Structural			-	-	-	-	-	-	-	-	-	-
	Accessibility			-	62,608	26,647	-	-	22,723	-	-	-	-
	Indoor Environment			61,290	-	-	-	-	22,723	-	-	-	-
	Building Services			-	52,173	-	21,776	81,192	85,210	18,569	116,180	-	-
	Interior			-	-	-	-	135,691	-	170,603	35,565	-	-
	Security			-	10,435	-	-	-	-	-	-	-	-
	Asbestos Abatement			-	-	-	-	-	56,807	-	-	-	-
	SUBTOTAL			169,160	303,595	306,445	275,470	373,484	267,844	217,547	174,508	339,808	277,406
UTILITIES	Water	$	0.05	2,496	2,550	2,605	2,661	2,718	2,776	2,836	2,897	2,959	3,023
	Electricity	$	-	-	-	-	-	-	-	-	-	-	-
	Grid	$	1.02	50,921	52,016	53,134	54,277	55,444	56,636	57,853	59,097	60,368	61,666
	On-Site			-	-	-	-	-	-	-	-	-	-
	Heating Fuel	$	-	-	-	-	-	-	-	-	-	-	-
	Oil	$	1.16	57,910	59,155	60,427	61,726	63,054	64,409	65,794	67,209	68,654	70,130
	Propane	$	-	-	-	-	-	-	-	-	-	-	-
	Wood			-	-	-	-	-	-	-	-	-	-
	Electricity			-	-	-	-	-	-	-	-	-	-
	Other			-	-	-	-	-	-	-	-	-	-
	Cooking Fuel	$	0.01	499	510	521	532	544	555	567	579	592	605
	SUBTOTAL			111,827	114,231	116,687	119,196	121,759	124,377	127,051	129,782	132,573	135,423
HUMAN RESOURCES	Cleaning	$	4.00	199,691	203,984	208,370	212,850	217,426	222,101	226,876	231,754	236,737	241,826
	Repairs	$	0.40	19,969	20,398	20,837	21,285	21,743	22,210	22,688	23,175	23,674	24,183
	Productivity Loss		0.90%	16,849	17,211	17,581	17,959	18,345	18,740	19,143	19,554	19,975	20,404
	Bussing	$	5.00	249,614	254,980	260,463	266,062	271,783	277,626	283,595	289,692	295,921	302,283
				-	-	-	-	-	-	-	-	-	-
	SUBTOTAL			486,123	496,574	507,251	518,157	529,297	540,677	552,301	564,176	576,306	588,696
FINANCING	Principal			-	-	-	-	-	-	-	-	-	-
	Interest			-	-	-	-	-	-	-	-	-	-
				-	-	-	-	-	-	-	-	-	-
	Tax Income			-	-	-	-	-	-	-	-	-	-
	Building Aid Reimbursement												
	SUBTOTAL			-	-	-	-	-	-	-	-	-	-
	YEAR TOTAL			767,110	914,401	930,383	912,822	1,024,540	932,897	896,900	868,466	1,048,686	1,001,525

GRAND TOTAL $ 9,297,731

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

Table G.1

Barker Architects PLLC 6/16/2020

Lamprey River Elementary School — Baseline - New Replacement — Life-Cycle Cost Analysis

	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	2,496	2,550	2,605	2,661	2,718	2,776	2,836	2,897	2,959	3,023
	Electricity	$	-	-	-	-	-	-	-	-	-	-	-
	Grid	$	0.60	29,954	30,598	31,256	31,927	32,614	33,315	34,031	34,763	35,510	36,274
	On-Site			-	-	-	-	-	-	-	-	-	-
	Heating Fuel	$	-	-	-	-	-	-	-	-	-	-	-
	Oil	$	0.30	14,977	15,299	15,628	15,964	16,307	16,658	17,016	17,382	17,755	18,137
	Propane	$	-	-	-	-	-	-	-	-	-	-	-
	Wood			-	-	-	-	-	-	-	-	-	-
	Electricity			-	-	-	-	-	-	-	-	-	-
	Other	$	-	-	-	-	-	-	-	-	-	-	-
	Cooking Fuel	$	0.02	998	1,020	1,042	1,064	1,087	1,111	1,134	1,159	1,184	1,209
	SUBTOTAL			47,427	48,446	49,488	50,552	51,639	52,749	53,883	55,042	56,225	57,434
HUMAN RESOURCES	Cleaning	$	2.00	99,845	101,992	104,185	106,425	108,713	111,050	113,438	115,877	118,368	120,913
	Repairs	$	0.20	9,985	10,199	10,419	10,642	10,871	11,105	11,344	11,588	11,837	12,091
	Productivity Loss		1%	11,233	11,474	11,721	11,973	12,230	12,493	12,762	13,036	13,316	13,603
	Bussing	$	5.00	249,614	254,980	260,463	266,062	271,783	277,626	283,595	289,692	295,921	302,283
				-	-	-	-	-	-	-	-	-	-
	SUBTOTAL			370,676	378,646	386,787	395,103	403,597	412,275	421,139	430,193	439,442	448,890
FINANCING	Principal			435,327	435,327	435,327	435,327	435,327	435,327	435,327	435,327	435,327	435,327
	Interest			177,831	168,471	159,112	149,752	140,393	131,033	121,674	112,314	102,955	93,595
				-	-	-	-	-	-	-	-	-	-
	Tax Income			(47,926)	(48,956)	(50,009)	(51,084)	(52,182)	(53,304)	(54,450)	(55,621)	(56,817)	(58,038)
	Building Aid Reimbursement			(1,039,241)	-	-	-	-	-	-	-	-	-
	SUBTOTAL			(474,009)	554,842	544,430	533,995	523,537	513,056	502,550	492,020	481,464	470,883
	YEAR TOTAL			(55,906)	981,934	980,704	979,650	978,773	978,079	977,572	977,255	977,132	977,208

GRAND TOTAL $ 8,752,400

Bond Amt:	$ 8,706,531	Building Size:	48,872	Total Project Cost:	$ 12,776,000
Bond Term:	20	Inflation Rate:	2.15%	Building Aid Rate:	55% Nominal
Bond Rate:	2.15%	Value of Exist:	$ 1,954,880	State Building Aid:	$ 5,086,836

Table G.2

Barker Architects PLLC 6/16/2020

Lamprey River Elementary School **Building Needs Worksheet**

Area 48,872
Perimeter 1,364

Cat		Item	Problem	Corrective Measure	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. Kindergarten conflicts with busses. Parent pick-up queues to 60+ cars and conflicts with parking.	Redesign to more safely separate car and bus.	$ 50,000		
	4	Parking	Parking meets current needs.				
	5	Grading and Drainage	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		
	6	Playground/Playfields	Playfield recently constructed but not to any regulation size.				
	7	Site Features	Visitor parking and entrance not immediately clear.	Provide directional signage.	$ 10,000		
	8	Oil, Propane Tank Age/Condition	Oil storage is old, undersized and not commercial grade.	Provide new underground 10,000 gal tank.		$ 40,000	
Envelope	9	Roof Condition	Roof 6 years past warrantee. Will likely need to be replaced within the next 10 years.	Monitor condition and budget to replace.		$ 244,000	
	10	Wall Condition (insulation and moisture protection)	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
	11	Door Condition (energy efficiency and operation)	Most doors are older, worn and atiquated. 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		
	12	Window Condition (energy efficiency and operation)	Windows are newer aluminum thermally broken energy efficient windows. The design however is undesireable. The low ribbon style causes overheating and glare.	No clear alternative.			
	13	Foundation Condition (insulation and moisture protection)	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 perimter.		$ 34,000	
Life Safety	14	K-2 location based on LED	Complies	Not applicable			
	15	Panic devices	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	
	16	Stair Details (Rise/Run, Railings)	Not applicable.	Not applicable			
	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		
	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 ancilary 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			
	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 corriodor. Enclose the library.	$ 57,000		
	30	Smoke Compartments	Smoke doors exist but are not rated therefore the efficacy cannot be substaintiated.	Test existing and upgrade as needed.		$ 10,000	
	31	Fire Alarm, Emergency lights and Exit lighting	Mircom fire alarm system apears 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					
Building Code	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	
	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	
Structural	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 buidling 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 prescence of ribbon windows indicates that the walls likely do not have reinforcing or lateral bracing since these would interupt 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
Accessibility	42	Parking	6 spaces required, 3 provided.	Restripe converting 4 existing spaces into 3 HC spaces.			
	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	
	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 remainging 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 acessible.		$ 60,000	
	49	Signage	Signage is outdated.	Review and replace as required.		$ 5,000	
	50	Elevator	Not applicable.	Not applicable			
Indoor Environmental Quality	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.			
	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 exhast vents and new finishes.		$ 20,000	
Build. Services	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	
	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.	Replace old devices, install new outlets as needed.		$ 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 neccesary.		$ 98,000	
Interior	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 transmision 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 commecial 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)					
	72	Visual Display Boards	Many boards have been repaced with new.	complies			
Security	73	Secure Visitor Check-in	A new door set has been installed giving some secuity 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			
Other	77	Asbestos	Asbestos exists under the vinyl tile which in turn is under carpet tile. Acording to the maintenance report, other asbestos does not exist.	Abate remaining asbestos.		$ 50,000	
	78						
					$ 727,000	$ 1,367,000	$ 2,653,990

$ 4,747,990 Grand Total

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

Table A

Barker Architects, PLLC 6/16/2020

SITE PLAN
1" = 40'-0"

PROJECT NORTH

REVISIONS

KEY PLAN

NOTES

CONSULTANTS

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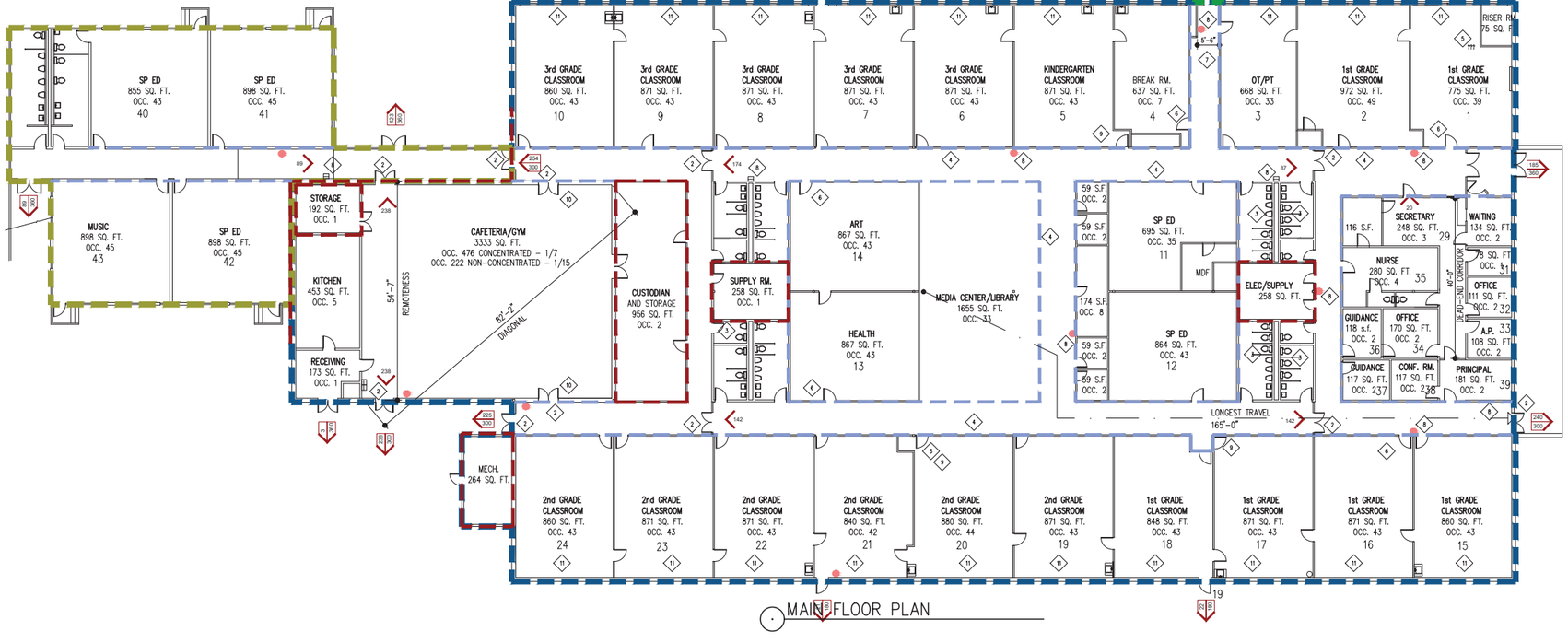
RAYMOND SCHOOL DISTRICT
ELEMENTARY SCHOOLS ASSESSMENT STUDY

LAMPREY RIVER ELEMENTARY SCHOOL
EXISTING SITE PLAN

DATE : MARCH. 9, 2020
SCALE : AS NOTED

EX1

PROJECT NORTH



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	

SCALE

0' 4' 8' 16' 32' 48'

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

REVISIONS

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RAYMOND SCHOOL DISTRICT
ELEMENTARY SCHOOLS ASSESSMENT STUDY

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EXISTING CONDITIONS PLANS

DATE : MARCH. 9, 2020
SCALE : AS NOTED

EX2

PROJECT NORTH

MAIN FLOOR PLAN

SCALE

0' 4' 8' 16' 32' 48'

LEGEND

- CORRIDORS
- MAINTENANCE
- TOILETS
- CORE AREAS
- SPECIALS
- CLASSROOMS

REVISIONS

KEY PLAN

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EX3