



Lamprey River Elementary School

Facilities Impact Committee

Fact Finding Report

September 17, 2008

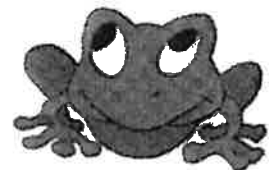


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References:

- New Hampshire Code of Administrative Rules
- Manual for Planning and Construction of School Buildings (2006)
- New Hampshire School Board Association
- National Electric Code
- National Fire Prevention Association Codes
- American Society of Heating, Refrigerating and Air Conditioning Engineers



Introduction

Lamprey River Elementary School was built in 1976. The original school building was open concept design. Over the past 32 years, the building has undergone many changes including the addition of four attached portables (1986), the addition of six unattached portables (2002-2003), the addition of 6 kindergarten classrooms (2004-2005), and the completion of the addition of walls and doors to enclose individual classrooms (1988-2008).

Lamprey River Elementary School is situated on 14 acres. It has two parking lots with a total of 177 parking spaces. LRES has two playgrounds, an outdoor physical education area, two septic systems, town water and currently 101 staff members.

In 2007, the Raymond School District formed the Lamprey River Elementary School Facilities Impact Committee. The charge of the committee was to identify facility concerns at the elementary school and how they impact the teaching and learning process. Specifically, the committee was charged to investigate the following:

- To see if the physical plant and facility meet all federal and state laws and is in compliance with local fire, health, and safety regulations
- To see if the building and site management is appropriately maintained, repaired and cleaned
- The enrollment and building capacity (storage, room size, and design)
- Open concept design and its effect on teaching and learning
- The facilities capability to support an appropriate technology infrastructure, programming and equipment
- The school site and physical plant supporting the well being and safety of students and staff

The following report is a result of 18 months of data collection completed by the Facilities Impact Committee.

Lamprey River Elementary School Facilities Committee Members:

Holly Brunelli, Guidance Counselor; Katelynn Dow, Art Teacher; Sharon O'Brien, Occupational Therapist; Sandy Ellis, Instructional Aide; Nancy Goodwin, Special Education Paraprofessional; Melissa Mitcheltree, Parent; Lisa Desruisseaux, Assistant Principal; Daniel LeGallo, Principal; Todd Ledoux, Facilities Director; and John Harmon, School Board Member.

Air Quality

Figure 1 shows air quality readings for every room at LRES for the month of June, 2008. This work was done as part of our healthy school's asthma control initiative. Acceptable parameters were provided by the *American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)*; Endorsed by the Environmental Protection Agency for managing good Indoor Air Quality (IAQ) in buildings.

In Figure 1, areas highlighted in green did not meet the guidelines.

Figure 1:

LRES Air Quality Averages

June 2 2008

Acceptable Parameters	Indoor	68° - 72°	30 - 60%	0 - 5ppm	700 - 1000ppm Over Outside Measurement
Zone		Air Temperature	Relative Humidity	Carbon Monoxide	Carbon Dioxide
1 Rm1-10 & 40-43	Outdoor	75.4°F	37.30%	.75 ppm	250 ppm
	Indoor	77.3°F	41%	0 ppm	735 ppm*
* Some windows open					
2 Interior of Building	Outdoor	75.4°F	37.30%	.75 ppm	250 ppm
	Indoor	77.0°F	40.20%	1.4 ppm	774 ppm***
** No windows or doors open to outside (some open to hallways)					
3 Rooms 15-24 (Missing Rm 18)	Outdoor	75.4°F	37.30%	.75 ppm	250 ppm
	Indoor	77.2°F	42.60%	1.9 ppm	1107 ppm*
*Some windows & doors were open. When closed CO2 levels were over 1000ppm					
4 Kindergarten Rooms 50-56	Outdoor	75.4°F	37.30%	.75 ppm	250 ppm
	Indoor	77.9°F	39.50%	0 ppm	443 ppm*
*Some windows were open during testing.					
5 Rooms 44-49 (4th Grade portables)	Outdoor	75.4°F	37.30%	.75 ppm	250 ppm
	Indoor	79.6°F	40.40%	0 ppm	780 ppm**
**Windows and doors closed					

Ancillary Space

Administrative Offices:

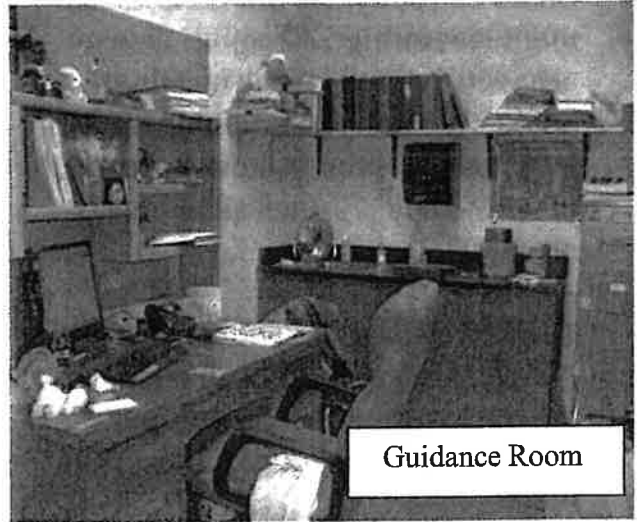
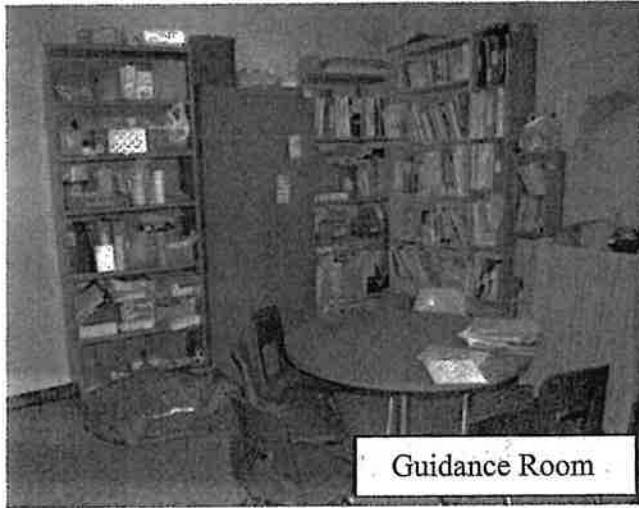
LRES currently houses three administrative offices; the principal's office, the assistant principal's office, and the special education coordinator's office. The principal's office measures 165 sq. ft., the assistant principal's office measures 121 sq. ft., and the special education coordinator's office measures 120 sq. ft. All administrative offices meet the state requirement of being a private office space per *the NH Code of Administrative Rules Ed 321.12(b)*.

Attached to the assistant principal's office is a student waiting area measuring 60 sq. ft.



Guidance Offices:

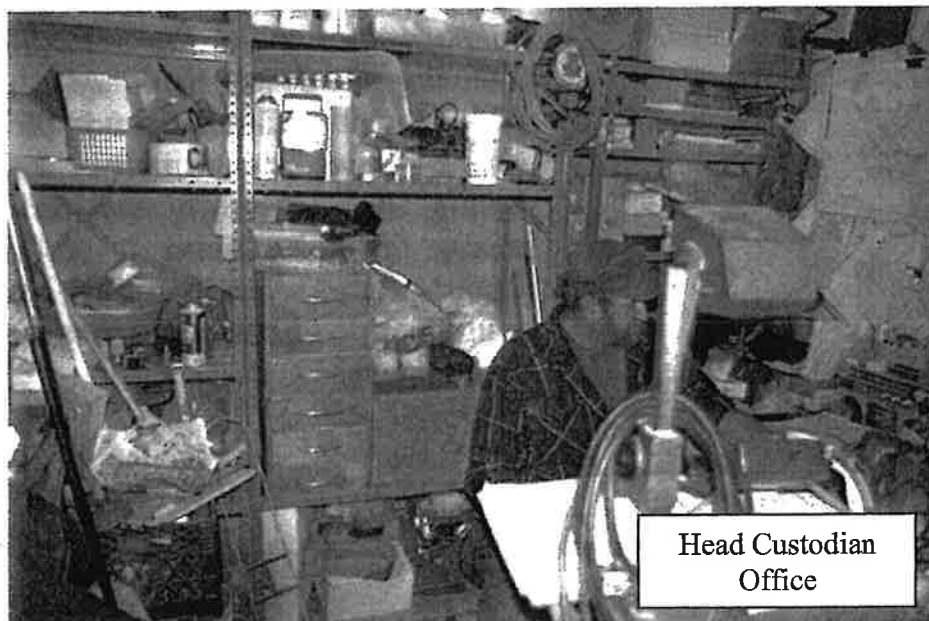
There are two guidance offices at LRES. One guidance office measures 240 sq. ft., while the second measures 128 sq. ft.



The *Manual for Planning and Construction of School Buildings (2006)* requires that guidance offices be a minimum of 100 sq. ft. and provide a conference room for meetings for up to twelve people. The guidance department does not have a conference room.

Head Custodian's Office:

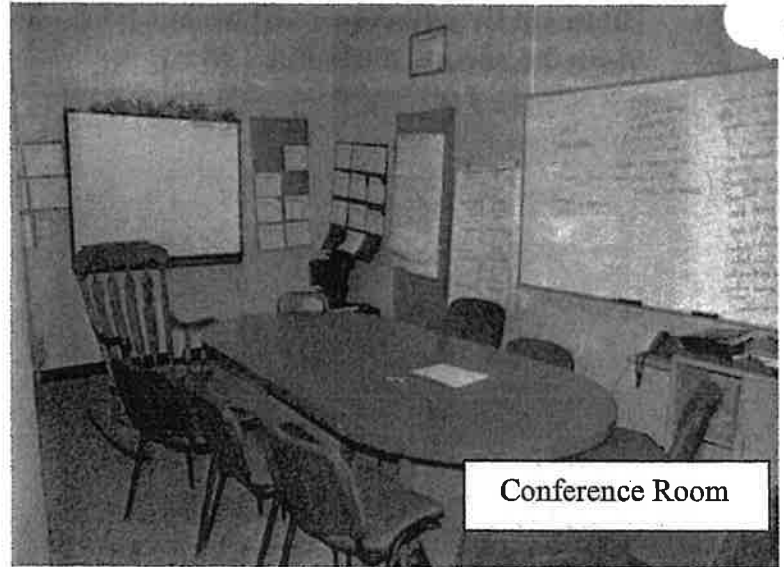
The head custodian's office at LRES is located in the custodial room. The *Manual for Planning and Construction of School Buildings (2006)* requires that schools have a separate custodian's office. LRES does not meet this requirement.



Meeting Spaces:

LRES currently has one conference room measuring 247 sq. ft. Due to necessity, simultaneous meetings occur which displace administrative personnel. Of the 160 days observed in 2007-2008, 72 such situations occurred.

The *NH Code of Administrative Rules Ed 321.11* requires that an area for private meetings for parents and staff shall be available. LRES meets this requirement.



Conference Room

Nurse's Office:



Nurse's Office

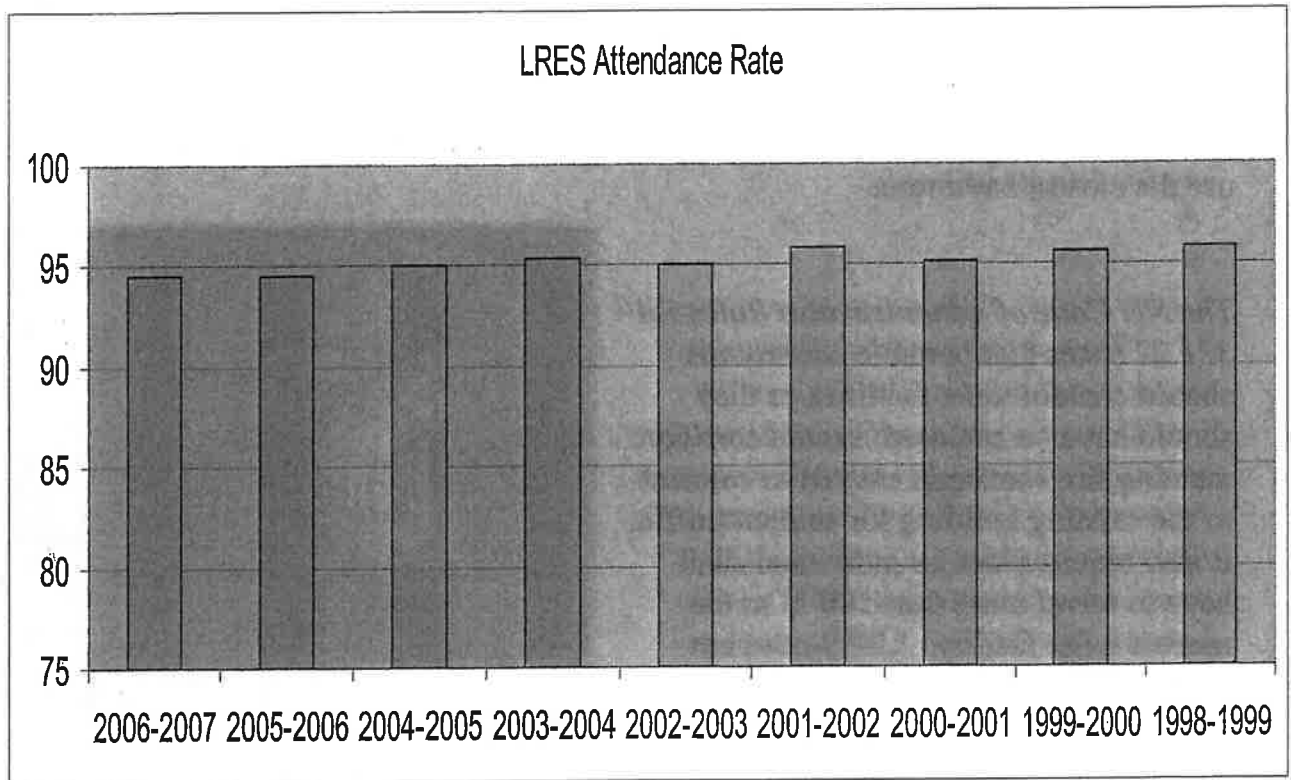
LRES currently has one nurse's office measuring 264 sq. ft. in size consisting of 1 cot per 585 students, a waiting area in the hallway, one sink, one restroom (non-handicap accessible), and desk space for the nurse and her assistant.

According to the *NH Code of Administrative Rules Ed 321.12(c)*, the following standards shall apply: nurse's space should be a minimum of 300 sq. ft., an exclusive administrative space, a waiting area, secure dry and refrigerated storage for medications, 1 cot per 200 pupils and a handicapped accessible bathroom. LRES does not meet these requirements.

Attendance Rate

Figure 2 shows the average daily attendance rate for Lamprey River Elementary School for the school years 1998-1999 through 2006-2007. The figures include grades 1-4 only (Grade 4 arrived in 2002-2003).

Figure 2:



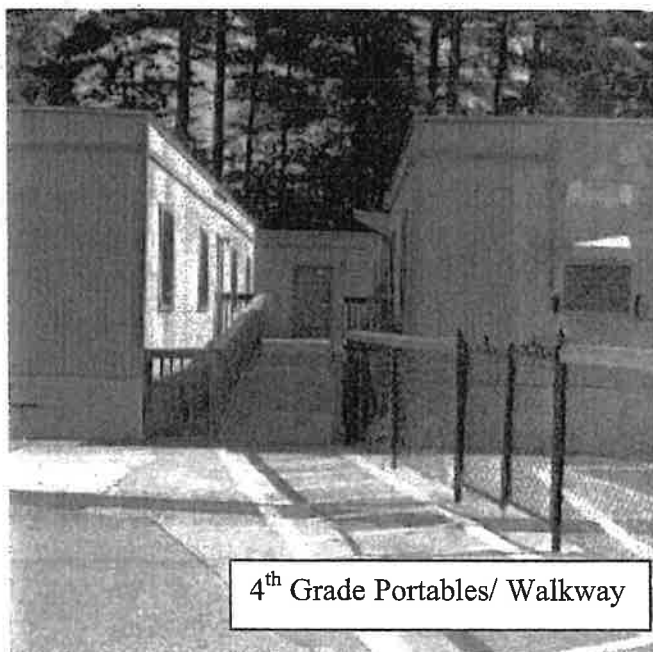
Bathrooms

LRES has five sets of boys and girls bathrooms in the main building. There are a total of sixteen urinals and thirty four toilets for a total of fifty water closets. LRES' ratio of water closets to students is 1 to 11.7. LRES' ratio of lavatories to students is 1 to 35.

The NH Code of Administrative Rules Ed 321.19 (c) states that the minimum ratio of water closets to the number of students shall be one water closet per thirty students and the ratio of lavatories to the number of students shall be 1-40. LRES meets these requirements.

However, there are no bathrooms in the detached portables. This requires the fourth graders, located in these portables, to go 275 feet into the main building to use the closest bathroom.

The NH Code of Administrative Rules Ed 321.22 states that portable classrooms should contain toilet facilities or they should have an enclosed, heated corridor, meeting fire standards erected to connect to the existing building for student traffic. It also requires that no individual shall have to travel more than 500 ft. to the nearest toilet facility. LRES does not meet the enclosed, heated corridor requirement.



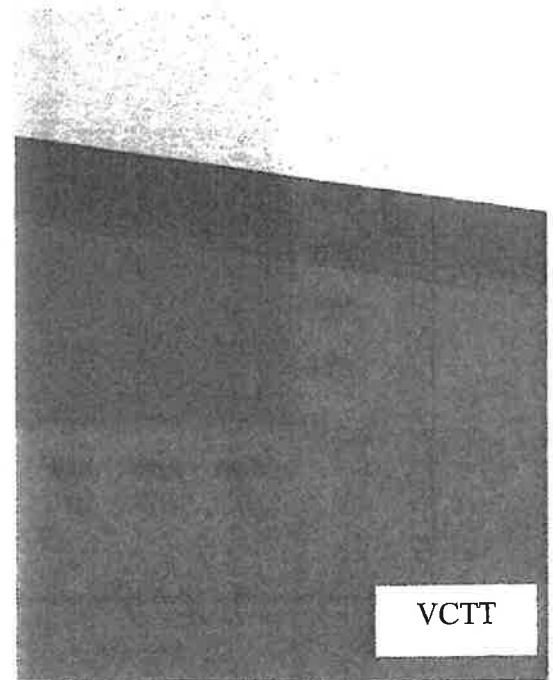
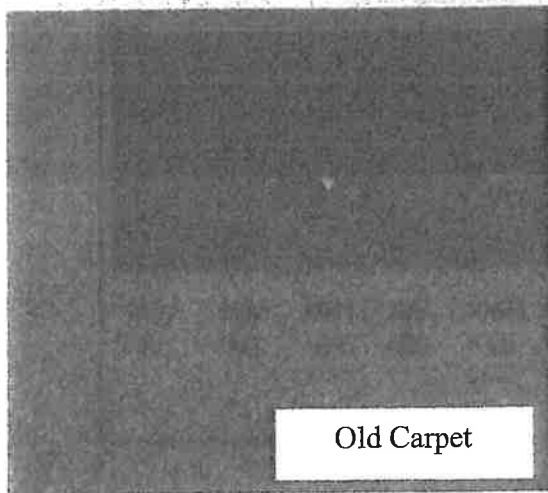
4th Grade Portables/ Walkway

Carpeting

LRES is in the process of updating the carpeting/flooring throughout the school. Ten out of twenty six rooms in the main building have been upgraded with Vinyl Cushion Tufted Textile (VCTT). VCTT is nylon faced flooring, which looks similar to standard carpet with a ¼ in. vinyl backing. VCTT is installed with an adhesive backing and all seams are chemically welded thus creating a moisture barrier. The remaining sixteen rooms in the main building have ten plus year old carpeting. The six detached portable classrooms have original carpeting.

The Kindergarten wing (opened in 2004) has Vinyl Composite Tile (VCT) flooring.

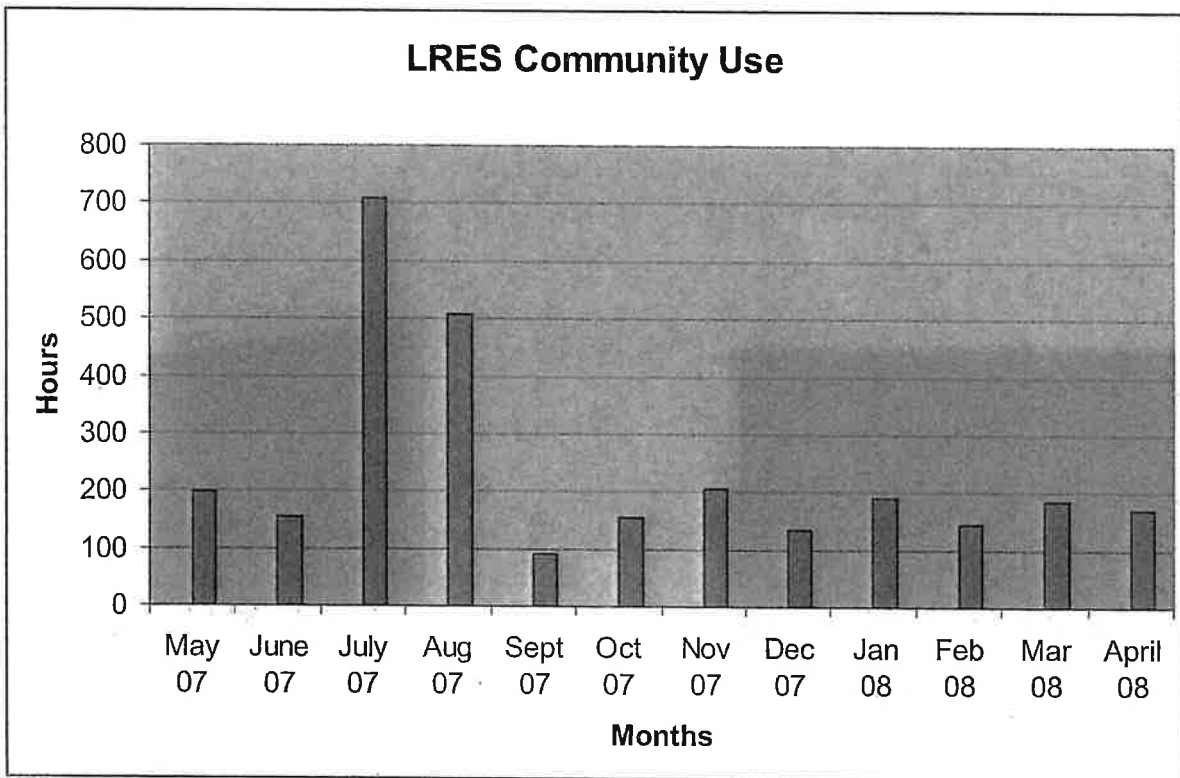
The Manual for Planning and Constructing School Buildings (2006) states that Vinyl (non-PVC) backed carpet is strongly recommended by the Department of Education. Vinyl backing is not susceptible to mold growth and prevents water from leaking through the carpet.



Community Use

A study of building use by the community was conducted from May 2007 through June 2008. Figure 3 shows the total hours LRES was used by the community each month. For example, the space is used by the after school program, scouts, rotary, recreation department, etc.

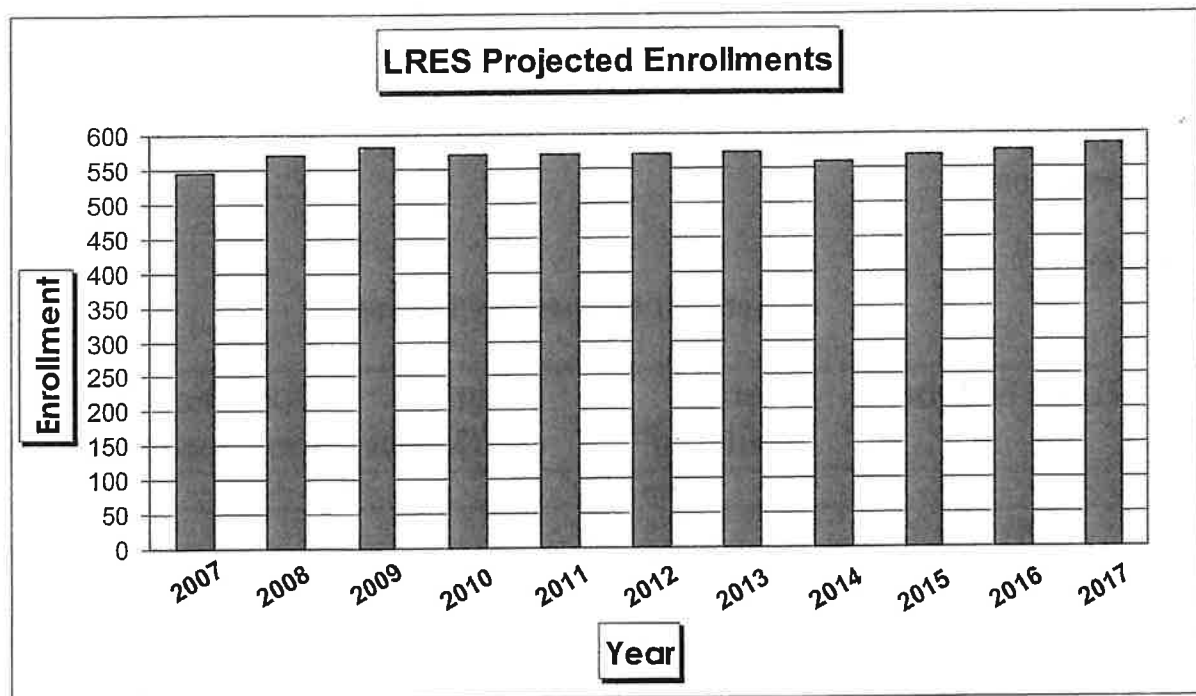
Figure 3:



Demographics

Figure 4 shows LRES' enrollment projections for the next ten years. The October 2007 LRES Preschool-4 student enrollment was 589. The 2008 opening day enrollment Preschool-4 was 604 students. In 2017, LRES will see similar enrollment figures. The New Hampshire School Board Association (NHSBA) does the district's enrollment projections and the NHSBA uses three different methodologies to calculate their projections. The 2017 NHSBA student enrollment projections using the three different methodologies are as follows: simple projection is 583, five year projection is 518, and the three year weighted average projection is 546. (Pre-school is also housed at LRES and averages forty five students. The NHSBA does not factor in Pre-school).

Figure 4:



Electricity

LRES has sufficient power coming into the building however, not all of it is usable due to the lack of appropriate circuits. We are currently in the process of upgrading older panels to increase the number of usable circuits in the building. The café/gym lights have been upgraded to more efficient t5 fluorescent lights. The electrical/cost comparisons are shown in Figure 5.

Figure 5:

Electricity Cost: July 2007 to June 2008

School	Total Cost	Building Size sq ft	Cost per sq ft
LRES	\$60,148	66,600	\$0.90
IHGMS	\$104,521	105,000	\$1.00
RHS	\$87,494	104,750	\$0.84

LRES also investigated the number of outlets available in each classroom. According to Kyle Barker, of Barker and Associates Architects, it is recommended to use the *National Electrical Code (NEC)* which allows for outlets to be no further than 12 ft. apart which is based on the normal appliance cord being 6 ft. long. Figure 6 shows the number of outlets in each room and whether they meet the recommendation.

Figure 6:

Electrical Outlets in Classroom

Room Number	Part of Building	Number of Outlets	Does the room meet recommendation?
24	Main	2	NO
8.10.13.14.18.19.23	Main	3	NO
6.7.9.15.16.17.20.21.22	Main	4	NO
5.12	Main	5	NO
11	Main	32	Computer Lab (Yes)
54.55	Kindergarten	8	YES
51.52.53.54	Kindergarten	9	YES
41	Attached Portables	9	YES
40	Attached Portables	10	YES
42.43	Attached Portables	12	YES
44.45.46.47.48.49	Detached Portables	15	YES

Fuel

Figure 7 shows the usage and cost comparisons of fuel compared to the middle and high school for both oil and propane.

Figure 7:

District Fuel Cost

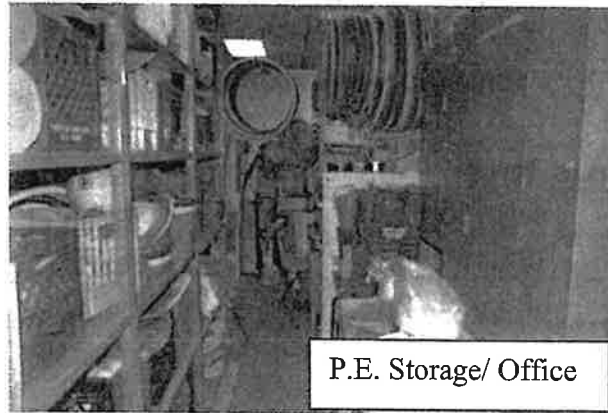
July 2007 - June 2008

School	Total Cost 07 08	Building sq ft	Cost per sq ft
LRES	\$45,168.00	54,000	\$0.84
IHGMS	\$56,158.00	105,000	\$0.53
RHS	\$39,558.00	104,750	\$0.37

General Storage

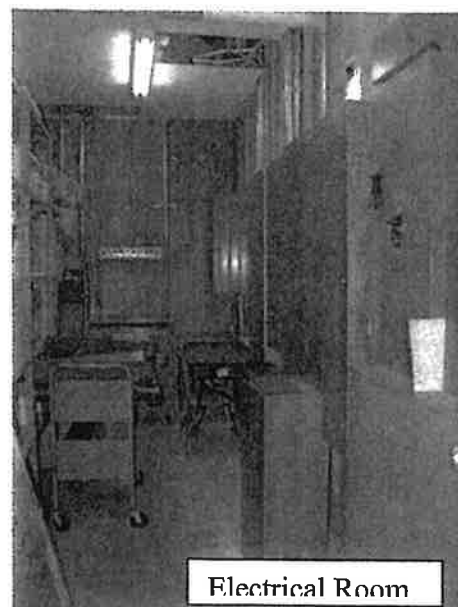
Electrical Room/Custodial Closets:

The custodial storage area currently houses all maintenance supplies, custodial supplies, custodial sink, the Head Custodian's office space, electrical panels, some school supplies and the Physical Education teacher's office and equipment. As mentioned previously, the LRES custodial office space does not meet requirements.



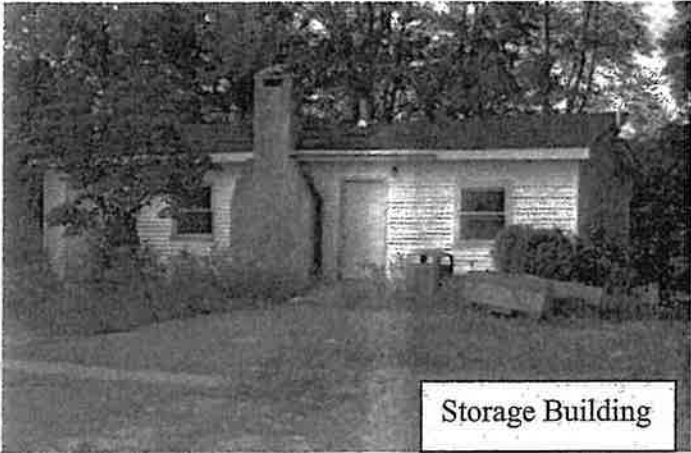
The second custodial closet houses electrical panels, the cleaning cart and cleaning supplies.

The third custodial closet/electrical room houses one custodial sink, hot water tank, electrical panels, fire alarm panel, cleaning cart and supplies, office supplies and nurse's storage.



Equipment Storage:

LRES currently uses hallway space, a storage trailer, and a free standing storage building for housing items such as desks, chairs, tables and other school furnishings. The storage building and storage trailer are cold storage. Because of this they cannot be used for files, paper, liquid products or products susceptible to moisture.



Storage Building

Student File/Storage Area:

The student file room measures 120 sq. ft. and is located in the interior of the main office. It houses the student files by grade, the special education files, the 504 files and the office supplies.



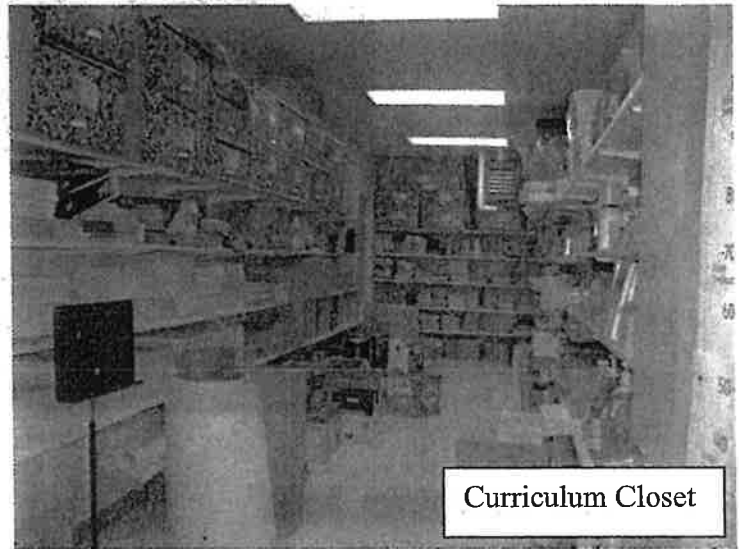
Student Files



Student Files

Supply Rooms:

LRES currently has a variety of storage areas in an attempt to house school supplies. The main building has one storage room which houses classroom supplies and paper. The Kindergarten wing has one storage room for school wide curriculum materials and supplies.



Technology:

LRES has a dedicated computer lab. The lab has a technology storage room measuring 150 sq. ft. This room currently holds technology supplies, the building server, the server tower/wires, and the technology director's site office.

Instructional Space

Number of Classrooms:

There are currently thirty eight classrooms which include ten portable classrooms, six of which are detached (see figure 8). Three third grade classrooms and a special education resource room are housed in attached portables at the rear of the main building. The six detached portables house the 4th grade students.

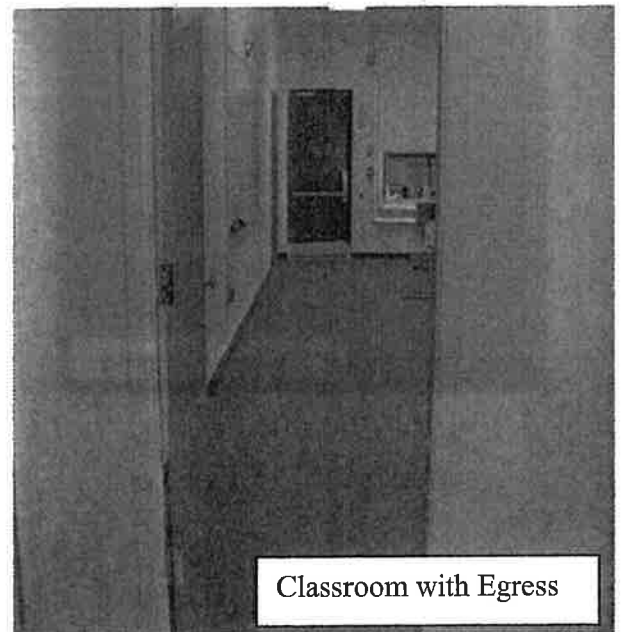
Figure 8:

Classroom Space

<u>Room Amount</u>	<u>Grade</u>	<u>Location</u>
2	Pre-school	Kindergarten Wing
4	Kindergarten	Kindergarten Wing
6	1st Grades	Main Building
7	2nd Grades	Main Building
6	3rd Grades	3 Main Building 3 Attached Portables
6	4th Grades	Detached Portables
2	Resource Rooms	1 Main Building 1 Attached Portable
1	Music Room	Main Building
1	Art Room	Main Building
1	Health Room	Main Building
1	Reading Room	Main Building
1	Computer Lab	Main Building

Classrooms with Emergency Egress:

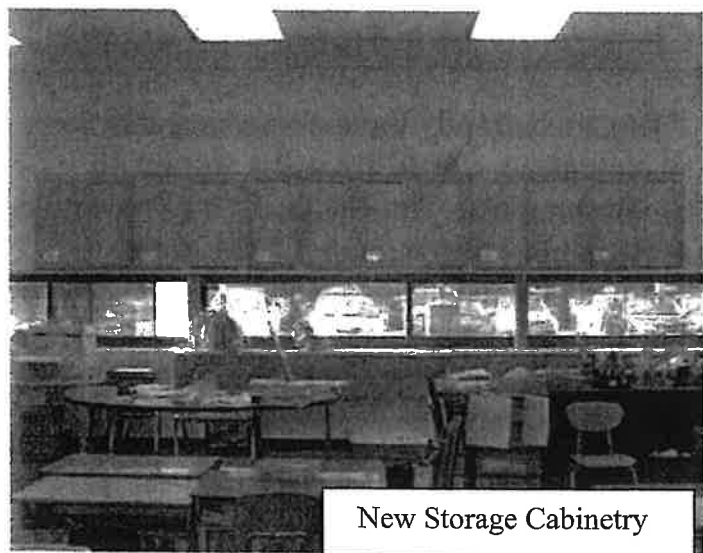
There are currently three classrooms that have an emergency egress through a section of classroom space. The National Fire Prevention Association codes require a 36 in. wide unobstructed path between the emergency door and classroom entrance. LRES meets this requirement; however the emergency egress decreases classroom flexibility.



Classroom Storage:

At LRES there are a total of thirty eight classrooms. Twenty three classrooms do not have built-in storage. The teacher supplies for instruction are stored in cardboard boxes, plastic totes, rolling cabinets or metal shelving. Fifteen classrooms have some form of built-in storage. The six detached portables each have a built-in closet with one shelf. The six classrooms in the Kindergarten wing each have built-in wall shelves and one built-in closet which are attached to a counter unit with drawers. One classroom in the main building has attached wall cabinets. The computer lab has a storage closet. The reading room has a storage closet.

All grade level classes have wall mounted coat hooks. The Kindergarten and pre-school classes have wall mounted cubbies as well.



Security

Detached Portables:

LRES currently has six detached portable classrooms. Students have to travel outside the buildings to enter the main building. A fence separates the walkway from the driveway. The portable classrooms have no buzz-in system to control access to these classrooms. They have locking classroom doors and full communication with the main building via intercom and phone. There are parking spaces that are within a foot of the portable units.

The *NH Code of Administrative Rules Ed 321.21* states vehicle parking should be restricted within 20 feet of the unit to prevent blocking. LRES does not meet this requirement.

Classroom Doors:

Currently, LRES has twenty-six classroom doors that do not lock from the inside in the event of a lockdown emergency. There are thirteen classrooms that have no means of being locked. Thirteen of the doors do not have windows in them.

Security Topics to Highlight:

Security cameras were installed throughout the building one year ago, for viewing of hallway space, group gathering space and exterior spaces. The burglar and fire alarms currently meet all requirements and are functioning properly. The main entrance has a buzz-in system to access the front entrance of the school. School personnel have a window for visual identification of individuals entering the building. The main entrance also has a buffer between the roadway and the front of the building. The playground doors at the back of the main building remain unlocked in order to enter the building during recess times (approximately three hours).

LRES has interior battery operated emergency lighting. LRES also has perimeter wall pack lights and parking lot lights.

LRES has an intercom system that is approximately eight years old. There is no backup system as not all classrooms have telephones.

LRES has two playgrounds, one for grades 1-4 and one for kindergarten/preschool. The grade 1-4 playground is completely fenced in whereas the Preschool/Kindergarten is open to the Lamprey River.

Special Education Spaces

Occupational Therapy

LRES has one 168 sq. ft. room shared by an Occupational Therapist and a Certified Occupational Therapy Assistant. The room has a therapy swing attached to the ceiling, which needs a minimum of 14 ft. to 16 ft. to swing without hitting the walls or door. The room measures 12 ft. by 14 ft. Therapy on scooter boards is done in the hallway outside the office. Equipment and supplies for occupational therapy are stored throughout the building.



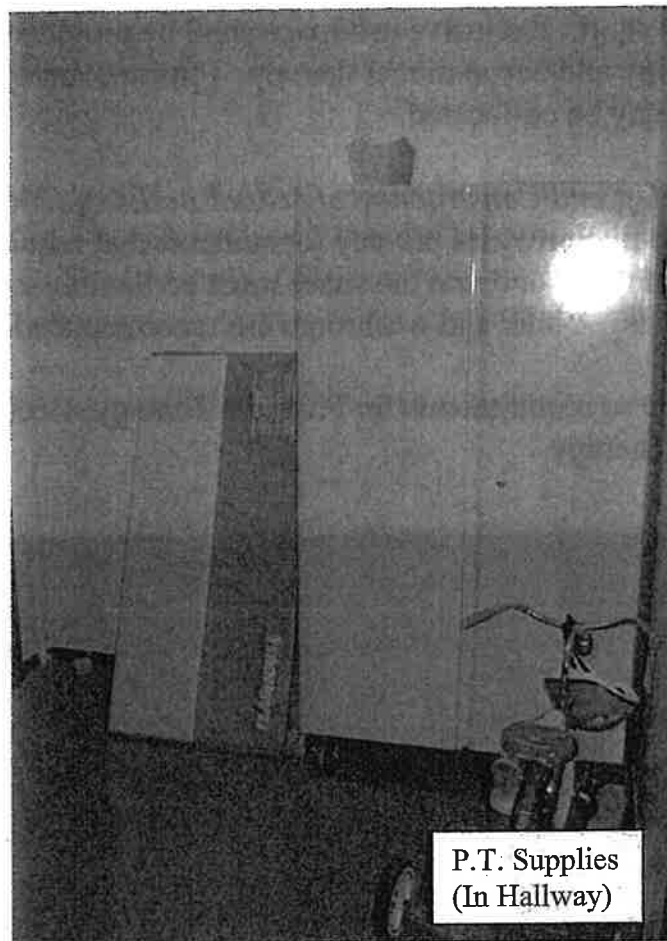
O.T. Supplies
(In Hallway)



O.T. Room

Physical Therapy

There is no dedicated space for physical therapy, so therapy is provided in the hallway. Physical Therapy equipment and supplies are stored throughout the building.



Resource Rooms

LRES currently has two special education classrooms:

- 2nd and 4th grade classroom measuring 844 sq. ft., (4 educators)
- 1st and 3rd grade classroom measuring 648 sq. ft., (4 educators)

Students are serviced both in these special education spaces as well as in their regular education classrooms. There is also a resource office used for individual work with children which measures 110 sq. ft.

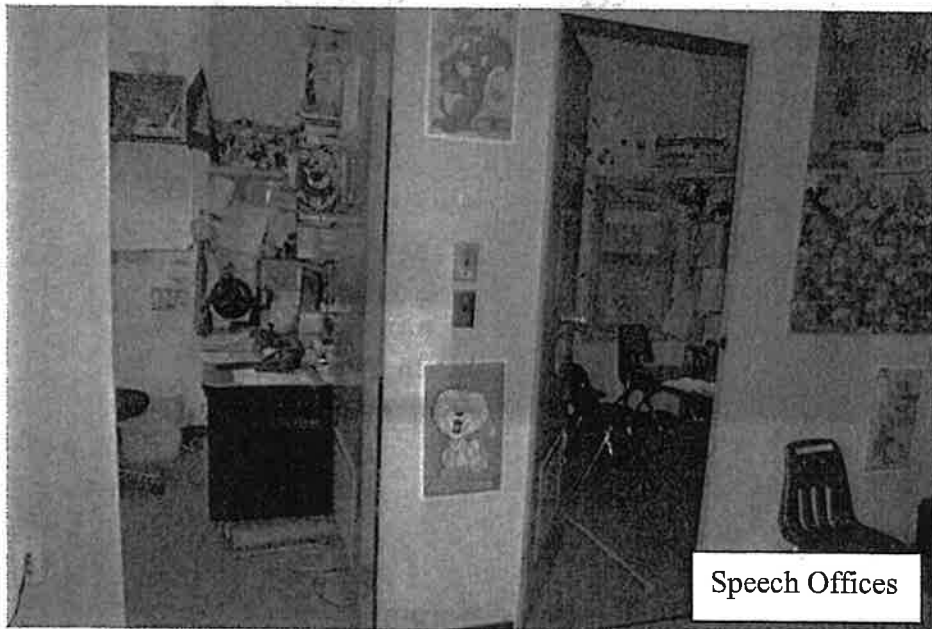
Speech Offices

At LRES, there are three speech offices measuring 60 sq. ft. each. They are shared by four educators and the students they service.

The NH Code of Administrative Rules (Ed 321.11) states that space shall be provided in every school to meet the unique requirements of special education students. The minimum total amount of exclusive use of space for special education shall be 600 sq. ft. Exclusive use space shall be provided for speech therapy, physical therapy and occupational therapy. Physical therapy and occupational therapy may be co-located.

The Manual for Planning and Construction of School Building (2006) states that there should be a space that provides privacy for students that require physical therapy during the school day and that the space must be flexible to meet the many and varied therapy needs. A sink and washroom are recommended.

LRES does not meet these requirements for Physical Therapy, Occupational Therapy, and Speech Therapy.

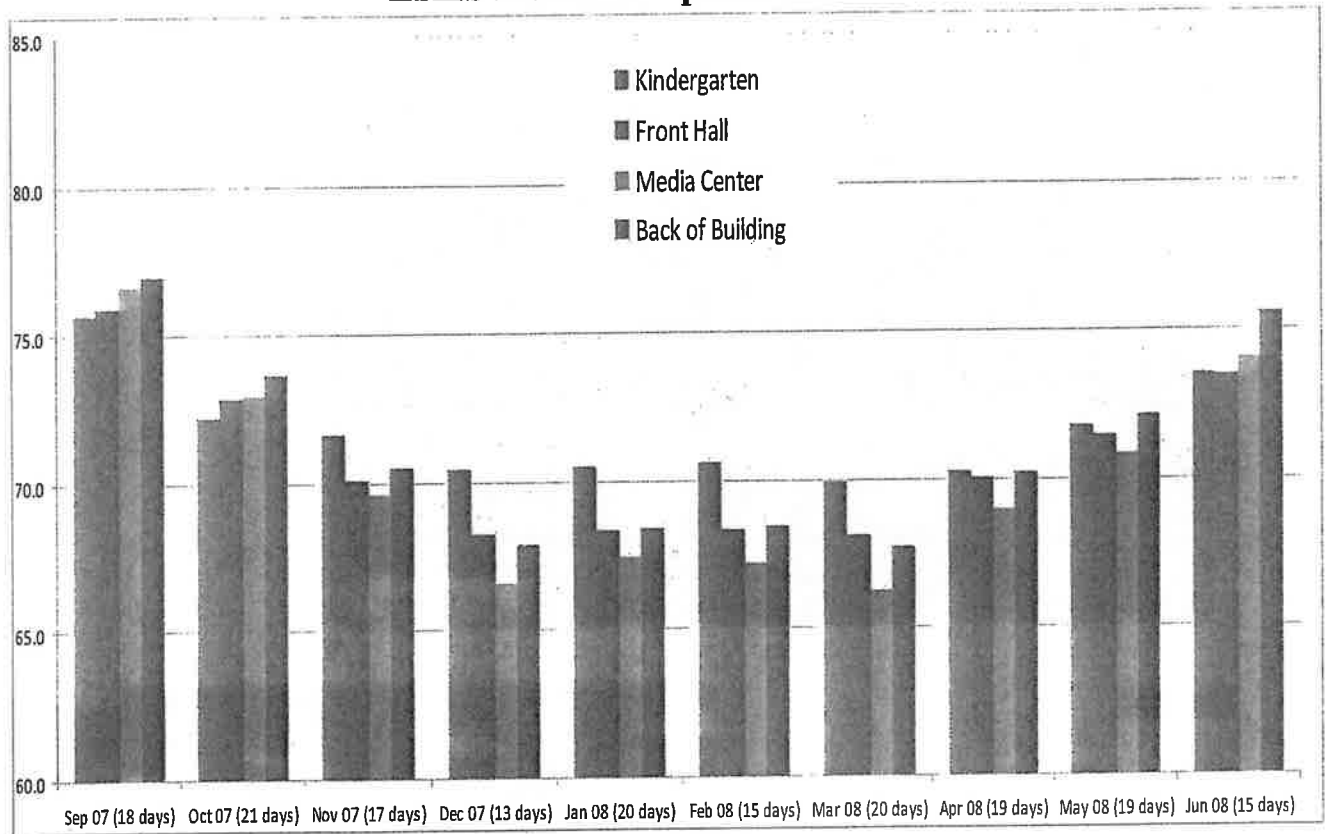


Temperature

Figure 9 shows the average daily temperature in four locations of Lamprey River Elementary School. Temperatures range from a high of 77 degrees to a low of 66.3 degrees. LRES does not meet the recommended comfort levels at certain times of the year (see Figure 1).

Figure 9:

LRES Indoor Temperatures

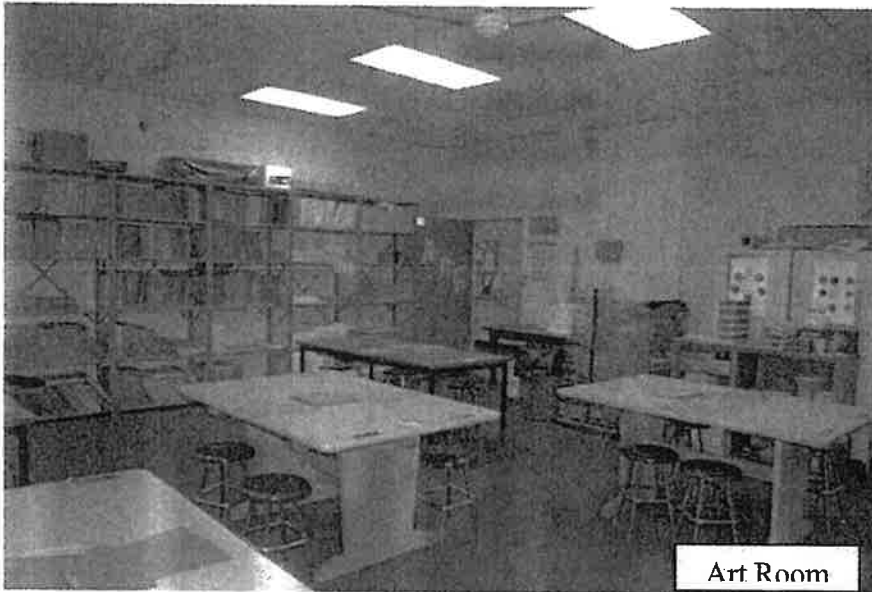


Unified Arts Space

Art:

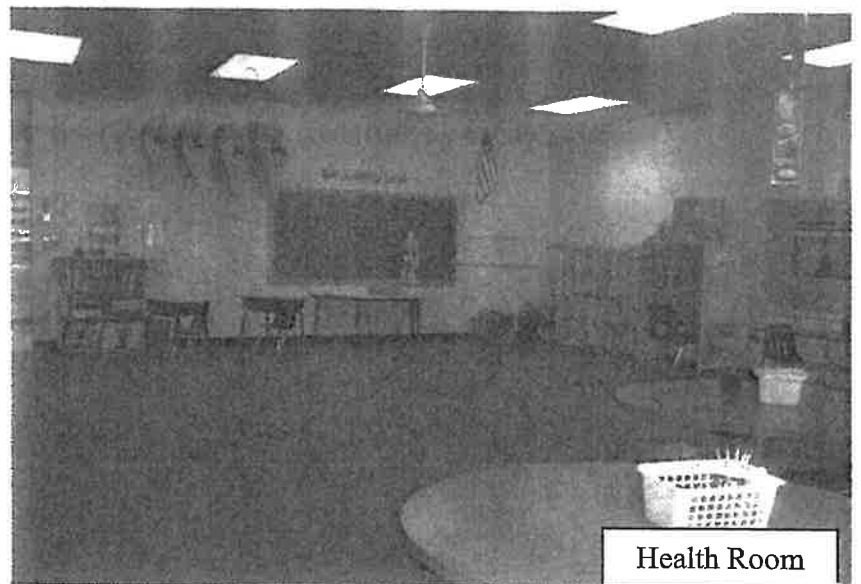
The art room has its own dedicated classroom but does not have a storage closet for supplies.

The Manual for Planning and Construction of School Buildings (2006) requires that the art education space be 30 square feet per pupil, have a ventilation rate of at least 20 cubic feet per minute per person, and a walk-in storage closet opening off of the main room is a necessity. LRES meets the size and ventilation requirements but does not meet the walk-in storage requirement.



Health:

The health room has its own dedicated classroom. It meets all size and space requirements.



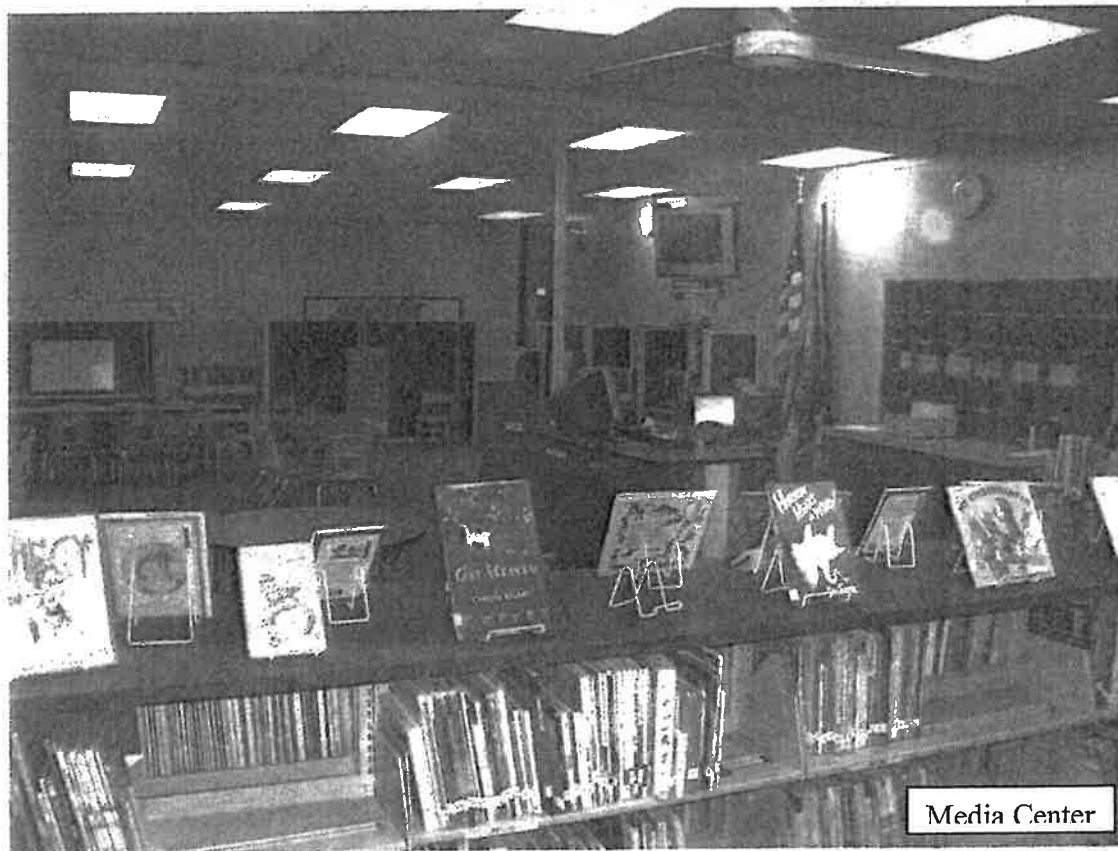
Media Center:

The media center is an open concept space with one wall. The three other sides consist of bookshelves and partitions, partially open to the hallways. The media center is 1640 sq. ft. and contains a circulation desk, bookshelves, and tables.

The NH Code of Administrative Rules Ed 321.10(j) states that schools shall have a minimum 40 sq. ft. per student for 10% of the design capacity. For an estimated core population of 575 students, this measures 2300 sq. ft.

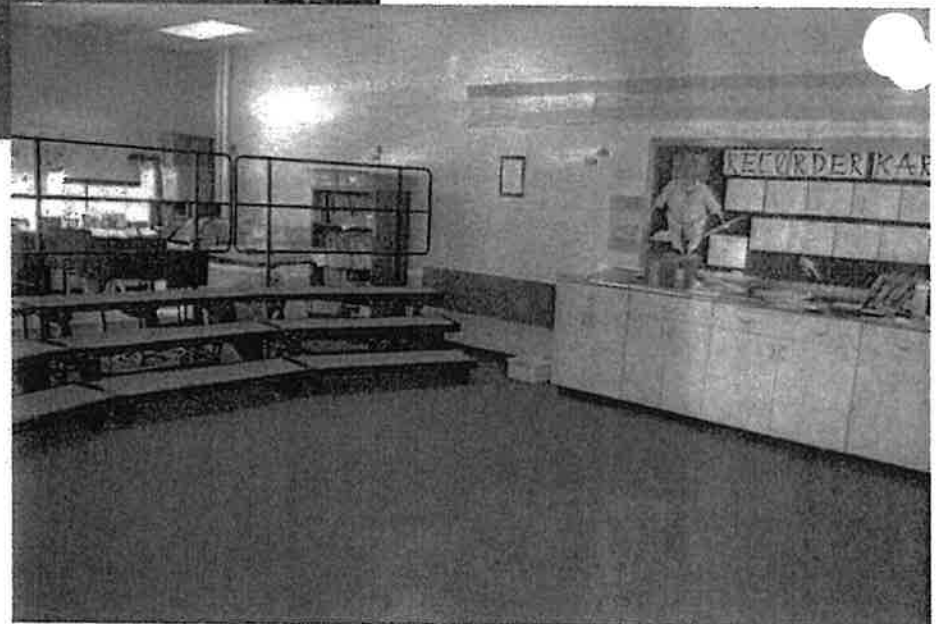
In addition, the *Manual for Planning and Construction of School Buildings (2006)* requires that the media center space be a minimum of 1800 sq. ft. and contain the following: a circulation desk, a general reading/stack area measuring 35 sq. ft. per pupil (or 10% of the design capacity), a group instruction room measuring between 600-700 sq. ft., an electronic multimedia area measuring between 500-700 sq. ft., an office area of 150 sq. ft., and an equipment area measuring between 500-700 sq. ft.

LRES does not meet any of these requirements.



Music:

The music room has its own dedicated classroom and contains one sound dampening wall, two exterior walls, and one hallway wall. The sound has an impact on the classroom next door.

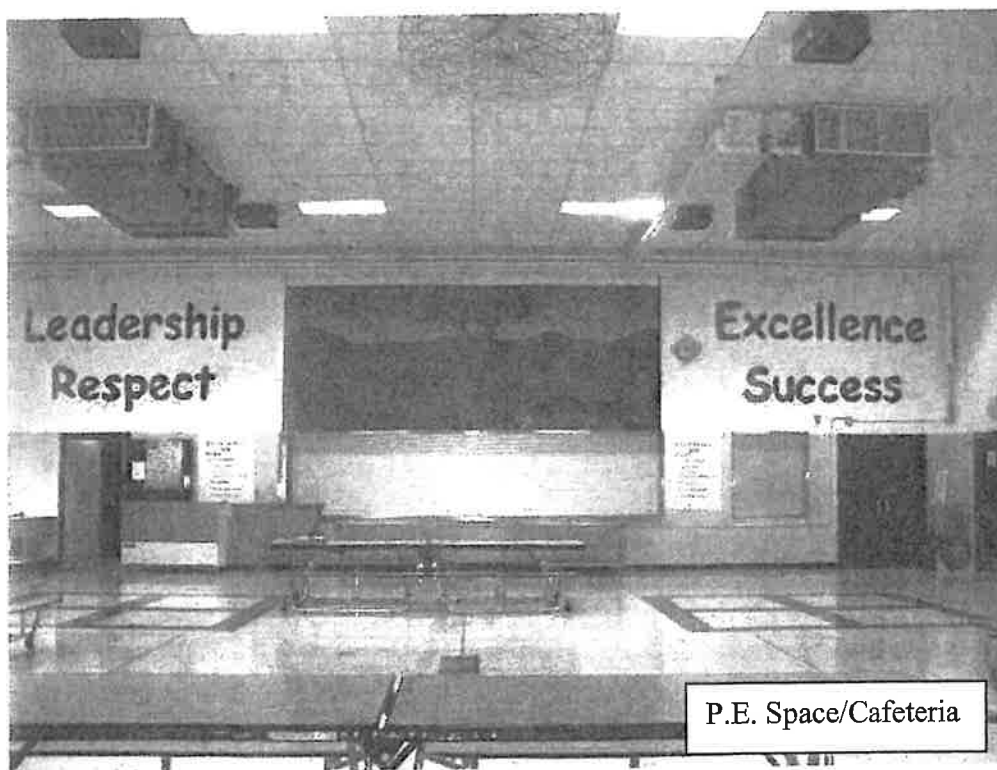


Physical Education:

The physical education program is currently run in the shared cafeteria space as well as outside when weather permits. The size of the physical education space is 3,120 sq. ft. Due to the school lunch schedule, the cafeteria cannot be used during the day from 11:15 AM - 2:15 PM; therefore, 7 out of 25 classes per week are held in the classroom. Other conflicts include grade level assemblies and preparation for after school activities.

The Manual for Planning and Construction of School Buildings (2006) requires that at the elementary school level, physical education space should be approximately 70 ft. by 100ft. with a minimum of 110 sq. ft. per pupil. A 20 ft. high ceiling is recommended although 14 – 16 feet is acceptable.

LRES does not meet the sq. ft. requirement.



Water

Figure 10 shows the water usage and cost comparisons for the District.

Figure 10:

Water Usage

School	Total Cost	Building Size	Cost per sq. ft.
LRES	\$4,013.00	66,600 sq. ft.	\$0.06
IHGMS	\$2,414.00	105,000 sq. ft.	\$0.02
RHS	RHS operates off of a well		

Windows

Windows in the main building are aluminum framed with ¼ inch single pane glass. They have an R value of 0.92. (R value is a term used in the industry to measure insulation properties of building materials). This is less than the R value of the windows in IHGMS (completed 2007), which have an R value of 2.86. There is window tinting at LRES on the parking lot side of the building.

The amount of window glass per classroom is 24 sq. ft. at LRES and 23 sq. ft. at IHGMS. Even though the numbers indicate more glass at LRES, the shape and positioning of the windows are not optimum for natural light in a classroom. The amount of natural lighting allowed meets the recommendations of new construction. LRES has four classrooms, the media center and some special education spaces which are interior rooms and have no natural lighting.

Summary

Figure 11 summarizes the findings of this report and those items that met or did not meet documented requirements and/or recommendations. There were no documented requirements found for non-applicable (NA) items.

Figure 11: Summary of Findings

	MET	NOT MET	NA
Air Quality		√	
Ancillary Space			
Admin Office	√		
Guidance Office		√	
Head Custodian Office		√	
Meeting Space	√		
Nurse's Office		√	
Attendance Rate			√
Bathrooms			
Main Building	√		
Unattached Portables		√	
Carpeting		√	
Community Use			√
Demographics			√
Electricity			√
Fuel			√
General Storage			
Electrical Rm/ Custodial Closet		√	
Equipment Storage			√
Student File / Storage Area			√
Supply Room			√
Technology Storage			√
Instructional Space			
Classroom Number			√
Classroom Emergency Egress	√		
Classroom Storage			√
Security			
Detached Portables		√	
Classroom Doors			√
Security Topics Highlighted			√
Special Education			
Occupational Therapy		√	
Physical Therapy		√	
Resource Rooms			√
Speech Offices	√		
Temperature		√	
Unified Art			
Art		√	
Health	√		

Media Center		√	
Music	√		
Physical Education		√	
Water			√
Windows			√

