



TOWN OF LINCOLN

SCHOOL COMMITTEE

Statement of Interest for the Lincoln School, Lincoln, MA

Resolved: Having convened in an open meeting on March 21, 2013, the School Committee of the Town of Lincoln, Massachusetts, in accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit to the Massachusetts School Building Authority the Statement of Interest Form dated March 14, 2013 for the Lincoln School located at Ballfield Road, Lincoln, MA which describes and explains the following deficiencies and the priority category(s) for which an application may be submitted to the Massachusetts School Building Authority in the future:

1. **Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children, where no alternative exists.** Deficiencies include :
 - a) High ground water leading to flooding
 - b) Wooden structure with no sprinkler system leading to safety concerns
 - c) Non-compliant septic system operating under variance
 - d) Asbestos-containing materials and lead in water supply pipes
 - e) Deteriorating and failing exterior window walls
 - f) Accessibility issues
 - g) Lack of security, uncontrolled site access & difficult traffic circulation
 - h) Leaking roof conditions
 - i) Obsolescent and under-capacity electrical system and controls
 - j) Moisture, mold & ventilation problems

5. **Replacement, renovation or modernization of the heating system in a schoolhouse to increase energy conservation and decrease energy related costs in the schoolhouse.** In spite of energy conservation programs the school continues to generate low scores in EPA's Energy Star rating system, and exceeds the energy usage of comparable schools by 25% or more. The Town has adopted an aggressive energy conservation by-law, and the current school building will prevent the Town from achieving its goals.

6. **Short term enrollment growth.** The Lincoln School anticipates receiving additional students from near-term shifts in demographics caused by the generational turnover of housing stock.

Statement of Interest for the Lincoln School, Lincoln, MA

7. **Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.** A study by Symmes, Maini & McKee Associates, confirmed by a subsequent MSBA Senior Study and a survey of existing conditions by the Office of Michael Rosenfeld, identified deficiencies, inadequacies or absence of the following spaces required to meet the School Committee's desired program of instruction:
- a) Size of selected classrooms in each of the schools.
 - b) Shortage of special education classrooms and tutorial rooms
 - c) Lack of cafeteria and insufficient kitchen area
 - d) Few teacher planning spaces
 - e) Poorly organized and located administrative areas
 - f) Inadequate art and music spaces
 - g) Health suite
 - h) Insufficient support and storage areas

and hereby further specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of a grant or any other funding commitment from the Massachusetts School Building Authority, or commits the Town of Lincoln to filing an application for funding with the Massachusetts School Building Authority.

Jennifer Glass
Chair, Lincoln School Committee

Dr. Rebecca McFall
Superintendent

Massachusetts School Building Authority

dated 14 March 2013 for BOS & SC vote

Next Steps to Finalize Submission of your FY 2013 Statement of Interest

Thank you for submitting your FY 2013 Statement of Interest (SOI) to the MSBA electronically. **Please note, the District's submission is not yet complete.** The District is required to print and mail a hard copy of the SOI to the MSBA along with the required supporting documentation, which is described below.

Each SOI has two Certification pages that must be signed by the Superintendent, the School Committee Chair, and the Chief Executive Officer*. Please make sure that **both** certifications contained in the SOI have been signed and dated by each of the specified parties and that the hardcopy SOI is submitted to the MSBA with **original signatures**.

SIGNATURES: Each SOI has two (2) Certification pages that must be signed by the District.

In some Districts, two of the required signatures may be that of the same person. If this is the case, please have that person sign in both locations. Please do not leave any of the signature lines blank or submit photocopied signatures, as your SOI will be incomplete.

**Local chief executive officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated as the chief executive office under the provisions of a local charter.*

VOTES: Each SOI must be submitted with the proper vote documentation. This means that (1) the required governing bodies have voted to submit each SOI, (2) the specific vote language required by the MSBA has been used, and (3) the District has submitted a record of the vote in the format required by the MSBA.

- **School Committee Vote:** Submittal of all SOIs must be approved by a vote of the School Committee.
 - For documentation of the vote of the School Committee, Minutes of the School Committee meeting at which the vote was taken must be submitted with the original signature of the Committee Chairperson. The Minutes must contain the actual text of the vote taken which should be substantially the same as the MSBA's SOI vote language.
- **Municipal Body Vote:** SOIs that are submitted by cities and towns must be approved by a vote of the appropriate municipal body (e.g., City Council/ Aldermen/Board of Selectmen) in addition to a vote of the School Committee.
 - Regional School Districts do not need to submit a vote of the municipal body.
 - For the vote of the municipal governing body, a copy of the text of the vote, which shall be substantially the same as the MSBA's SOI vote language, must be submitted with a certification of the City/Town Clerk that the vote was taken and duly recorded, and the date of the vote must be provided.

CLOSED SCHOOLS: Districts that have reported closed school information must download the report from the "Closed School" tab, which can be found on the District Main page. Please print this report, which then must be signed by the Superintendent, the School Committee Chair, and the Chief Executive Officer. A signed report, with original signatures must be included with the District's hard copy SOI submittal. **If a District submits multiple SOIs, only one copy of the Closed School information is required.**

ADDITIONAL DOCUMENTATION FOR SOI PRIORITIES #1 AND #3: If a District selects Priority #1 and/or Priority #3, the District is required to submit additional documentation with its SOI.

- If a District selects Priority #1, Replacement or renovation of a building which is structurally unsound or otherwise in

a condition seriously jeopardizing the health and safety of the school children, where no alternative exists, the MSBA requires a hard copy of the engineering or other report detailing the nature and severity of the problem and a written professional opinion of how imminent the system failure is likely to manifest itself. The District also must submit photographs of the problematic building area or system to the MSBA.

- If a District selects Priority #3, Prevention of a loss of accreditation, the MSBA requires the full accreditation report (s) and any supporting correspondence between the District and the accrediting entity.

ADDITIONAL INFORMATION: In addition to the information required with the SOI hard copy submittal, the District may also provide any reports, pictures, or other information they feel will give the MSBA a better understanding of the issues identified at a facility.

If you have any questions about the SOI process please contact Brian McLaughlin at 617-720-4466 or Brian.McLaughlin@massschoolbuildings.org.

Massachusetts School Building Authority

School District Lincoln

District Contact Rebecca McFall TEL: (781) 259-9409

Name of School Lincoln School

Submission Date 3/15/2013

SOI CERTIFICATION

To be eligible to submit a Statement of Interest (SOI), a district must certify the following:

- Ⓔ The district hereby acknowledges and agrees that this SOI is NOT an application for funding and that submission of this SOI in no way commits the MSBA to accept an application, approve an application, provide a grant or any other type of funding, or places any other obligation on the MSBA.
- Ⓔ The district hereby acknowledges that no district shall have any entitlement to funds from the MSBA, pursuant to M.G.L. c. 70B or the provisions of 963 CMR 2.00.
- Ⓔ The district hereby acknowledges that the provisions of 963 CMR 2.00 shall apply to the district and all projects for which the district is seeking and/or receiving funds for any portion of a municipally-owned or regionally-owned school facility from the MSBA pursuant to M.G.L. c. 70B.
- Ⓔ The district hereby acknowledges that this SOI is for one existing municipally-owned or regionally-owned public school facility in the district that is currently used or will be used to educate public PreK-12 students and that the facility for which the SOI is being submitted does not serve a solely early childhood or Pre-K student population.
- Ⓔ After the district completes and submits this SOI electronically, the district must sign the required certifications and submit one signed original hard copy of the SOI to the MSBA, with all of the required documentation described under the "Vote" tab, on or before the deadline.
- Ⓔ The district will schedule and hold a meeting at which the School Committee will vote, using the specific language contained in the "Vote" tab, to authorize the submission of this SOI. This is required for cities, towns, and regional school districts.
- Ⓔ Prior to the submission of the hard copy of the SOI, the district will schedule and hold a meeting at which the City Council/Board of Aldermen or Board of Selectmen/equivalent governing body will vote, using the specific language contained in the "Vote" tab, to authorize the submission of this SOI. This is not required for regional school districts.
- Ⓔ On or before the SOI deadline, the district will submit the minutes of the meeting at which the School Committee votes to authorize the Superintendent to submit this SOI. The District will use the MSBA's vote template and the vote will specifically reference the school and the priorities for which the SOI is being submitted. The minutes will be signed by the School Committee Chair. This is required for cities, towns, and regional school districts.
- Ⓔ The district has arranged with the City/Town Clerk to certify the vote of the City Council/Board of Aldermen or Board of Selectmen/equivalent governing body to authorize the Superintendent to submit this SOI. The district will use the MSBA's vote template and submit the full text of this vote, which will specifically reference the school and the priorities for which the SOI is being submitted, to the MSBA on or before the SOI deadline. This is not required for regional school districts.
- Ⓔ The district hereby acknowledges that this SOI submission will not be complete until the MSBA has received all of the required vote documentation and certification signatures in a format acceptable to the MSBA.

Chief Executive Officer *

School Committee Chair

Superintendent of Schools

(print name) (print name) (print name)

(signature) (signature) (signature)

Date Date Date

* Local chief executive officer: In a city or town with a manager form of government, the manager of the municipality; in other cities, the mayor; and in other towns, the board of selectmen unless, in a city or town, some other municipal office is designated to the chief executive office under the provisions of a local charter.

Massachusetts School Building Authority

School District Lincoln

District Contact Rebecca McFall TEL: (781) 259-9409

Name of School Lincoln School

Submission Date 3/15/2013

Note

The following Priorities have been included in the Statement of Interest:

1. Replacement or renovation of a building which is structurally unsound or otherwise in a condition seriously jeopardizing the health and safety of school children, where no alternative exists.
2. Elimination of existing severe overcrowding.
3. Prevention of the loss of accreditation.
4. Prevention of severe overcrowding expected to result from increased enrollments.
5. Replacement, renovation or modernization of school facility systems, such as roofs, windows, boilers, heating and ventilation systems, to increase energy conservation and decrease energy related costs in a school facility.
6. Short term enrollment growth.
7. Replacement of or addition to obsolete buildings in order to provide for a full range of programs consistent with state and approved local requirements.
8. Transition from court-ordered and approved racial balance school districts to walk-to, so-called, or other school districts.

SOI Vote Requirement

I acknowledge that I have reviewed the MSBA's vote requirements for submitting an SOI which are set forth in the Vote Tab of this SOI. I understand that the MSBA requires votes from specific parties/governing bodies, in a specific format using the language provided by the MSBA. Further, I understand that the MSBA requires certified and signed vote documentation to be submitted with the SOI. I acknowledge that my SOI will not be considered complete and, therefore, will not be reviewed by the MSBA unless the required accompanying vote documentation is submitted to the satisfaction of the MSBA.

Potential Project Scope: Renovation/ Addition

Is this SOI the District Priority SOI? YES

District Goal for School: Please explain the educational goals of any potential project at this school

The Lincoln Public Schools provides an educational experience of the highest quality for its students. The district was initially configured with separate schools, housed in individual buildings on the Ballfield Road campus. The 1994 school building project served to provide a new library media center and several classrooms but more importantly, it connected the Smith Elementary School building with the Brooks Middle School building and moved students in kindergarten into a new wing of the Smith School. This began the process of shifting to a single kindergarten to grade eight organizational structure. During the same period shifts in the scope of the Lincoln METCO program, implementation of an inclusion model for special education programming, the addition of computer labs and classroom computer centers and the adoption of interdisciplinary, inquiry-

based instructional pedagogy took full advantage of the school facilities. With the Education Reform Act of 1993, programs such as expanded world language instruction, beginning as early as grade three (Lincoln's current curricular model), science and engineering technology and programs to align the district's educational program with Massachusetts' Curriculum Frameworks caused the school facility to be used differently. Lincoln has a long tradition of small average class sizes with high levels of support from instructional assistants, tutors and special subject teachers. Educational programs built on a small class-size delivery model require higher levels of staffing as well as additional classroom spaces. One significant benefit to this programming option is the district's ability to educate most students in the least restrictive environment, a requirement of the special education regulations. The Lincoln School has been able to educate essentially all students in the general education classroom, with appropriate accommodations and modifications. The educational vision for the Lincoln School is to increase opportunities for interdisciplinary project-based learning and integrating educational technologies to make learning more powerful. These program delivery models require project workspace where teachers and students can establish working environments that are less traditional than the typical classroom. Demonstration and presentation spaces are also necessary to support project-based learning. The goal of the Lincoln School is to have every student fully engaged in their learning, having teachers serve as instructional coaches, guiding students' research, inquiry and assessment through demonstration. This provides opportunities for the appropriate differentiation of instruction, allowing high performing students the opportunity to extend and expand their learning, while other students make sufficient and appropriate progress toward meeting the district's learning standards. The goal for the proposed project is to provide for a learning environment that allows for: (1) greater differentiation of instruction for individual student needs; (2) enhanced project-based learning and technology integration; (3) a variety of learning spaces to accommodate individual, small group and large group learning experiences; (4) improved environmental factors that impact learning; i.e., air quality, lighting, temperature regulation.

District's Proposed Schedule: What is the District's proposed schedule to achieve the goal(s) stated above?

** Sep 2013 - Invitation from MSBA ** Oct 2013 - Selectmen and SC vote for FSA ** Nov 2013 - Town Meeting vote for funds for new Schematic Design ** Nov 2013 - Begin Feasibility update ** Mar 2014 - Begin Schematic Design phase ** Jul 2014 - SBC vote to submit SDR ** Oct 2014 - Selectmen and SC vote for PSBA ** Nov 2014 - Town Meeting and ballot vote for project funding ** Nov 2014 - Begin Design Development phase ** Feb 2015 - possible vote for CM@Risk by School Building Cmte and School Comte -- outcome affects procurement strategy ** May 2015 - Begin Contract Documents phase ** Oct 2015 - Invite bids ** Jan 2016 - Award construction contract ** Feb 2016 - NTP and ground breaking

Is this part of a larger facilities plan? YES

If "YES", please provide the following:

Facilities Plan Date: 10/23/2007

Planning Firm: Symmes Maini & McKee Associates (SMMA)

Please provide an overview of the plan including as much detail as necessary to describe the plan, its goals and how the school facility that is the subject of this SOI fits into that plan:

The Master Plan Study report summarizes the work of Symmes Maini & McKee Associates (SMMA) and the Lincoln Public Schools Master Plan Study Committee during the period July 2006 - October 2007. The study process included an existing facilities condition study to validate and update a facilities review performed by LPBA in 2004; a review of current capacity, space size and usage; interviews and a visioning session to explore the impacts of curriculum development and future requirements; and the creation of several options to correct identified deficiencies in facility condition and educational program support. This report documents both the process and resulting options along with estimated project budget costs for dealing with the existing K-8 school located on the Ballfield Road Campus. Numerous meetings with the Master Plan Study Committee were held to discuss issues and options. Based on educational, enrollment and infrastructure needs, conceptual planning options were developed for three levels of activity: (1) minimal renovations only to provide classroom space to meet enrollment (no programmatic educational upgrades); (2) renovations and additions with programmatic upgrades; and (3) renovations, additions, and consolidation by new construction with programmatic upgrades. The following is a list of the Key Points discussed in this Master Plan Study: (1) The 1994 additions and minor renovations (the Link project), did not touch a major portion of the Smith and Brooks buildings. (2) Many of the existing building systems are nearing or are at the end of their useful life, and the rate of deterioration is accelerating. (3) The current school populations are not projected to increase significantly, however that could change rapidly under several scenarios for changes in the Town's demographics over the next decade. (4) The building spaces as currently configured do not meet current best

practices for school programs, State specifications and guidelines, and federal ADA standards. (5) As in the case of most school districts in the Commonwealth, the Lincoln Public Schools have not practiced consistent predictive and preventive maintenance over the 15 years preceding the report. SMMA presented four possible solutions for consideration within the Master Plan Study. Throughout this SOI we will refer to the SMMA report. The existing conditions noted by SMMA were subsequently verified by an MSBA Senior Study and by the Office of Michael Rosenfeld during an MSBA-sponsored Feasibility Study.

Please provide the current student to teacher ratios at the school facility that is the subject of this SOI: 20 students per teacher

Please provide the originally planned student to teacher ratios at the school facility that is the subject of this SOI: 20 students per teacher

Does the District have a Master Educational Plan that includes facility goals for this building and all school buildings in District? YES

If "YES", please provide the author and date of the District's Master Educational Plan.

"K-8 Master Plan Study, Lincoln Public Schools" Edward R. Frenette, AIA, Project Director Symmes, Maini & McKee Associates October 23, 2007

Is there overcrowding at the school facility? NO

If "YES", please describe in detail, including specific examples of the overcrowding.

Has the district had any recent teacher layoffs or reductions? NO

If "YES", how many teaching positions were affected? 0

At which schools in the district?

Please describe the types of teacher positions that were eliminated (e.g., art, math, science, physical education, etc.).

Has the district had any recent staff layoffs or reductions? NO

If "YES", how many staff positions were affected? 0

At which schools in the district?

Please describe the types of staff positions that were eliminated (e.g., guidance, administrative, maintenance, etc.).

Please provide a description of the program modifications as a consequence of these teacher and/or staff reductions, including the impact on district class sizes and curriculum.

Does Not Apply

Please provide a detailed description of your most recent budget approval process including a description of any budget reductions and the impact of those reductions on the district's school facilities, class sizes, and educational program.

The annual budget process in Lincoln begins in August when the District administrators meet to consider the School-Committee goals and objectives for the coming school year, ways to implement them and changes to be considered for the following fiscal year. These discussions lead to development of the level-services budget. During the month of September the School Committee provides its detailed budget guidance, the Superintendent directs the creation of a level-services budget and the school- and district-level administrators propose improvement initiatives for consideration. The Town Finance Committee (FinCom) provides its budget guidance in late September or early October. After some additional evaluation and analysis, the Superintendent proposes a Preliminary Budget to the School Committee. The School Committee discusses the budget and the implications of funding decisions over the next two months, considering any "gap-closing" suggestions proposed by the Superintendent. In early December, the School Committee presents its Approved Budget to the FinCom, who evaluate all requests for funds in excess of their earlier guidance and provide decisions in the form of their Proposed Budget to be presented at Town Meeting in March. The Lincoln Town Meeting is the approving authority for the budget affecting the Lincoln School directly. The Lincoln School Committee has been able to conduct its desired educational program (as limited by the constraints posed by the existing school facilities) within the FinCom budget guidance for the past five years.

General Description

BRIEF BUILDING HISTORY: Please provide a detailed description of when the original building was built, and the date(s) and project scopes(s) of any additions and renovations (maximum of 5000 characters).

The Town of Lincoln has a unique campus setting with the pre-school, elementary and middle schools currently serving the pre-Kindergarten through Grade Eight school population at one location. The current Ballfield Road Campus facilities are comprised of a grouping of buildings that date from 1948 through 1994. The following describes the chronology of the buildings that make up the Lincoln Public School system:

- * Smith Elementary School, constructed in 1948, with a six classroom and gymnasium addition in 1953, a four classroom addition in 1955, and a four classroom Kindergarten wing with computer lab in 1994.
- * Hartwell Pre-School, constructed in 1957 as an elementary school, with the addition of four classroom Pods in 1957, 1959 and 1963. The Pods are not currently used for educational purposes, and would not meet current standards.
- * Brooks Middle School, constructed in 1963, with a six classroom addition in 1970 and a small addition containing technical education and life sciences classrooms in 1994.
- * Reed Gym, constructed in 1970 to provide gymnasium and locker facilities for the middle school.
- * Library/Link Building, constructed in 1994 to provide six classrooms, a computer lab, keyboarding classroom, music classroom, health suite, and library to link the Smith and Brooks Buildings. The health suite, computer lab, and library are shared by the elementary and middle schools.

The 1994 project provided some renovation of the Smith Building, but did not significantly touch the existing Brooks Building or Reed Gym.

TOTAL BUILDING SQUARE FOOTAGE: Please provide the original building square footage PLUS the square footage of any additions.

139477

SITE DESCRIPTION: Please provide a detailed description of the current site and any known existing conditions that would impact a potential project at the site. Please note whether there are any other buildings, public or private, that share this current site with the school facility. What is the use(s) of this building(s)? (maximum of 5000 characters).

The Ballfield Road Campus of the Lincoln Public Schools is 54.39 acres in size, generally flat, particularly near the Lincoln School. The site contains numerous wetland areas, has a tributary to a public water supply (the Cambridge Reservoir) running through it, is within the Zone II Wellhead Protection area for the Town's main drinking water supply well, and has a high ground water table. As a consequence, the school septic system, while functioning, operates under a variance from the DEP. The high ground water table causes water to flow into the Smith basement, and creates the potential for mold and mildew to develop, as well as damage to the boilers and circulation pumps. Flooding in the Smith boiler room has occurred three times in the past nine years.

The site also contains the Town outdoor swimming pool and associated outbuildings, and the Hartwell School complex which houses the Lincoln Public School Preschool and supporting spaces, a private preschool of four classrooms, the District offices, maintenance and custodial support areas, the Recreation Department offices, and an after-school care program. The Hartwell Complex is some distance from the Lincoln School and is not part of the Lincoln School project consideration.

ADDRESS OF FACILITY: Please type address, including number, street name and city/town, if available, or describe the location of the site. (Maximum of 300 characters)

Lincoln School
 Ballfield Road
 Lincoln, MA 01773

BUILDING ENVELOPE: Please provide a detailed description of the building envelope, types of construction materials used, and any known problems or existing conditions (maximum of 5000 characters).

The Smith building is a one story building with a mechanical basement and crawl spaces for piping. There have been three small classroom additions to the original building. The original 1948 building and the 1953 and 1955 classroom additions were constructed of columns and load bearing masonry walls (brick and block) with wood framed roof members. The 1994 kindergarten classroom addition was constructed with structural steel. Most of the architectural components of the building are in serviceable to good condition (with the exception of the 1955 classroom addition and some features of the original 1948 building), and the newest addition in good condition.

The Library/Link building is a one story building with a mechanical mezzanine that contains the air handling equipment plant. The Library/Link addition contains classrooms, Health Suite, Computer Lab, Computer network head-end, and the Library. The Library/Link addition was constructed of structural steel with a masonry veneer (brick) over light gauge steel framing for the exterior envelope. Most of the architectural components of the building are in good condition. Roof leaks along the areas where there are rising walls above the lower roof areas have been reported. The architectural finishes in this facility are kept in good repair by the maintenance and custodial staffs, and appear in good physical condition.

The Brooks Building is a one-story building with a double height Auditorium space. The mechanical equipment plant is located at the East end of the building in a depressed slab area. There have been two small classroom additions to the building that enclose a courtyard at the rear. The original building was constructed of load bearing masonry walls (brick and block) with glue-laminated beam roof structure at the classrooms and structural steel beams and joists over the Auditorium area. The most recent classroom addition was constructed of structural steel with a masonry veneer over light gauge steel framing for the exterior envelope. Most of the architectural components of the building are in fair to good condition with the newest addition in good condition. The roofs leak, especially over the areas of the original building. The architectural finishes in this facility are kept in good repair by the maintenance and custodial staffs. There is a concealed spline acoustical tile ceiling throughout the Lobby and Corridors around the Auditorium where the tile has tested positive for asbestos. The Auditorium and Stage are surrounded by a double loaded Corridor that also serves the Science Labs, Art, and Music rooms. The Auditorium seating is original to the building and there are no provisions provided for accessible seating. There are some non-conformance accessibility issues at doors, threshold heights and with related hardware.

The Reed Gym is a one story building with a double height gymnasium. The mechanical equipment plant is located in the Brooks building. There has been one small addition to the building for cafeteria storage at the rear. The original building was constructed with vertical precast concrete plank and concrete masonry load bearing walls with steel truss roof structure for the gymnasium area and concrete masonry load bearing walls with steel bar joist roof structure over the locker room area. The storage room addition was constructed of concrete masonry load bearing walls and light gauge steel roof rafters. The gymnasium is also used as the cafeteria as there is a small warming/prep kitchen adjacent to the gymnasium. Most of the architectural components of the building are in poor condition with the newest addition in good condition. The vertical precast concrete planks are uninsulated, saturated and failing. The locker room, shower facilities and internal arrangement are substandard and do not adequately support the physical education and athletics programs. There are many non-conformance accessibility issues at doors and with related hardware. The entrance doors to the Reed Field House do not meet the current Access Code requirements. Other than the concrete wall panels, locker rooms, accessibility deficiencies, and wear of original interior finishes, the facility is in serviceable physical condition.

Additional details and existing condition reports are included in the SMMA Master Plan report, submitted with this SOI.

Has there been a Major Repair or Replacement of the EXTERIOR WALLS ? YES

Year of Last Major Repair or Replacement: 1994**Description of Last Major Repair or Replacement:**

Along with the addition of the Link/Library Building and Kindergarten wing in 1994, a portion of the Smith wooden window walls were replaced with insulated aluminum walls containing modern double-glazed windows.

Has there been a Major Repair or Replacement of the ROOF? YES**Year of Last Major Repair or Replacement:** 2009**Type Of ROOF:** PVC**Description of Last Major Repair or Replacement:**

The original built-up roofs in the Brooks and a portion of the Smith Buildings were removed and replaced by EPDM roofing in 1988. The additions in 1994 brought their own new roofs. The constant roof leaks in the Reed Gym required the replacement of the original tar and gravel roof with an insulated PVC roof in 2009.

Has there been a Major Repair or Replacement of the WINDOWS? YES**Year of Last Major Repair or Replacement:** 1994

Type Of WINDOWS: modern double-glazed windows in a portion of the Smith Building.

Description of Last Major Repair or Replacement:

The original window walls in the Smith 1955 addition, portions of the original 1948 Smith Building and the 1963 and 1970 portions of the Brooks building all have wooden window walls with inefficient glazing. Storm windows have been installed over single-glazed windows and wood has been painted and caulked. The wood framing is failing on many of the elevations. The transite panels below the windows are also energy-inefficient.

MECHANICAL and ELECTRICAL SYSTEMS: Please provide a detailed description of the current mechanical and electrical systems and any known problems or existing conditions (maximum of 5000 characters).

Smith Building classrooms are heated and ventilated with hot water unit ventilators. Each space has an exhaust. Unit ventilators and exhaust system are in fair to good shape. The teachers lounge unit ventilators (2) have DX cooling coils. The boilers for Smith and Link/Library Building are located in the basement. The basement has flooded previously, with the high water line above the burner level. Hot water pumping is constant volume (No VFD's). Two pumps operate in a lead/lag manner. The boiler, breeching and pumps are approximately 25 years old. Due to flooding, the boilers are in fair to poor shape. The H&V unit for the Smith gym is located in the attic and is 19 years old. Controls are pneumatic, controlled by the DDC system through EP switches. Various fan coil units and other terminal units (for heating only and heating/cooling) supply heat to the balance of the spaces. The electrical service to Smith is provided through the service of the Link/Library building. Newer electrical distribution equipment is manufactured by GE, with some original equipment manufactured by Pelham Electrical Mfg.

The Link Building is primarily occupied by the library and associated offices. Hot water is piped from the Brooks Boilers to this building. There is a large indoor variable volume air handling unit in the attic space, above/adjacent to the Library. VAV boxes serve the different 'zones' in the Library and offices. This unit also serves various interior spaces in the building, along the corridor. An air cooled condensing unit is mounted on the roof outside of the attic space. All equipment is 19 years old and appears in serviceable condition. This unit and VAV boxes are controlled by the DDC over pneumatic valves system. Classrooms in the Library/Link Building are heated and ventilated by hot water unit ventilators, 19 years old in fair condition. The electrical service is underground via a utility owned pad-mounted transformer; electrical distribution equipment is manufactured by GE. The fire alarm system is an EST analog system whose panel is no longer supported. The District anticipates that the Town will provide funds to replace the panel in FY13, which will alleviate a significant portion, but not all, of the system problems. Lights that did not meet the criteria of the utility program were retrofitted with T8 lamps and more energy efficient ballasts. The cable infrastructure for the computer system consists mainly of Cat 5 cable and is inadequate.

The Brooks building has a boiler room associated with it. The boiler room provides hot water to the Brooks Building and the Reed Fieldhouse Gym building. Two boilers, one 19 years old and one 43 years old, operate in a lead/lag arrangement. Both boilers' burners are 15 years old and are in fair to good shape. The 43-year-old boiler had its tubes replaced approximately 7-8 years ago. While the new boiler is in fair to good condition, the older boiler has reached its expected useful life and should be replaced. There are separate pumps for the Reed Gym and Brooks Building, recently rebuilt. There are a series of inline hot water booster pumps associated with the hot water distribution system. These pumps are located in the crawlspace

(in pits) below the floor of the school, in different locations making them difficult to monitor and maintain. Controls for the building are a combination of digital and pneumatic. Classrooms in Brooks are heated and ventilated with hot water unit ventilators, which have all been replaced within the past 11 years. Each classroom is provided with an exhaust fan, roof mounted and in fair shape. The Auditorium and Lecture Hall are served by single zone heating and ventilating units. These units are controlled by failing mercury switches and appear to have exceeded their expected useful life. The Auditorium, Lecture hall and Stage areas are each served by a dedicated H&V unit. Original electrical distribution equipment is manufactured by Federal Pacific. The fire alarm system is a troubled EST analog system as described above. The building has no sprinkler system, so building is protected only by this system. Lights have been retrofitted by a recent utility program with T8 lamps and more energy efficient ballasts. The electrical switchgear is original and is the subject of reliability concerns.

The kitchen area of the Reed Gym was renovated 19 years ago, and is in fair condition, but insufficient to support a modern school lunch program. The Gym is served by horizontal Unit Ventilators, which are original to the building (approximately 32 years old), and were the subject of intensive maintenance recently. There is no heat generating equipment in the Gym. Hot water is piped to the gym, from boilers in the a

Has there been a Major Repair or Replacement of the BOILERS? YES

Year of Last Major Repair or Replacement: 2010

Description of Last Major Repair or Replacement:

The original oil-fired Smith boilers were replaced in 1988 with gas-fired boilers of sufficient capacity. A significant repair was required to make the boilers operational following the 2010 Smith basement flood.

Has there been a Major Repair or Replacement of the HVAC SYSTEM ? YES

Year of Last Major Repair or Replacement: 2006

Description of Last Major Repair or Replacement:

Over the four-year period ending in 2006, all of the unit ventilators in both buildings of the Lincoln School were replaced with new McQuay unit ventilators. Those in the Smith and Link buildings contain a unit package which is tied into the EMS; those in the Brooks Building are rigged for local control, pending extension of the EMS.

The HVAC system installed in 1994 to service the Library and portions of the Link Building provides both heating and cooling. Both cooling compressors, along with portions of the control systems, have been replaced in the past four years.

Has there been a Major Repair or Replacement of the ELECTRICAL SERVICES AND DISTRIBUTION SYSTEM? YES

Year of Last Major Repair or Replacement: 1994

Description of Last Major Repair or Replacement:

The incoming switchgear in the Smith Building was replaced in the 1994 project. The electrical distribution system in the Brooks Building and portions of the Smith Building are essentially original, over 50 years old.

BUILDING INTERIOR: Please provide a detailed description of the current building interior including a description of the flooring systems, finishes, ceilings, lighting, etc. (maximum of 5000 characters).

Much of the interior finishes and lighting in the Smith and Library/Link Buildings are 19 years old or less, having been installed with the 1994 project, or replaced as part of the annual "Classroom Rehabilitation" warrant program over the past twelve years. In general, floors are VCT or carpet in Smith and the Library/Link; VAT, carpet or carpet and/or VCT over VAT in Brooks. Walls are painted CMU or sheetrock on studs, as was popular at the time of construction. Much of the ceiling is exposed roof and rafters, with and without acoustical tiles. Hallways have full or partial tile ceilings, mostly spline construction. Some of the ceiling tile in the Brooks Building contains asbestos, which complicates maintenance. Ceiling condition varies. Most of the VAT in Brooks was removed in 2009.

Most of the classroom lighting in Smith and Brooks comes from pendant fluorescent tube lighting, relamped to T8 in 2004. In hallways, the lighting is T8 fluorescent tubes in recessed or surface-mount fixtures. While the fixtures may have been replaced with more energy-efficient types, the lighting levels in several areas of the facility are insufficient.

PROGRAMS and OPERATIONS: Please provide a detailed description of the current programs offered and indicate whether there are program components that cannot be offered due to facility constraints, operational constraints, etc. (maximum of 5000 characters).

PROGRAM INADEQUACIES - SMITH BUILDING

Classrooms

* The Kindergarten classrooms and several other classrooms are slightly smaller than state standards.

Teacher Planning

* Teachers have no dedicated meeting space to conduct ongoing curriculum planning and delivery. Teachers' room are used for individual music lessons and by parent volunteers for PTO activities.

Gymnasium

* Dual use for the lunch program limits use of space for physical education to allow for food service preparation, set-up service and clean-up for lunch. Dual use creates scheduling conflicts and limits programming options.

* There is no full service kitchen; the food is prepared elsewhere and reheated in a small facility.

* Limited use of space for assembly. Stage is small, and is used for educational programs from time to time.

Health Suite

* Health Suite is located in the Library/Link building and shared with middle school.

* Satellite Nurse Station in Smith is small.

PROGRAM INADEQUACIES – LIBRARY/LINK

Music

* Music room for elementary school is more than 20% below minimum state standards.

IMC/Library

* The layout of Library is not conducive to instruction because it is shared between the two schools, which make it difficult to accommodate more than one class at a time. This is especially true when it involves classes from the elementary and middle school grades simultaneously. The instructional space is not configured properly for teaching library skills.

* Insufficient electrical power to support the needs of the current educational program.

Computer Lab

* The Computer Lab has been recently equipped with new technology, but the Word Processing/Keyboarding Lab is more than 20% below minimum state standards.

Engineering Technology

* Science classes for engineering technology are delivered in a general classroom which is not properly configured, lacks adequate project storage and instructional space.

PROGRAM INADEQUACIES - BROOKS

Classrooms

* Some classrooms lack sufficient storage for equipment, supplies, or project storage.

Teacher Planning

* Teachers have no dedicated meeting space to conduct ongoing curriculum planning and delivery.

Auditorium/Lecture Room

* The Auditorium and Lecture Room spaces are non-compliant with access requirements and accessible seating.

* The Lecture Room layout is not conducive for use as assembly or instruction space. The tiered seating arrangement makes it difficult to supervise.

Art & Music

* Music room has tiered seating, non-compliant with access requirements and incompatible with current educational practices.

* The Music room is too small for the current and growing band , growing chorus and orchestra programs. There are no spaces available for small group instrumental music lessons.

* Toilet rooms are non-compliant with access requirements.

PROGRAM INADEQUACIES – REED GYM

Gymnasium

* Dual use for the lunch program limits use of space for physical education to allow for food service preparation, set-up service and clean-up for lunch. Dual use creates scheduling conflicts and limits programming options.

* Limited use of space for assembly.

* Kitchen is more than 75% below minimum state standards for a serving kitchen and lacks appropriate storage.

Locker Rooms

* Locker rooms do not have direct access for supervision from Physical Education Instructor.

* Locker and shower facilities are substandard and do not support the physical education or athletic programs.

* Locker and toilet rooms are non-compliant with access requirements.

Health Suite

* Location of Health Suite is in the Library/Link building making emergency response time difficult.

Administration

* Location of Health Instructor's office is not adjacent to the entrance of the Reed Gym.

* Because the building is not connected to the middle school, security and visibility to main entrance is a concern.

* Without a sheltered walkway, movement of students from the main building to the Field House for classes and lunch is impacted by inclement weather.

GENERAL COMMENTS, ALL AREAS

Special Education

* Current needs are not met due to inappropriateness and size of spaces.

* Lack of break-out / tutorial spaces connected to classrooms to support the full-inclusion

Support/Storage

* Storage space for equipment, supplies, and records is not sufficient.

* Classrooms lack sufficient storage for equipment, supplies, or project storage.

Administration at all Buildings.

* Is in poor location for public access. No vestibule or dirt control structure.

* Security and visibility to main entrance is a concern. The School Committee considers the current access control arrangements and facilities to be a significant area of risk.

CORE EDUCATIONAL SPACES: Please provide a detailed description of the Core Educational Spaces within the facility, a description of the number and sizes (in square feet) of classrooms, a description of science rooms/labs including ages and most recent updates, and a description of the media center/library (maximum of 5000 characters).

EXISTING K THROUGH 4 EDUCATIONAL SPACES

The MSBA guidelines identify 173 square feet per student for a school with an enrollment between 360 and 369. The draft standards also define a classroom size of 1200 square feet including toilet facilities for the Kindergarten classroom and 950 square feet for the general elementary classrooms. Smith's Kindergarten classrooms are 1180 square feet including the toilet facilities. The 1200 square foot classroom is intended to accommodate a standard size Kindergarten class, in Lincoln's case, eighteen students. Smith's general classrooms vary in size from 887 square feet to 1067 square feet. The MSBA guideline of a 900-1,000 square foot classroom is intended to accommodate a standard size class, in Lincoln's case, nineteen to twenty-two students.

The area of Smith and the portion of the Library/Link building that is dedicated to the Kindergarten through Fourth Grade programs totals to approximately 60,846 gross square feet. This accounts for nineteen general classrooms, one collaborative classroom, a number of special education rooms, office area, Art and Music, Gymnasium, and the Library which is shared with the Middle School. Based on the MSBA allowance of 173 square feet per student, this area is sufficient to support 352 students.

EXISTING 5 THROUGH 8 EDUCATIONAL SPACES

The MSBA guidelines identify 190 square feet per student for a middle school with an enrollment of less than 400. The draft

standards also define a classroom size of 950 square feet for the general middle school classrooms. Brook’s general classrooms vary in size from 884 square feet to 1523 square feet. The MSBA guideline of a 900-1,000 square foot classroom is intended to accommodate a standard size class, in Lincoln’s case, twenty-two to twenty-four students (depending upon grade).

The Grade 5-8 area is made up of the Brooks Building, Reed Gym and the portion of the Library/Link building that is dedicated to the grade 5 through 8 programs, and totals to approximately 73,922 gross square feet. This area includes sixteen general classrooms, three science classrooms, a number of special education rooms, office area, Art and Music, Gymnasium, and the Library which is shared with the Elementary School. The Auditorium is used for middles school assemblies and the music and drama programs, and there are other spaces such as the gymnasium and library that are larger than MSBA standards and areas required to support the METCO program that when included in the overall square footage, would imply that there is more than sufficient space to support the educational programs for the Grades 5-8 population. If we were to deduct 18,600 gross square feet attributable to the portion of the existing area that is either for community use, oversized gymnasium and library, METCO program support areas, and other inefficiencies due to the layout of the existing building, we arrive at 55,322 gross square feet as the area that supports the Grades 5-8 education. Then, based on the MSBA allowance of 190 square foot per student, this area is sufficient to support 291 students.

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SCIENCE ROOMS/LABS

The Brooks Building has three Science Classrooms:

- 8th Grade 1322 sq ft
- 7th Grade 1256 sq ft
- 6th Grade 1151 sq ft

All three are piped for water and gas. Two of the three date from the original, 1970 construction of the Brooks Building; one was the subject of a fire in 2008 and was restored to the same standards as the other two.

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IMC/LIBRARY

The Library was constructed in 1994 as part of the Link project, and is shared by the K-4 and 5-8 programs. It currently contains approximately over 26,000 books in 2,800 square feet. The space is attractive and functional as a lending library, but has no appropriate educational space to teach technology-assisted library skills. These important classes are conducted in a jury-rigged space taken from the larger library.

The Lincoln School contains three computer/media centers. Two satellite off the Library in the Link Building: the Word Processing/Keyboarding room (692 sq ft), used primarily by the K-4 program for basic skill development, and the Bjork Computer Lab (1063 sq ft), used primarily by the 5-8 program for educational program support as well as MIDI and foreign language programs. In the Smith Building, the Matloff Computer Lab (1095 sq ft), is used primarily by the K-4 program for educational program support. All three computer labs have 24 student and 1 teacher workstations, and a mounted and integrated interactive whiteboard.

CAPACITY and UTILIZATION: Please provide a detailed description of the current capacity and utilization of the school facility. If the school is overcrowded, please describe steps taken by the administration to address capacity issues. Please also describe in detail any spaces that have been converted from their intended use to be used as classroom space (maximum of 5000 characters).

EXISTING SMITH BUILDING CAPACITY

The current capacity is a function of the number of classrooms needed for regular and collaborative or special education as well as the spaces needed to support student and faculty related educational needs and activities. Using the town standard of

eighteen to twenty-two students per classroom for grades Kindergarten through Four, we have calculated the capacity for the Smith Building as shown below:

INVENTORY OF EXISTING K THROUGH 4 SPACE

- Total Rooms 43
- (purpose & number available)
- Kindergarten Classrooms 3
- Grades 1 - 4 Classrooms 16
- Collaborative 1
- Special Education 14
- Art 1
- Music 1
- Library/LMC 1
- Cafeteria 0
- Re-Therm Kitchen 1
- Stage 1
- PE/Gymnasium 1
- Auditorium /Assembly 0
- Computer Lab 1
- Administration 2
- Nurse 1, shared w/MS
- Guidance 2
- Staff Work Area 1
- Staff Lounge 1

- Available Classroom Space 19
- Student Capacity @ Classrooms
- Kindergarten 64
- Grades 1-4 288
- Total Capacity 352

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EXISTING BROOKS BUILDING CAPACITY

The current capacity of the middle school is a function of the number of general classrooms (homerooms) times the number of students per classroom and then multiplied by a scheduling factor to determine actual capacity as well as special education classrooms and support spaces required. Using the town standard of twenty-two to twenty-four students per classroom for Grades Five through Eight, we have calculated the capacity for the middle school as shown below:

INVENTORY OF EXISTING 5 THROUGH 8 SPACE:

- Total Rooms 60
- (purpose & number available)
- General Classrooms (Math, Eng, SS, World Lang) 16
- Science Classrooms/Labs 3
- World Language Lab 0
- Technology Education Classroom 1
- Technology Education Shop/Lab 0
- Health Classroom 0
- Collaborative 0
- Special Education - Classroom 1
- Special Education - Small Group 3
- Special Education - Resource 1

Art 1
 Music 1
 Library/LMC (Shared with Smith School) 1
 Cafeteria 0
 Kitchen 1
 Stage 1
 PE/Gymnasium (2 teaching stations/gym) 1
 Auditorium/Assembly 1
 Computer Lab 0
 Administration 6
 Nurse 4
 Guidance 2
 Staff Work Area 1
 Staff Lounge 1

Available Classroom Space 19
 Maximum Capacity 352
 Scheduling Factor @ 85% 299

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At least four areas were converted from their intended use for classes:

- * An area originally designed to be a satellite library area for the 1st and 2nd Grades has been converted and used to deliver special educational services to small groups.
- * An area used for teaching home economics was partially converted for middle school social studies.
- * A space housing HVAC equipment is used for Special and General Education tutorials and counselling, for students without hearing impairments.
- * A hallway area originally part of the egress system was walled in to provide an area to deliver literacy support services. The door is unlocked and signed, and the area continues to provide an emergency exit.

MAINTENANCE and CAPITAL REPAIR: Please provide a detailed description of the district’s current maintenance practices, its capital repair program, and the maintenance program in place at the facility that is the subject of this SOI. Please include specific examples of capital repair projects undertaken in the past, including any override or debt exclusion votes that were necessary (maximum of 5000 characters).

The Town funds maintenance and capital repairs in three ways:

- * Funds for annual inspections, maintenance and repairs are included directly in the School Committee's operating budget. For FY13 this amounts to \$88,323. The maintenance force for the district is 3.2 FTE, a portion of which is allocated to the Lincoln School. The Lincoln School total operating budget for maintenance is \$183,962 including these allocated personnel costs. This figure does not include the value of repairs and maintenance performed by custodians or by the maintenance supervisor.
- * \$75,000 was appropriated as a separate maintenance warrant article during past Town meetings. \$50,000 is designated for classroom rehabilitation, and has been used for the univent replacement program, repainting of classrooms and common areas, replacement of carpets, the repair of window shades and the replacement of blackboards with whiteboards. This continues a classroom rehabilitation program begun in 2003. \$25,000 is designated for preventive maintenance and has been used to rebuild pumps, clean boilers, service air compressors and exhaust fans and replace HVAC components. This is the sixth year of a designated, multi-year preventive maintenance program.
- * Capital repair projects may be proposed by the School Committee, vetted by the Town's Capital Planning Committee and approved at Town Meeting. These amounts vary from year to year, but typical warrants for the past few years included the following Lincoln School projects:

FY05

Removal of Canopy Phase I ** \$33,600

HVAC System Repairs \$50,200

Upgrade Site Lighting \$19,000

** Canopy had fallen into significant disrepair and was determined to be a safety hazard

FY06 -- Removal of Canopy Phase II \$25,000

FY07

Replace Brooks Connector Window Wall \$32,000

Phase 1 Exterior Door Crash Hardware \$ 8,000 (for classrooms, to meet ADA and safety regulations)

Replace Brooks Skylights \$17,600

Replace Smith Gutters and Downspouts \$16,500

Repair & Relocate Sewage Pump Controls \$14,000

FY08

Construct Re-therm Kitchen Smith Gym \$60,000

Phase 2 Exterior Door Crash Hardware \$14,400

Replace Field House Dividing Curtain \$10,000

Field House Exterior Joint Resealing and Interior Painting \$55,000

FY09

Exterior Painting Schools \$25,000

Emergency Access Way, Lincoln Campus \$25,000

FY10

Replace Library A/C Compressor & controls \$16,500

Replace VAT with VCT, Brooks Auditorium block \$49,750

Replace Reed Gym Roof \$160,000

FY11

Reseal Seams, Brooks Roofs \$55,000

Replace/Seal Asphalt paving, Various Locations on the Lincoln Campus \$21,000

These capital repair projects required an override for FY05, FY06 and FY07, but not for FY08-FY11. The 2009 project to replace the Reed Gym roof was a capital exclusion. The Town has supported projects requiring significant funding (1994 Library/Link project and other municipal buildings) requiring bonding as well as projects requiring more modest funding (1988 and 2009 roof replacements) through capital exclusion. The Town has passed overrides in 20 of the past 30 years, when required, so there is little question of Town support for sensible projects.

Priority 1

Question 1: Please provide a detailed description of the perceived health and safety problem(s) below. Attach copies of orders or citations from state and/or local building and/or health officials.

Problem Areas

1. Ground Water. The Lincoln Campus is constructed on low-lying, filled ground next to a tributary of the Cambridge Reservoir, a public water supply. The water table rises to within a few feet of the surface, and the site is relatively flat, allowing for little natural drainage. The oldest portion of the Smith Building, constructed in 1948, has a heating plant based on two boilers in a basement boiler room whose floor is 10 feet below ground level. During the majority of the year water flows into the basement through cracks in the old slab, and sometimes directly through a connection to the partial crawlspace under the Smith Building. Picture 1.11 shows the results: a floor which is constantly wet. Pictures 1.12 and 1.13 show water bubbling up out of a crack in the floor to the height of 2-1/2", and some of the damage caused by a flood in 2006. The flood waters rose to a height above the burners, damaged the fire eyes and control systems, and reduced the efficiency of both boilers. One similar flood was reported occurring in 1990, two years after the boilers were installed; six events have occurred during the past 25 years. In 2010, a heavy rainfall resulted in the flood inflow exceeding the sump pump capacity; the boiler room flooded to a height of 54" above the floor, damaging controls and burner units. Picture 1.14 shows the flooded Smith Boiler Room. In addition, the high water table has created septic problems and mold issues, as discussed in Problem Area 10 below.

2. Structure and Safety.

The current structure in the pre-1994 portions of the buildings has exposed wooden beams supporting a wooden roof deck. While a fire detection and alarm system is in place in most of the school the building structure and egress ways are not protected by an automatic fire suppression or sprinkler system.

The Lincoln Fire Department recommends replacing the fire alarm master panel (picture 1.21) with a more reliable communications system. The panel is obsolete and no longer supported; it will communicate only with analog fire detection sensors. The District anticipates that the Town will provide funds to replace the panel in FY13 with one that will communicate with both analog and digital sensors. A fire in 2008 in one of the science laboratories underscores the importance of quick notification and easy egress, and pointed out how easily a fire can engage the mostly-wooden structure. The School Committee considers this a major area of risk.

Most classrooms have exterior doors, and the non-compliant paddle hardware was recently replaced with crash-out hardware. Nevertheless, the narrow doorway widths and outside step configurations make easy egress from each classroom in the event of an emergency problematic. The majority of emergency exits are marked by self-luminous fixtures which have exceeded their ten-year design life.

The Lincoln School Buildings do not meet the current seismic codes, presenting a small danger to the students and staff.

The roof structures in the Smith and Brooks buildings and in the Reed Gym were designed before the structural codes were changed to reflect the lessons of the Blizzard of '78. We have had to shovel roofs to mitigate the risk of roof collapse.

3. Septic System. The Lincoln Campus school buildings are serviced by a common leaching field located under the center athletic fields. The system operates under a variance from Title 5 granted in 2007, required because the main leach field does not satisfy the DEP minimum vertical separation from the bottom of the leach bed to the seasonal high groundwater. The leaching field is within 100 feet of a tributary to a public water supply, and is within the Zone II Wellhead Protection area for the Town's main drinking water supply well, which imposes strict nitrate loading limits. The School Committee is concerned with the possibility that future revisions to DEP regulations or Title 5 may make the current septic system ineligible for a continued variance. Certainly, any significant renovation or new construction project will require close attention to the septic system design, and may trigger the requirement for a sewage treatment plant.

4. Asbestos-Containing Materials and Lead. The older sections of the Brook and Hartwell Buildings have 9"x 9" and

12"x12" vinyl tile containing asbestos (VAT). Several of these areas have had carpet applied, minimizing damage. Projects in 2009-2011 have abated much of the VAT, but some remains in low-traffic areas.

A portion of the Brooks Building contains concealed-spline acoustic ceiling tiles which contain asbestos. These tiles have deteriorated over the years and present a continual maintenance problem. Finally, recent repair projects confirm that some of the concealed piping is insulated with asbestos-containing insulation, complicating repairs caused by pinholes which have developed in the 1963-era copper supply piping.

All of the water bubblers have been removed because repeated water testing has shown excessive levels of lead in the water, due to old and corroding pipes. Bottled drinking water is supplied at considerable expense. Changes to the water chemistry by the Lincoln Water Department over the past ten years may have reduced the free lead in the water supply, but not all pipes have had water flowing through them to make these changes possible. Significant exploration will be required during project design.

5. Exterior Window Walls. The glazed exterior curtain wall in the Brooks Building and a significant portion of the Smith Building are wood or wood with Transite panels. Double glazing has failed, wood has rotted and operable windows leak air. Pictures 1.51 through 1.53 indicate the condition of the curtain walls.

Some portions of the exterior walls are single glazed. In the Brooks Building, the exterior portions of the wood composite beams supporting the roof structure are heavily weathered. Most of the exterior wall structural system is mortared block or brick with uninsulated cavities, contributing to an inefficient use of energy. Unit ventilators contribute to this inefficiency.

6. Accessibility. A number of features do not meet the accessibility requirements of ADA and the Massachusetts Architectural Access Board (MAAB). While many of the toilet rooms exhibit some degree of accessibility, few of them are completely compliant with MAAB standards. Staff toilets in the Smith Building are not accessible. The signage throughout the school needs to be completely overhauled to become compliant. Lever hardware should be installed on doors throughout the campus. Only one of the major exterior entrances has a vestibule. Some classroom exit doors are not wide enough to meet code standards, and have a step down of a foot or more. The stage access for both Smith and Brooks stages is not completely compliant.

7. Security, Site Access & Circulation. Access to the buildings was designed in a less-security conscious era. The major entrances at both buildings are not observable by the office staff, and visitor greeting, registration and control is very difficult as a consequence. Several intruders have gained access to the buildings over the past few years, and the local public safety officials have pointed out the difficulty of securing the school facilities. The security problem is exacerbated by the separation between the Reed Gym and the Brooks Building. Not only do the middle school students have to go outside to attend physical education classes, they have to go outside to get to the Reed Gym where tables are set up for lunch. The door to the middle school in the Brooks Building is less secure because of the constant traffic in and out during the day.

Site traffic patterns make the safe drop-off and pick-up of children by parents and Special Education vans difficult, and additional attention to traffic is needed to resolve several conflicting traffic flows. These conflicts cause delays in dropping children off, resulting in lengthy idling of cars with a resultant increase in air pollution. The roadways and parking lots themselves are in fair to poor condition, with areas of failed or missing pavement. The access problems are a result of the "patchwork" building projects over the past 70 years; a studied approach and large-scale renovation is needed.

The site lighting is inadequate, causing concern for teachers walking to their cars during the low-light conditions in the winter. In addition, inadequate site lighting reduces the effectiveness of periodic police patrols, causing periodic episodes of loitering and vandalism.

8. Roof Conditions. Roofs on the Brooks Building and a portion of the Smith and Link Buildings are either beyond their useful life, experience leaking, or both. We suspect that the underlying insulation and some of the roof deck is compromised, adding to the energy conservation problem.

Of particular concern is the roofing over the Brooks Building, which exhibit leaking during rain storms, to an extent which disrupts educational activities below. In the Brooks Building, the concern is the leaking will rot the wooden roof deck, as a number of

seams and joints appear to have failed. A stop-gap project to reseal the seams in 2010 has bought several years of relief, but the tab shingles on the Link and Smith Buildings are beginning to show signs of failure, and the EPDM membranes are beginning to fail.

Repair efforts over the past four years do not seem to have affected the rate of leak propagation. The failing roofs should be replaced with rigid insulation and tapered sections to ensure positive flow to the roof drains.

9. Electrical System and Controls. The current electrical system, designed for the classroom of the 50s, is at capacity. Large portions were constructed with Federal Pacific, Kelek and other equipment no longer readily obtainable. The main switchgear breakers at the Brooks Building are difficult to reengage to restore power after they have tripped, and present a significant risk of large impact in the event of failure. The master clock and annunciator system is outmoded and dysfunctional in part. The Building Management System (EMS) covers only the Smith and Link Buildings; it does not extend into the Brooks Building, contributing to an inefficient use of energy. The EMS is an obsolete, DOS-based system which was outmoded when it was installed in 1994. It does not control lighting or other features of the building. The panels are no longer stocked; a board failure in September 2012 was corrected only through the installation of a used panel purchased from another state.

The EMS sits over a pneumatic control system. The entire control system should be replaced by a DDC system which will begin to establish a proper educational environment.

10. Moisture, Mold & Ventilation. The Smith and Brooks Building are primarily slab-on-grade construction, with a portion of each building constructed over a crawlspace. The moist conditions of the site and lack of air-conditioning created mold problems in a number of rooms several years ago, which was remediated at great expense. The lack of effective climate control requires constant vigilance, particularly during the summer to ensure that mold does not reestablish. Moist soil conditions have created termite, ant and other insect problems. These conditions are exacerbated by a flat site and site drainage which does not effectively move roof run-off water away from the building envelopes.

Priority 1

Question 2: Please describe the measures the district has taken to mitigate the problem(s) described above.

1. Ground Water. Three pumps in two separate sumps are installed to protect the boilers in the Smith Building basement. A water level alarm sends a warning in the event of increased flooding. The pumps and alarms are powered from circuits connected to the emergency generator. They are inspected frequently to ensure they continue to operate properly, and contingency plans involving electric pumps stored on site and Fire Department support are in place in the event they or the electrical supply fail.

In spite of all of these preparations, the basement is constantly damp.

2. Structure and Safety. The frequency of fire detection system inspection and servicing was increased from annually to quarterly, and problems with the alarm system receive immediate attention and response from our alarm contractor. Fire drills for students, faculty and staff are discussed and practiced frequently. The alarm contractor has expressed concern that the fire panel program may not restore properly in the event of a power failure, so contingency plans for fire watches have been discussed with the Fire Chief. The District anticipates that the Town will provide funds to replace the panel in FY13 with one that will communicate with both analog and digital sensors, which could alleviate a significant portion, but not all, of the system problems.

3. Septic System. The Reed Gym shower rooms are no longer used, to reduce loading on the septic system. Kitchen grease traps are regularly pumped and cleaned out, to ensure the leaching field is not compromised or clogged through discharge of improper matter.

4. Asbestos-Containing Materials and Lead. AHERA management procedures restrict floor cleaning to non-abrasive methods. Extra care is taken to reduce disturbance of ceiling tiles, but from time to time leaking roofs create problems by damaging the ceiling tiles below.

All of the water bubblers have been removed because repeated water testing showed excessive levels of lead in the water. Bottled drinking water is supplied at considerable expense.

5. Exterior Window Walls. Storm windows were installed some time ago over the single-glazed windows. A five-year cycle of painting wood framing and trim was re-started. Obvious cracks are re-caulked during the process. Damaged portions of the window walls are replaced with modern, insulated store-front framing and double glazing, but a very small portion of the total requirement has been replaced.

6. Accessibility. Very little mitigation has occurred.

7. Security, Site Access & Circulation. While a visitor registration system was established two years ago, the primary mitigation effort is faculty and staff training and vigilance. Periodic police support assists in helping educate parents in efficient drop-off/pickup procedures. Periodic police patrols help guard against loitering and vandalism.

8. Roof Conditions. Repair efforts have been marginally effective. The incidence of leaks in the EPDM roofs installed over the Brooks Building seems to be increasing as the 20-year point in their life passes.

9. Electrical System and Controls. See below.

10. Moisture, Mold & Ventilation. The program to systematically replace carpet with new VCT in typical classrooms is nearly 90% complete. As most of the Lincoln School is not air-conditioned, the primary mitigation measure is to pay strict attention to ventilation during the summer months, rotating floor fans to ensure a certain level of drying ventilation occurs regularly in areas prone to mold and mildew.

Priority 1

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

Some impacts are directly related to the nature of the problem:

- The Lincoln School cannot function if the Smith basement floods and the boilers are inoperable, or the Brooks Building switchgear trips and cannot be reset.
- Proper, constant temperature in classrooms is difficult and expensive to maintain with poorly-insulated or leaky window walls, and unit ventilators not under the control of an energy management system.
- Children are in danger if positive control over visitors cannot be consistently maintained.
- Students, faculty and staff with allergies and mold sensitivities are potentially affected by poor ventilation.
- The noise and drafts created by running unit ventilators detracts from the learning environment, particularly for those with impaired hearing.

Some impacts create impressions among students and faculty which are not in accord with School Committee philosophy or policies:

- Clearly inaccessible facilities do not teach students the proper respect for the ADA and its concern for others with limitations.
- Social science classes interrupted by roof leaks, or library periods cancelled because of puddles on the floor, create an impression which does not reflect the district commitment to stewardship of these Town facilities.
- "Water unsafe" signs on bubblers, with the use of bottled water, creates an unwarranted distrust of the public water supply. The micro-filtered water supplied by the Lincoln Water Department is actually safer than some bottled water supplies.

Please also provide the following:

In the space below, please tell us about the report from an independent source that is not under the direct control of the school district or the city/town, stating that the facility is structurally unsound or jeopardizes the health and safety of the students. The entirety of this report should be submitted in hard copy along with the hard copy of the district's SOI.

Please note that the MSBA will accept an official report from a city or town department/employee, if the person preparing the report is a licensed building inspector, architect, or engineer. For example, a report from the district, city, or town maintenance or janitorial department would not meet this requirement.

Name of Firm that performed the Study/Report (maximum of 50 characters):

Symmes Maini & McKee Associates (SMMA)

Date of Study/Report: 10/23/2007

Synopsis of Study/Report (maximum of 1500 characters):

KEY POINTS OF MASTER PLAN STUDY

The following is a list of the Key Points discussed in the 2007 Master Plan Study:

- * The 1994 additions and minor renovations (the Link project), did not touch a major portion of the Smith and Brooks buildings.
- * Many of the existing building systems are nearing or are at the end of their useful life, and the rate of deterioration is accelerating.

* The current school populations are not projected to increase significantly, however that could change rapidly under several scenarios for changes in the Town's demographics over the next decade.

* The building spaces as currently configured do not meet current best practices for school programs, State specifications and guidelines, and federal ADA standards.

* As in the case of most school districts in the Commonwealth, the Lincoln Public Schools have not practiced consistent predictive and preventive maintenance during periods before the report was written.

Is the perceived Health and Safety problem related to asbestos?: YES

If "YES", please describe the location in the facility, if it is currently viable, and the mitigation efforts that the district has undertaken to date (maximum of 2000 characters):

The older sections of the Brook, Smith and Hartwell Buildings have 9"x 9" and 12"x12" vinyl tile containing asbestos (VAT). AHERA management procedures restrict floor cleaning to non-abrasive methods, and constant attention is paid to high-traffic areas to ensure that no wear takes place. A portion of the Brooks Building contains concealed-spline acoustic ceiling tiles which contain asbestos. These tiles have deteriorated over the years and present a continual maintenance problem. Extra care is taken to reduce disturbance, but from time to time leaking roofs create problems by damaging the ceiling tiles below. Finally, recent repair projects confirm that some of the concealed piping is insulated with asbestos-containing insulation.

Is the perceived Health and Safety problem related to an electrical condition?: YES

If "YES", please describe the electrical condition, any imminent threat, and the mitigation efforts that the district has undertaken to date (maximum of 2000 characters):

The main switchgear breakers at the Brooks Building are difficult to reengage to restore power after they have tripped. As a consequence, projects are planned and executed to minimize the number of times the main switches are disengaged. The danger is that an outage with this unreliable switchgear will occur during cold weather, making it impossible to restore power and deliver education services. Replacements for these main breakers are not readily available.

Is the perceived Health and Safety problem related to a structural condition?: YES

If "YES", please describe the structural condition, any imminent threat, and the mitigation efforts that the district has undertaken to date (maximum of 2000 characters):

The wood framing and roof, and the hallways, are not protected by sprinklers; the classroom exit doors are narrow by ADA standards; the fire alarm system suffers from unidentifiable problems.

The Lincoln School Buildings do not meet the current seismic codes, presenting a small danger to the students and staff.

The roof structures in the Smith and Brooks buildings and in the Reed Gym were designed before the structural codes were changed to reflect the lessons of the Blizzard of '78. We have had to shovel roofs to mitigate the risk of roof collapse.

Is the perceived Health and Safety problem related to the building envelope?: YES

If "YES", please describe the building envelope condition, any imminent threat, and the mitigation efforts that the district has undertaken to date (maximum of 2000 characters):

The original window walls in the Smith 1955 addition, portions of the original 1948 Smith Building and the 1963 and 1970 portions of the Brooks building all have wooden window walls with inefficient glazing. Storm windows have been installed over single-glazed windows, wood has been painted and caulked, but it remains difficult to maintain a constant, appropriate temperature in the classrooms during much of the year. This problem is particularly apparent in the 1948 and 1955 portions of the Smith Building.

Is the perceived Health and Safety problem related to the roof?: YES

If "YES", please describe the roof condition, any imminent threat, and the mitigation efforts that the district has undertaken to date (maximum of 2000 characters):

The EPDM roofs installed on the Brooks Building in 1988 were seemingly not installed over sloped insulation. Water ponds and does not drain, leaking through membrane seams and the membrane itself which are beginning to fail in places.

The resultant leaks disrupt classes in progress below.

The roof structures in the Smith and Brooks buildings and in the Reed Gym were designed before the structural codes were changed to reflect the lessons of the Blizzard of '78. We have had to shovel roofs to mitigate the risk of roof collapse.

Is the perceived Health and Safety problem related to accessibility?: YES

If "YES", please describe the areas that lack accessibility and the mitigation efforts that the district has undertaken to date. In addition, please submit to the MSBA copies of any federally-required ADA Self-Evaluation Plan and Transition Plan (maximum of 2000 characters).:

Classroom exit doors are narrow and some have drop-offs below, making them inaccessible to all. Some restrooms are non-compliant, as are the stages and several other areas of the Lincoln School. Signage and some door hardware is also non-compliant with applicable codes.

Priority 5

Question 1: Please provide a detailed description of the issues surrounding the school facility systems (e.g., roof, windows, boilers, HVAC system, and/or electrical service and distribution system) that you are indicating require repair or replacement. Please describe all deficiencies to all systems in sufficient detail to explain the problem.

High Energy Use in the Lincoln Public Schools

The public school complex is the single largest consumer of energy in the Town of Lincoln. In spite of thermal and electrical energy efficiency investments recommended in an energy audit and installed in the 1980's and a second round of lighting efficiency upgrades eight years ago the school continues to generate low scores in EPA's Energy Star rating system. Based on preliminary analysis of the school's facilities, staff and administration have begun to identify the root causes for the school's low energy performance.

The causes range from obvious concerns such as inadequate insulation to more subtle and often interconnected issues such as boiler water temperature settings and unit ventilator installation and operation. Most of the concerns and issues that we have identified have multiple potential solutions that will need to be vetted and sorted out as part of the school's systematic analysis of the town's education facility needs. The most appropriate bundle of energy efficiency and renewable energy investments for the existing buildings may be less appropriate or more expensive than other investments for a major renovation project or new building project. This causes us to believe that a systematically-designed major rehabilitation or new construction project will meet the Town's energy conservation goals far more efficiently and effectively than a program of retrofit and tune-ups of the existing plant. Following is a summary of the school's existing energy-related conditions that school staff has identified and a range of potential energy efficiency and renewable energy investments currently under consideration.

Building Envelope

One of the major causes for the schools poor energy performance is the building envelope. The building envelope includes large expanses of glass (initially single-glazed and upgraded to double-glazed in the 1980's), brick and concrete block walls with no insulation, exposed wood ceilings with minimal rigid insulation on the roofs, and concrete floors on dirt or above damp crawlspaces with little if any insulation or moisture barriers. Significant penetrations exist throughout the school that connect outside air penetrations created for the unit ventilator make up systems with the rest of the school. Piping and wiring chases provide the primary conduits of uncontrolled air movement through the building. Significant heat loss through the building envelope will continue to plague the school buildings regardless of the heating system efficiency and fuel source without aggressive building envelope upgrades.

HVAC Equipment and Operation

Primary mechanical systems in the Smith and Brooks Schools include vintage equipment that was installed when these buildings were constructed in 1949 and 1970. The original low-pressure steam boilers were converted to forced hot water sometime before 1990. Two boilers were replaced about 25 years ago, but are in fair-to-poor condition due to several floods which occurred over the past decade. Flood damage has surely degraded the energy efficiency of these two boilers. One of the four primary boilers is original equipment as are most of the existing heating, cold water, domestic hot water piping and electric wiring distribution systems.

Unit ventilators deliver heat and fresh air to most classrooms. Auxiliary radiators and fan coils deliver heat to the corridors. The unit ventilators in the Smith and Brooks Buildings have been systematically replaced 5 years ago in a maintenance initiative. Ventilation exhaust fans mounted on the roof serve multiple classrooms and pull relief air out of the classrooms that is provided by the classroom unit ventilators.

School HVAC design guidelines prepared by McQuay International for the unit ventilators it manufactures suggest that 30% to 40% of the total heating load in a typical classroom is for ventilation. It is unclear, however, how much fresh air the unit ventilators installed in the Lincoln schools provide and how much of the heating load is attributable to ventilation (and air leakage) in the Lincoln schools. Individual bimetallic and pneumatic thermostats installed in each room control the heating and ventilation in each

classroom. The current control logic opens the unit ventilation dampers for heat and outside air 100% when the room thermostats request more heat. The heat and outside air dampers close 100% when the thermostat is satisfied. The pneumatic controls modulate the heat and outside dampers (that are physically linked directly together) between 100% open and 100% closed during the day as the thermostat swings between calls for more or less heat.

The mechanical ventilation rate could be as low as 5 Cubic Feet per Minute (CFM) of outside air per person in a classroom (Recommended in the 1980 energy audit). This would be significantly lower than the current recommended ventilation rate set by ASHRAE Standard 62.1-1999 recommendation of 15 CFM per person. The schools low energy star score, however, suggests that the mechanical ventilation and air leakage rate is significantly higher than 5 CFM.

Large make up air systems with heating coils connected to the central boilers provide heat and fresh air to the two gymnasiums and the auditorium. The operation for these systems has not been confirmed yet.

Air conditioning was added to a few specialty rooms (such as computer labs) and the library as part of the most recent building addition in 1994. Classrooms are not air conditioned.

Electrical Equipment and Lighting

Lighting, Motors, and Computers are the major sources of electricity consumption. Energy efficient fluorescent lighting was installed throughout the school five years ago. No lighting controls were installed. Light levels vary significantly from one point in the school to another. Classrooms and hallways with clerestory windows or skylights have excellent daylighting and in many cases excessive daylight levels. Classrooms and hallways with low wood ceilings and large outdoor overhangs have very low daylight levels. Teachers and staff often keep shades closed over skylights or windows and the fluorescent lights on in rooms with excessive daylighting. As a general rule all lights are turned on in the morning and turned off at night when the rooms are closed for the evening.

Multiple sets of 5 to 7.5 horsepower motors circulate heated water around the buildings whenever the outside temperature drops below 65 Deg F. The motors are standard efficiency and fixed speed. Additional pumps located in trenches and crawlspaces have been installed to assist hot water circulation to classrooms furthest away from the boilers. Multiple fixed speed motors drive supply and exhaust fans throughout the school complex.

Proposed Solutions

1) Reduce the School's Thermal Load

Figure 5.1 summarizes the energy performance of eight school buildings that received energy audits recently as part of MA DOER's Municipal Energy Audit Program, and the Lincoln School. As figure 5.1 indicates the Lincoln school complex has the highest thermal energy use per square foot (blue portion of the columns) of the nine studied buildings.

The Gardner High School is a school building constructed to current codes and energy conservation standards, and provides a useful target. To reduce the energy use intensity of the thermal load in the Lincoln School down to the level of the Gardner High School will require a combination of building envelope, mechanical system, and building control upgrades. In addition the heating and ventilation operation logic will need to be restructured to match the heating and ventilation needs of the school more aggressively.

Primary fuel source selection will be another consideration for the school administration and the school board. An interesting opportunity exists, for example, to replace the old gas-fired boilers with water source heat pumps. The school sits on a very high water table that could potentially provide a source of constant temperature water for this type of high efficiency heating and cooling system. Another option under review is a wood pellet boiler system that would provide an alternative fuel source as a hedge against rising fossil fuel costs. Confounding any immediate decisions about specific thermal energy equipment upgrades, however, will be the timing and layout of any potential design changes to the school complex. Multiple energy efficiency and renewable energy options will need to be analyzed in parallel with each other as the school administration, school board, and town citizens grapple

with the preferred long term plans for the town's education facilities on Ballfield Road.

2) Reduce the School's Electrical Load

Opportunities to reduce Lincoln's electrical load include better light management with a combination of lighting control and daylight harvest management, tighter control of large motor operation schedules and possible replacement of water supply motors and large air supply and exhaust fans with variable speed controls, and good power management of the school's computer equipment. Simple occupancy controls and building structure upgrades such as fiberglass light filters for skylights and light shelves for classroom windows will provide the most durable lighting solutions. Complicated central digital control photo sensor systems have been difficult to commission properly and maintain.

Primary fuel source selection for electricity consumption will be another consideration for the school administration and school board. Several locations have been identified for solar electric generation installations on the campus and any new construction would provide another opportunity to integrate onsite solar electricity generation into the school building. Multiple measures will need to be analyzed for electrical energy as well as thermal energy in order to assess the most appropriate investments for the town's long term education facility plans.

Taken together, the proposed improvements will help reach the goal of cutting the Lincoln School thermal energy use in half. In 2013 budget terms, this could result in annual savings of \$160,000.

Priority 5***Question 2: Please describe the measures the district has already taken to mitigate the problem/issues described in Question 1 above.***

The Town of Lincoln is very energy-conscious, and at the recent Town Meeting passed a by-law requiring an aggressive reduction in the use of fossil fuel in the immediate future, with a target of reducing fossil-fuel consumption 80% by 2020 and 100% by 2030. To aid in accomplishing this goal, the Selectmen established a “Green Committee” several years ago, which has been actively exploring ways to reduce energy usage and increase energy efficiency. The School Committee has maintains a close relationship with the Green Committee with the express goal of fostering innovative energy management and efficiency. These measures are visible symbols of the inherent and deep-seated commitment of the Town to green principles over the past decades.

Driven by this guiding spirit, the Lincoln Public Schools has upgraded, repaired and replaced equipment throughout the years. A few examples include:

- The replacement of the two boilers in the Smith Building in 1988.
- The boiler replacement and addition of a partial energy management system during the 1994 addition project.
- The addition of storm windows and replacement of single with double-pane windows in the Hartwell Building.
- Relamping program conducted in the Smith and Brooks Buildings several years ago.
- The multi-year program to replace original unit ventilators with more modern units, completed for the Lincoln School in 2006.
- A constant program to select more energy-efficient models when replacing equipment, including the replacement of window DX air conditioners with split units handling larger areas.
- A program to rebuild hot water circulating pumps as part of a preventive maintenance program.
- Replacement of boilers and circulating pumps in the Hartwell Building fifteen years ago.

In spite of these efforts, critical barriers hinder attaining true energy efficiency. Until the building management systems are extended throughout the entire complex, the system will not function at a high level of efficiency. Until the exterior building envelope is replaced, along with the roof membranes and underlying insulation, excessive energy will be required to heat the school. These efforts are beyond the resources and scope of maintenance efforts, but are required to begin to reach the Town’s goals. Typical of the type of project under consideration for the near future is the follow-on project to the 2009 replacement of the roofing system for the middle school gymnasium. The Town (through the School and Green Committees) is exploring the installation of solar power generation arrays on the newly-replaced roof. An upgrade to the previous vermiculite insulation, (which had a severely compromised low R-value), was part of the 2009 roof system replacement project and will reduce energy consumption.

Priority 5

Question 3: Please provide a detailed explanation of the impact of the problem/issues described in Question 1 above on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

Both the teachers and students, and the educational programs, are affected by the problems described.

Teachers and Students

- Inability to control the temperature properly during the school year affects the attention and focus of students and teachers. The classrooms are too hot or too cold, the windows are drafty, the level of ventilation is too great or not enough, the unit ventilators are noisy and distracting, etc. These problems are exacerbated in the portions of the Lincoln School not affected by the 1994 project: the 1953-55 portion of the Smith Building and the 1963-1970 Brooks Building.
- The 5-8 principal cannot focus on her tasks during the coldest parts of the winter because the 1970-vintage window walls in her office allow drafts and air leaks. Her faculty have similar complaints.
- Inability to control the temperature and humidity properly during the school year affects the control of moisture in the buildings, leading to mold and mildew, and the suspicion of these problems.
- Periodic failure of portions of the heating system result in uncomfortable conditions, the requirement for maintenance crew intervention and/or the assistance of outside repairmen, and the uncertainty of scheduling and need for rearrangement of room assignments these problems cause.

Educational Programs

- Improperly controlled heat and ventilation sends the wrong message to young students, particularly in a town like Lincoln which has set serious and aggressive goals for energy conservation. The School Committee cannot deliver the proper conservation message.
- Funds spent on purchasing extra energy, above the amount required to reasonably run the facilities, are funds which could be spent on the direct delivery of educational programs.
- The same goes for the cost of repairs, both in dollars and the distraction from other tasks.

Priority 5

Question 4: Please describe how addressing the school facility systems you identified in Question 1 above will extend the useful life of the facility that is the subject of this SOI and how it will improve your district's educational program.

The proposed improvements will help reach the goal of cutting the Lincoln School thermal energy use in half. Extension of the energy management system into the Brooks Building and the Reed Gym, coupled with improvements to the building envelope, replacement of the Brooks and Smith boilers with an energy efficient upgrade of the correct capacity, replacement of the unit ventilators with a modern HVAC system incorporating heat-recovery mechanisms and other system improvements will allow the facility to continue forward into the 21st Century. All of these proposals lead directly to an improved educational environment that will promote increased learning.

Please also provide the following:

Have the systems identified above been examined by an engineer or other trained building professional?: YES

If "YES", please provide the name of the individual and his/her professional affiliation (maximum of 250 characters)::

SMMA team of engineers, engineering consultants to the Office of Michael Rosenfeld (OMR)

The date of the inspection:: 10/23/2007

A summary of the findings (maximum of 5000 characters)::

Please see the Existing Building Evaluations in the attached Master Plan report.attached

Priority 6

Question 1: Please describe the conditions within the community and district that are expected to result in increased enrollment.

The Town of Lincoln is undergoing a period of changeover in the demographics of the community, from a period of relatively stable family population to one of growth in school-aged children. This cycle of change has occurred several times in the past. The strong interest from the aging population in Lincoln in moving into smaller housing or extended-care facilities has already resulted in a noticeable churn in housing ownership, and a number of smaller, older homes have turned over, with young families moving into town. We anticipate this trend will continue in the next few years.

The Town expects a significant increase in the number of students attending the schools. New classroom and associated support space may be required to meet this expected increase in enrollment. As a one-school Town, the school building must have sufficient flexibility to handles cyclical enrollment shifts.

Priority 6

Question 2: Please describe the measures the district has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

The Town of Lincoln added classroom space in 1994 when it completed the Link addition. Since that time, changes in programmatic needs coupled with anticipated further increases in populations have raised concerns about available space. To that end, in June 2006, the firm of Symmes Maini and McKee Associates was retained to evaluate the existing conditions of the Lincoln Public Schools located on the Ballfield Road Campus to develop an overall master plan for renovations and/or upgrades to address the space needs, enrollments, and building infrastructure needs. The results of that study provided information for this Statement of Interest.

Priority 6

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

Additional students may require actions which will impact the educational program desired by the School. Special education services could be delivered on the gymnasium stage, as they have in the past, freeing up those special education areas for core classrooms. Spaces currently used as computer/technology labs could be taken out of service and converted into core classrooms. The class size policy could be adjusted to allow for larger classes, a prospect not desired by parents, teachers or students. Before that occurred, the School Committee would solicit funding for modular units, with all of the attendant problems.

None of these possibilities are desirable, and all of them result in some degradation of the educational program desired by the School Committee. One of the purposes of this project request is to solicit support for space in anticipation of the need, to avoid makeshift after-the fact solutions.

Priority 6

Question 4: Please provide a detailed explanation addressing the reason(s) why the district believes that enrollment growth is only short term. Please include estimates of when this short term growth is expected to begin and end, and explain the district's current plan for accommodating this growth.

The District believes that the anticipated increases are the result of a generational turnover of housing stock. While this turnover has been slowed somewhat by the economic conditions of the past four years, housing in Lincoln has always been considered desirable, and any upturn in the economy will see a strengthening of the housing churn.

Please also provide the following:

Cafeteria seating capacity: 290

Number of lunch seatings per day: 3

Are modular units currently present on-site and being used for classroom space?: NO

If "YES", indicate the number of years that the modular units have been in use:

Number of modular units:

Classroom count in modular units:

Seating capacity of modular classrooms:

What was the original anticipated useful life in years of the modular units when they were installed?:

Have non-traditional classroom spaces been converted to be used for classroom space?: YES

If "YES", indicate the number of non-traditional classroom spaces in use: 4

Please provide a description of each non-traditional classroom space, its originally-intended use and how it is currently used (maximum of 1000 characters):

An area originally designed to be a satellite library area for the 1st and 2nd Grades has been converted and used to deliver special educational services to small groups. An area used for teaching home economics was partially converted for middle school social studies. A space housing HVAC equipment is used for Special and General Education counselling, for students without hearing impairments.

Please explain any recent changes to the district's educational program, school assignment polices, grade configurations, class size policy, school closures, changes in administrative space, or any other changes that impact the district's enrollment capacity (maximum of 1000 characters):

The district opened up two computer/technology spaces to support the curriculum five years ago. The district policy of full inclusion, coupled with a gradual but constant increase in the number of students requiring special educational services, has resulted in an increase in the space required for that purpose. The movement of the curriculum to a more collaborative, team-approach delivery model has increased the need for small meeting areas, putting stress on space use and eliminating non-classroom areas available for other purposes. The School Committee adopted a revised class size policy in December 2007 with the potential, with a relatively small growth in enrollment, to increase the number of classrooms which are at or above capacity.

What are the district's current class size policies (maximum of 500 characters)?:

A. Lincoln School Grades 6-8: Maximum = 24.

B. Lincoln School Grades K-5: Preferred Average Class Sizes

Kindergarten: 18; 1st grade: 20; 2nd and 3rd grades: 21; 4th and 5th grades: 22

In no case can the average class size of a K-5 grade exceed the Preferred average size for that grade plus two students.

Priority 7

Question 1: Please provide a detailed description of the programs not currently available due to facility constraints, the state or local requirement for such programs, and the facility limitations precluding the programs from being offered.

As part of the 2007 Master Plan effort, all spaces on the Lincoln Campus were evaluated on the ability to:

- Adequately deliver the Lincoln Preschool, Elementary and Middle School curricula
- Provide dedicated program space for all program needs
- Meet minimum current MSBA standards

The SMMA report states that the following spaces did not meet the evaluation criteria:

Size of classrooms in each of the school buildings.

- Some general classrooms in the Smith and Brooks, except the six in the 1994 addition, are below minimum state standards for size. Deficiencies are detailed in the SMMA report.
- The addition of four computer stations in each classroom as part of the District's technology initiatives has exacerbated the space problem.
- Classrooms lack sufficient storage for equipment, supplies, or project storage.
- The electrical distribution system in the Lincoln School is loaded, with little capacity available to support additional requirements.

Special Education classrooms and tutorial rooms

- Current needs are not met due to inappropriateness and size of spaces. An example is the special education space in the Smith Building, converted from the former 1st and 2nd Grade satellite library area. Picture 7.1 shows the crowded conditions under which these services are provided, and is only one of several similar spaces.
- Use of open spaces converted from other purposes creates privacy issues, as reported in the 2008 DESE Coordinated Program Review (CPR).
- Use of some of the space converted from other purposes is restricted. For example, a space housing HVAC equipment is used for Special Education counselling, but can be used only for students without hearing impairments because of the background noise levels.

Cafeteria and kitchen area

- The Lincoln School lacks a cafeteria with a centralized kitchen to properly support the School Committee's Wellness Policy. Providing quality lunches is difficult and costly.
- Brooks Kitchen is more than 75% below minimum state standards for a serving kitchen and lacks appropriate storage. A report from the Maguire Group in 2012 deemed the kitchen unsafe for certain operations.
- Dual use space limits use of space for physical education to allow for set-up and clean-up for lunch.
- Limited use of space for assembly.

Teacher planning spaces

- The efforts of the District to move to a teaching model which emphasizes collaborative efforts among grade and subject teams are hampered by the lack of space for teams to use for planning and assessing.
- Teachers have no dedicated meeting space to conduct ongoing curriculum planning and delivery.
- Teachers' room is used by students for individual music lessons and by parent volunteers for PTA activities.

Administrative areas

- Security and visibility to main entrance is a concern for both buildings.
- Brooks Building office is in a poor location for public access.
- Insufficient storage for equipment, supplies and records.
- Location of Physical Education instructor's office is not adjacent to the entrance of the Reed Field House. Because the building is not connected to the middle school, security and visibility to main entrance is a concern.
- Insufficient meeting spaces.

Art and Music

- Insufficient space exists to both store work in progress and display finished art projects.
- Music room for elementary school is more than 20% below minimum state standards.
- Music room for middle school has tiered seating and is non-compliant with access requirements.
- The middle school music room is too small for the current and growing band, orchestra and chorus programs.
- The inability to accommodate the band and choral programs limits the District's ability to expand this program in the desired manner.
- No spaces are dedicated to small group instrumental teaching and ensemble rehearsals.

Health Suite

- While centrally located, the Health Suite lacks close proximity to the school administration offices and gymnasiums.
- Satellite Nurse Station in Smith is small and toilet does not always function properly.

Support and storage

- Some toilet rooms are non-compliant with access requirements.
- Classrooms lack sufficient storage for equipment, supplies, or project storage.
- No spaces exist to store shared-usage technical equipment like interactive whiteboards and laptop carts.
- Supplies and equipment are stored in custodian closets, electrical and mechanical spaces, creating a fire hazard.

Priority 7

Question 2: Please describe the measures the district has taken or is planning to take in the immediate future to mitigate the problem(s) described above.

Size of classrooms in each of the school buildings. Very little can be done to rectify these shortcomings. Compact furniture was procured for the classroom computer equipment. Creative arrangements of furniture help maximize the use of available space.

Special Education classrooms and tutorial rooms. Use of screens and screening walls, and paper over interior windows, help preserve privacy.

Cafeteria and kitchen area. A retherm kitchen was constructed in an old storage room in 2007, allowing the Smith gymnasium to be used for lunch time feeding as well as the Reed Gym. This solution creates the same interference with the scheduling of physical education classes as existed in the Reed Gym. Food is sometimes transported at some expense from other District kitchens.

Teacher planning spaces. Teachers seek empty spaces for planning on an ad hoc basis, wherever available, bringing their materials and projects with them each time.

Administrative areas. Efforts are made to corral visitors into the school offices for visitor pass sign-up, but the process is imperfect.

Art and Music. Music classes are conducted on the Auditorium stage, interfering with drama activities. Drama activities, including scene construction, are conducted in the adjacent hallways. Drama classes are conducted in the orchestra area of the Auditorium. Art projects are completed in the classroom, but not displayed for public viewing.

Support and storage. Supplies and equipment are stored in custodian closets, electrical and mechanical spaces, creating a fire hazard.

Priority 7

Question 3: Please provide a detailed explanation of the impact of the problem described in this priority on your district's educational program. Please include specific examples of how the problem prevents the district from delivering the educational program it is required to deliver and how students and/or teachers are directly affected by the problem identified.

The district has moved to a problem-solving, investigation-based curriculum, weaving strands of math, science and engineering through all grade levels. In the absence of separate project space, smaller-sized classrooms create problems for teachers when the time comes to create student groups to work on projects; it becomes almost impossible to carve out space for the temporary but sole use of the project teams. Finally, the strong drive to differentiate instruction to meet each student's individual needs is hampered by the lack of breakout rooms, easily accessible from the classroom and under the visual control of the teacher.

A similar problem exists at the grade and curriculum team level. In the absence of collaboration and meeting spaces, it becomes difficult for the teams to work on projects, discuss student performance and plan future units when the available spaces are used for a wide range of activities.

Meeting the desired performance levels by faculty and staff becomes more difficult as the School Committee and district administration move the curriculum in the new directions set by the Massachusetts frameworks. Proper delivery of the desired curriculum requires space for teachers to plan, and space for students to execute projects. The classroom sizes do not provide sufficient space to meet the current requirements; additional space must be provided. The non-classroom space for team collaboration does not exist; additional meeting areas must be provided to support assessment and planning.

The absence of a cafeteria with a full-service kitchen presents several problems. Achieving the nutritional standards expected of the 21st Century school lunch programs is difficult when the meals are prepared in under-sized re-therm kitchens satellite off teaching gym spaces. Closing half of the gym teaching spaces for a significant portion of each day complicates the scheduling of physical education classes, an important part of the educational program.

The absence of a cafeteria also means that one of the varieties of teaching spaces is absent. The cafeteria would provide a flexible, large teaching space outside the times that meals are being served. It would fulfill part of the need for flexible project spaces, and could house grade-level meetings and small performance groups. It could serve as a gallery for display of a grade's art projects. It would bolster the creativity of our teachers striving to deliver a strong educational program in a variety of spaces.

Vote

Vote of Municipal Governing Body YES: 3 NO: 0 Date: 11/3/2008

Vote of School Committee YES: 4 NO: 0 Date: 10/16/2008

Vote of Regional School Committee YES: NO: Date:

REQUIRED FORM OF VOTE TO SUBMIT AN SOI

REQUIRED VOTES

If a City or Town, a vote in the following form is required from both the City Council/Board of Aldermen **OR** the Board of Selectmen/equivalent governing body **AND** the School Committee.

If a regional school district, a vote in the following form is required from the Regional School Committee only. **FORM OF VOTE** Please use the text below to prepare your City's, Town's or District's required vote(s).

FORM OF VOTE

Please use the text below to prepare your City's, Town's or District's required vote(s).

Resolved: Having convened in an open meeting on _____, the
_____ [City Council/Board of Aldermen,
Board of Selectmen/Equivalent Governing Body/School Committee] of _____ [City/Town], in
accordance with its charter, by-laws, and ordinances, has voted to authorize the Superintendent to submit
to the Massachusetts School Building Authority the Statement of Interest dated _____ for the
_____ [Name of School] located at
_____ [Address] which
describes and explains the following deficiencies and the priority category(s) for which an application
may be submitted to the Massachusetts School Building Authority in the future

_____ ; [Insert a description of the priority(s) checked off
on the Statement of Interest Form and a brief description of the deficiency described therein for each priority]; and hereby further
specifically acknowledges that by submitting this Statement of Interest Form, the Massachusetts School
Building Authority in no way guarantees the acceptance or the approval of an application, the awarding of
a grant or any other funding commitment from the Massachusetts School Building Authority, or commits
the City/Town/Regional School District to filing an application for funding with the Massachusetts School
Building Authority.



Picture 1.11. View of Smith basement boiler room, showing water infiltration.

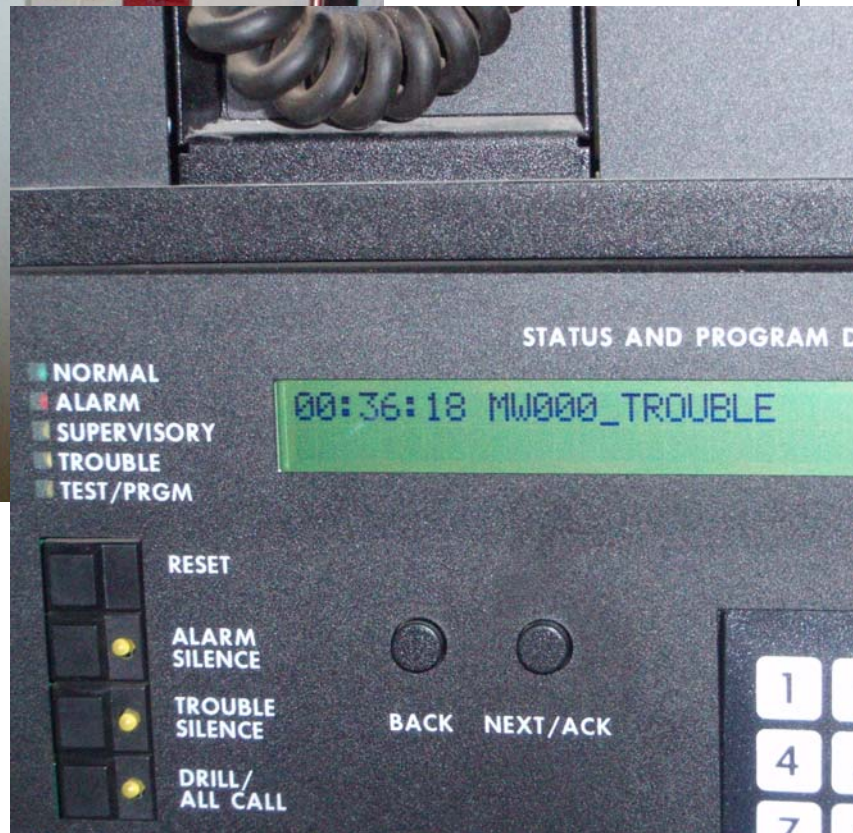


Picture 1.12. Smith basement, showing water damage to boiler (typical)

Picture 1.13. Smith basement, detail of water bubbling up out of floor due to high water table



Picture 1.14. View of stairwell to the Smith basement taken on March 15, 2010. Water is 53 inches above the floor level.



Picture 1.21. Fire Alarm main panel, next to Brooks office, in trouble condition (typical). The District anticipates that the Town will provide funds to replace the panel in FY13 with one that will communicate with both analog and digital sensors, which could alleviate a significant portion, but not all, of the system problems.



Pictures 1.51 through 1.53. Condition of Brooks window curtain walls, showing deteriorated panels and rotting trim.

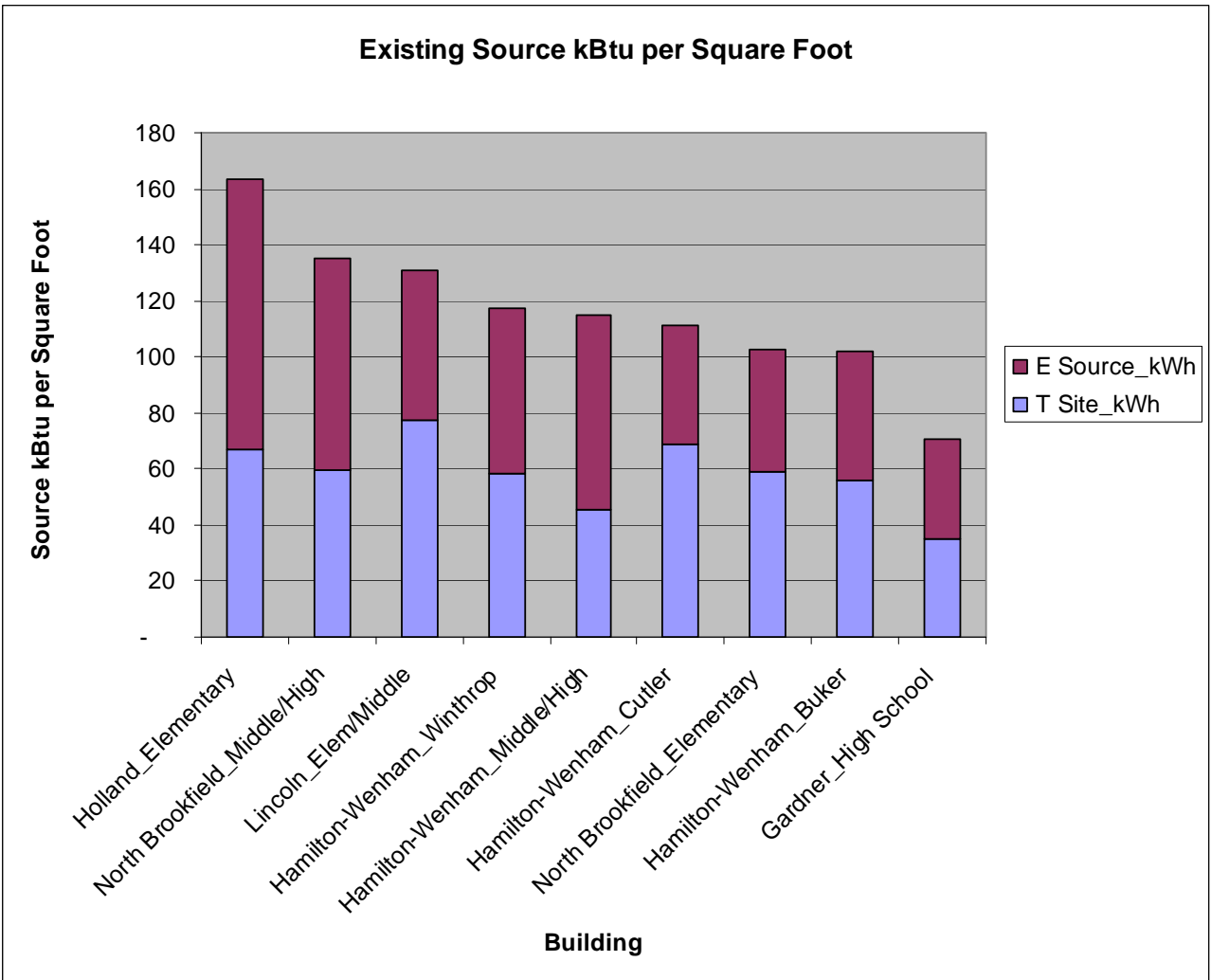


Figure 5.1 Source kBtu per Square Foot for nine Massachusetts school buildings. Blue bar shows thermal energy use per square foot.



Picture 7.1 Special Education services delivered in inadequate area.