

Appendix F

STATEMENT OF INTEREST

Massachusetts School Building Authority

Next Steps to Finalize Submission of your FY 2016 Statement of Interest

Thank you for submitting your FY 2016 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 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 Diane Sullivan at 617-720-4466 or Diane.Sullivan@massschoolbuildings.org.

Massachusetts School Building Authority

School District Northeast Metro Voc

District Contact Theodore Nickole TEL: (781) 246-0810

Name of School Northeast Metro Reg Voc

Submission Date 3/28/2016

SOI CERTIFICATION

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

- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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.
- ^b 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. If Priority 1 is selected, your Statement of Interest will not be considered complete unless and until you provide the required engineering (or other) report, a professional opinion regarding the problem, and photographs of the problematic area or system.

Chief Executive Officer *

theodore nickole

Superintendent

School Committee Chair

michael t. wall

Superintendent of Schools

theodore nickole

(signature)

Date

(signature)

Date

(signature)

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. Please note, in districts where the Superintendent is also the Local Chief Executive Officer, it is required for the same person to sign the Statement of Interest Certifications twice. Please do not leave any signature lines blank.

Massachusetts School Building Authority

School District Northeast Metro Voc

District Contact Theodore Nickole TEL: (781) 246-0810

Name of School Northeast Metro Reg Voc

Submission Date 3/28/2016

Note

I will hand submit the hard copy of the SOI when Charlie Lyons and I come into Town on the 4th

Thanks

Ted Nickole

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

1. ^b 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. ^b Elimination of existing severe overcrowding.
3. ^b Prevention of the loss of accreditation.
4. ^b Prevention of severe overcrowding expected to result from increased enrollments.
5. ^b 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. ^e Short term enrollment growth.
7. ^b 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. ^e Transition from court-ordered and approved racial balance school districts to walk-to, so-called, or other school districts.

SOI Vote Requirement

^b 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: Potential New School

Is this SOI the District Priority SOI? YES

School name of the District Priority SOI: 2016 Northeast Metro Reg Voc

Is this part of a larger facilities plan? YES

If "YES", please provide the following:

Facilities Plan Date: 2/1/2016

Planning Firm: Dore and whittier Architects, Inc.

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:

Northeast needs to up grade it's entire facility. In Addition to a radical renovation/addition or new building, the site needs a second means of vehicular entry/egress for emergencies. Currently there is only one entrance to the entire site-Hemlock Road-which is accessed through the Wakefield High School site, and there is often traffic congestion and accidents at the Farm Street/Hemlock Road intersection. In the event of a full building evacuation, students would be walking out along the same narrow road with inadequate sidewalks being used by emergency vehicles to get in. This condition is a noted concern of the Wakefield Fire Chief. This road is also a deeded access point to Breakheart Reservation, Northeast's abutting neighbor to the east, which occasionally creates parking and traffic impacts/conflicts. A site option that has been studied is to build a new vehicular entrance and access drive on the undeveloped portion of Northeast's property to the south of the school, following an existing jeep trail road alignment, and connecting to Main Street/Farm Street near the Saugus town line. The Northeast building requires an upgraded/upsized water, sewer, and electrical utilities, and new natural gas service. Currently the building is unsprinklered due inadequate water supply volume, a noted concern of the Fire Chief (see attached letter). Sewer line could be in need of upgrade/repair as depending upon the scope of the building project. The electrical service, though functioning now, is inadequate for the future size and scope contemplated in a reimagined facility. Currently the building uses fuel oil for heating and propane for cooking and lab/shop use. Conversion to natural gas is desirable from a cost and efficiency standpoint. All of these utilities would be brought from Farm Street under Hemlock Road, to the building site. All athletic fields and supporting structures and outbuildings must be upgraded as many are in nearly unplayable/unsafe condition and do not comply with accessibility regulations. The football field/running track complex is not MAAB/ADA accessible it is on a plateau some 20 feet higher than the main building grade-and the access road is very steep, tight passage for an ambulance. The grandstand is not accessible, and no toilet facilities are available. The running track surface is asphalt, which is heaved, unsafe, and not used for competition. The football/soccer, baseball and softball/practice fields are in very poor condition, with variations in grade and turf quality that could be trip hazards and cause of injuries. Baseball and softball field have no place for spectators. Basketball courts are asphalt, heaved, cracked, and unused due to safety/injury concerns, and are also on a plateau making them inaccessible to the mobility-impaired. A playground used by preschoolers in the school's Early Education/Child Care program is in fair condition, but is placed next to the parking lot, and preschoolers and their high school student aides must cross a busy driveway to access it. A previously-used playground is abandoned and overgrown.

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: 12 students per teacher

Does the District have a Master Educational Plan that includes facility goals for this building and all school buildings in District? NO

Does the District have related report(s)/document(s) that detail its facilities, student configurations at each facility, and District operational budget information, both current and proposed? YES

If "YES", please provide title, author, and date of report in area below.

"Pre-Feasibility Study: Existing Conditions investigation and Educational Planning Report." Dore & Whittier Architects, Inc. 2/1/2016.

Please include a hard copy of these report(s)/document(s) with your hard copy Statement of Interest submittal.

Is there overcrowding at the school facility? YES

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

Northeast Metro Tech was designed and built in 1968-70 for approximately 900 students. Currently the school serves 1267 students, representing an over-commitment of facilities of roughly 40%. Consistently for the last seven years there has been a surplus of applicants for which there are not places in the school programs. All CTE programs are fully enrolled, with wait lists for most of them. There are currently 325-330 places, or "seats" at the school per grade level, and an average of 650 Freshman class applications are received annually, creating a backlog or surplus of roughly 325 students, or almost double the number of places in a class. Enrollment maximums are based on physical places/stations in the shops and/or safety requirements dictated by Chapter 74 rules and guidelines.

Another limiting factor is general classroom space: all academic classrooms have a very high utilization rate-near 98% in most cases-and often there is a mismatch between the number of students enrolled in a class and the classroom space available in which to hold that class, resulting in severely crowded spaces with little room for teachers or students to move around the room, re-organize into work groups, or conduct one-on-one differentiated learning. There is very little suitable academic support space for breakout groups.

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.

Northeast Metro Tech is a regional school district with 12 sending towns. Many of our communities are struggling to stay afloat, and as a result in 2015 the budget was able to be increased by only 2.8%, which barely covered cost-of-living increases in salaries and crushing increases in health insurance costs of some 6%. This was essentially a level-funded budget. As a result, many requirements from NEASC and our Capital Repair Program have gone untouched, including: safety issues, handicap accessibility, and science lab improvements, to name a few examples.

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 original school building was built in 1968, and it appears from the documentation that the Natatorium was an add-alternate that was built at the same time. In 1975 a small storage outbuilding was built at the rear of the parking lot. There have been no major renovations or additions to the school since that time. There have been small, limited alterations to shops to create storage space or adapt shops for specific learning objectives, but this has taken away from overall learning space. There have been no systemic upgrades to mechanical, electrical, or plumbing systems in the history of the building. In 2013 there was a fire in the Carpentry Shop which originated in the dust collection system; in 2015 that shop was renovated to repair the damage.

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

240138

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).

Northeast Metro Tech is located in Eastern Massachusetts in the Town of Wakefield, Middlesex County. The school is a 240,138 SF facility that opened in 1970, sits on a 42.73 acre parcel, and is bordered on the west by Wakefield High School and its athletic fields; on the north by wetlands and residential development; on the east by Breakheart Reservation, a major park reserve accessed through the Northeast site; and on the south by wooded residential development and Farm Street. One access road, Hemlock Road, leads into and out of the school site, and Hemlock passes directly through the Wakefield High School campus.

The parcel is essentially divided into two parts. The northern half of the site is the developed portion, holding the building, parking, drives, outbuildings and storage yards, athletic facilities, and deeded access to Breakheart Reservation. The southern half is undeveloped: it is hilly, with large visible granite ledge outcrops, second-growth hardwood forest, some small wetlands, and has what appears to be an historic, disused logging or agricultural road passing through it, which is used as a main walking trail off which many side trails are established.

If Northeast were to build a new facility, there is sufficient open land on its present site upon which to do so (as a phased project), without substantially impacting the ongoing educational process of those students currently in attendance. The site has some topographic features, so the new building would be designed to take advantage of and work with the slopes and open level areas present.

Currently there is no natural gas service on the site, and the water main, sewer, and electrical service are undersized for future needs; it is recommended these utilities be upgraded. There is an underground fuel oil tank on the site (apparently original to the building) which was recently partially excavated for fuel pump repairs, and found to be in sound condition. The tank has a leak alarm and monitoring system.

Project scope may include construction of an alternate vehicular entrance/egress for added safety, redundancy, and to relieve traffic pressure and congestion off the poorly-performing Hemlock Road/Farm Street/Nahant Street intersection. This road option for the most part followed the logging road alignment on the southern half of the parcel, and was studied and cost-estimated as part of the pre-feasibility process.

There are no other buildings on the Northeast parcel, and the use of the building is roughly 97% educational use by Northeast Metro Tech, with 3% occupied by the Supervisory Offices for the District.

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)

100 Hemlock Rd., Wakefield, MA 01880

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).

Northeast's building envelope consists of the following components: The foundation is typically cast-in-place concrete walls on spread footings, with slab-on-grade over compacted gravel, with no insulation vertically on foundation walls or horizontally under slabs, and no vapor retarder membrane or sheet under the slab.

Walls are typically solid masonry with a natural, unpainted brick veneer bonded into CMU Backup walls (no metal ties) with no wall insulation, and an interior plaster on lath or painted CMU finish. Openings are made with precast concrete window surrounds and loose steel lintels, which are flashed to the outside. Fenestration consists of the original single-pane-glazed aluminum-framed windows and doors (non-thermally broken), uninsulated steel egress doors and uninsulated steel overhead doors. Most fenestration is in fair to very poor condition. Many large shop openings are covered with "Kalwall" panels, which in most cases are delaminating or degraded.

The roof envelope is made up of open-web steel bar joists supporting form-board and 2" poured gypsum roof deck, with an unknown depth of roof insulation covered by a single-ply EPDM membrane roof. The insulation was most likely added as part of the re-roofing project in 1980 as none was shown on the 1968 record drawings. The steel trusses have extended top chords which form look-outs that support a shallow overhang around the building, which is beneficial for keeping rain off the brick surface. Long-span conditions are framed with steel trusses or precast concrete "T" sections. It should be noted that there are many thermal short-circuits in the building envelope and a complete absence of insulation in walls and foundation, and a severely under-insulated roof.

The EPDM roof membrane is long out of warranty and leaks regularly in several problem areas. There is the potential that roof leaks have compromised the integrity of the poured gypsum roof deck, which requires further investigation and testing. It appears that repair attempts were made over areas of the roof by painting it with some type of light-colored water-resistant coating, perhaps "Hypalon" paint; most of this coating has worn away. Ballooning of large sections of the roof membrane was observed by the architects on their site visit during a hot day. It is possible this was trapped moisture turning to vapor and trying to escape the roof assembly.

The brick veneer is generally sound, except for the Natatorium walls. Here, incessant vapor drive during the cold months has caused chlorine-laden water vapor to migrate through the mortar joints in the walls, causing severe efflorescence (white chemical staining) on the building exterior, and leading to corrosion of reinforcing steel and resultant expansion and spalling in cast-in place concrete foundation walls visible above grade on the pool building.

Has there been a Major Repair or Replacement of the EXTERIOR WALLS? NO

Year of Last Major Repair or Replacement:(YYYY) 1968

Description of Last Major Repair or Replacement:

none

Roof Section A

Is the District seeking replacement of the Roof Section? YES

Area of Section (square feet) 240138

Type of ROOF (e.g., PVC, EPDM, Shingle, Slate, Tar & Gravel, Other (please describe)

EPDM

Age of Section (number of years since the Roof was installed or replaced) 36

Description of repairs, if applicable, in the last three years. Include year of repair:

Roof section over the Carpentry shop damaged by fire was replaced in 2014 - approx. 8,850 SF new EPDM. Rest of

roof has not been replaced since 1980. Maintenance staff attempt to trace and repair leaks as they occur on an ongoing basis.

Window Section A

Is the District seeking replacement of the Windows Section? YES

Windows in Section (count) 160

Type of WINDOWS (e.g., Single Pane, Double Pane, Other (please describe))

Original single-pane-glazed aluminum-framed windows (non-thermally broken), in fair to very poor condition. Large shop openings feature "Kalwall" panels within the aluminum framing, which are de-laminating or degraded.

Age of Section (number of years since the Windows were installed or replaced) 46

Description of repairs, if applicable, in the last three years. Include year of repair:

Other than replacement of broken glass with new glass or plexiglass panels, there have been no major repairs or window replacement projects.

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).

Northeast was constructed in 1968-70. The majority of the Mechanical and Electrical equipment and systems are 46 years old and have outlived their useable service life.

HVAC: There are close to 50 air handlers and rooftop units, and over 90 exhaust fans, most of which are overdue for replacement. Besides the age of the mechanical equipment, the biggest issue in the building is the lack of adequate HVAC system control due to the outdated pneumatic control system and its ongoing multiple failures. The system has outlived its useful life and is one of the biggest maintenance issues in the facility. Adequate temperatures cannot be maintained in classrooms, shops, and offices. Solar heating due to single-pane windows often cannot be compensated with ventilation or cooling.

Most of the building is air conditioned except for the gym and shop areas. Most spaces with A/C are served by a rooftop screw chiller, which replaced the original chiller around 1989. There is a connected rooftop cooling tower—original equipment in poor condition—with a 2-speed fan. Chilled water pumps serve this loop, with manual isolation valves. A chilled water pump was recently rebuilt; the other two are original, and none have variable speed drives. Other spaces are served by stand-alone direct expansion air conditioning, ductless cooling units, or thru-window air conditioners.

Some interior offices have no direct ventilation, and many shops have inadequate ventilation and/or exhaust. Corridors are not ventilated.

Boilers: two Cleaver Brooks HW boilers—both original equipment—burn No. 4 fuel oil. The breeching system is insulated black welded steel; insulation should be tested for asbestos. The steel breeching terminates into a masonry chimney; the overall height of the chimney appears to be inadequate. The chimney cleanout door is sealed with duct sealer which indicates water infiltration.

The underground fuel oil tank is original, and has a leak detection and monitoring system, and a hot water coil to heat the viscous No. 4 fuel oil for easier pumping.

Hot water from boilers is distributed via insulated steel piping, with a pneumatically controlled 3-way valve for outdoor temperature-compensated hot water. There are no original zone valves, and some have been recently added.

Terminal Equipment: Classrooms are equipped with exterior wall-mounted unit ventilators with adjacent fin tube radiation, all served by the hot water loop. Each unit has outside air intake, filters, hot water heating coil, supply fans and return air, and all are original to the building, provide inadequate ventilation, and are in poor condition. Classroom exhaust is via central ducted exhaust systems with rooftop exhaust fans.

Shops and Major Spaces: typically served by 100% outside air units, air handlers with heating/cooling coils, or heating & ventilating units with roof-mounted fresh air hoods. Hoods are a source of snow ingestion, melting, and leaks to the interior. Finned tube radiation is provided for supplemental heat.

Pool: mechanicals have been abandoned in place.

Electrical: Most systems are original to the building and although functioning, have outlived their intended useful life. Complete replacement of all systems is recommended.

The main power disconnect switch failed and was replaced in 2012. Replacement parts are no longer made, and a custom-made switch was manufactured in Texas to the tune of \$56,000. Main switchgear panels have no spare capacity,

working clearances are not code-compliant, and the electrical room door does not swing out or have panic hardware. The power distribution system is original and in poor condition. Remote panelboards are original and typically have no spare capacity. Power outlet distribution is inadequate, and many spaces have power strips deployed to serve modern demands, potentially overloading circuits.

Roughly 60% of the lighting systems have recently been retrofitted with upgraded T8 lamps and ballasts, but the existing light fixtures (inefficient recessed parabolic and surface wraps, many with broken plastic lenses) and existing wiring were reused. The gymnasium has inefficient 400W metal halide fixtures with no quartz restrike. Stage lighting in the Cafetorium—the only large assembly space in the facility—is non-functional. Occupancy sensors are not installed. Exterior lighting is inefficient HID cobra-head lights.

Exit sign coverage is inadequate and does not meet code. Broken internally-lit exit signs as well as non-lit paper signs exist throughout the facility.

The fire alarm system control panel was upgraded in 2015 after the carpentry shop fire; however the system detection and signaling devices were not. Device coverage is inadequate and not code-compliant; for example, the system does not have voice-evacuation capability.

The emergency standby power systems, due to code changes, are no longer code compliant and provide inadequate coverage.

Boiler Section 1

Is the District seeking replacement of the Boiler? YES

Is there more than one boiler room in the School? NO

What percentage of the School is heated by the Boiler? 100

Type of heating fuel (e.g., Heating Oil, Natural Gas, Propane, Other)

No. 4 fuel oil

Age of Boiler (number of years since the Boiler was installed or replaced) 46

Description of repairs, if applicable, in the last three years. Include year of repair:

The boilers were re-tubed 10-12 years ago and currently tubes are replaced as needed.

The fuel oil suction line between the building and the tank was recently replaced. A portion of the tank was uncovered during this repair and the tank appeared to be sound. The fuel oil transfer pumps were recently replaced and the internal parts of the duplex strainer were replaced last year.

The primary hot water pumps are not original to the building, and they have been rebuilt and the motors replaced. Due to corrosion and leaking in the expansion tanks, they were replaced about three years ago.

Gurney Engineering is the corrosion control vendor that monitors the conductivity and chemical make-up of the heating hot water.

Major isolation valves have recently been replaced in the boiler room to allow the boiler to be isolated. The school has been adding strategically placed isolation valves around the facility, as there were few in the original heating system design. In the past, whole sections of the school would need to be closed down while one terminal unit was repaired due to lack of zone valve shut-off capability. This condition still exists in some parts of the building.

Hot water piping has extensive drip pans installed throughout, indicating systemic leaking issues.

Has there been a Major Repair or Replacement of the HVAC SYSTEM? NO

Year of Last Major Repair or Replacement:(YYYY) 1989

Description of Last Major Repair or Replacement:

The original rooftop chiller was replaced in 1989 with a Trane RTHA 255T electric screw chiller utilizing R22 (HCFC) refrigerant. This refrigerant has “low” ozone depletion potential, and “moderate” greenhouse potential, and was phased out of manufacture starting 2003.

One of three chilled water pumps was rebuilt within the last couple of years. The other two are original equipment.

Throughout the administrative area ductless cooling units have been added to provide additional cooling and individual temperature control. In some exterior rooms with unit ventilators, window air conditioners have been added.

A new H&V rooftop unit was installed in 2015 as part of the fire repairs in the carpentry shop.

Has there been a Major Repair or Replacement of the ELECTRICAL SERVICES AND DISTRIBUTION SYSTEM? NO

Year of Last Major Repair or Replacement:(YYYY) 2012

Description of Last Major Repair or Replacement:

The main power disconnect switch failed and was replaced in 2012. Replacement parts for this brand and age of switchgear are no longer made, and a custom-made switch was manufactured in Texas to the tune of \$56,000. Roughly 60% of the lighting systems have recently been retrofitted with upgraded T8 lamps and electronic ballasts, but the existing light fixtures (inefficient recessed parabolic and surface wraps, many with broken plastic lenses) and existing wiring were reused.

The fire alarm system control panel was upgraded in 2015 after the carpentry shop fire; however the system detection and signaling devices were not.

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).

Northeast was constructed in 1968-70. Most interior materials are original (46 years old) and many exhibit great wear and tear, and are in need of repair. Some durable materials could be reconditioned with major deep cleaning or renovation.

Floors:

Main corridor floors are terrazzo, which while durable, is very dingy and needs a deep mechanical cleaning and polishing to be effectively reconditioned. In a few areas the supporting slab has settled, leaving sunken sections of terrazzo and creating a trip hazard. Some areas are chipped, deeply scratched, or stained with rust or chemicals.

Vinyl tile flooring is the predominate flooring found in classrooms and administrative spaces. Much of the tile is Vinyl Composite Tile (VCT) however some Vinyl Asbestos Tile (VAT) still remains. Many spaces have a patchwork of original mixed with patched tile, or places where tiles have popped and not been replaced. Most tile is fair to poor condition, except where it has been more recently replaced (perhaps 15% of the facility).

The gym has a recently reconditioned sprung wood floor, with some limited wear areas. Wood floors in the shops and stage are in poor condition.

Some limited areas—such as the Library—have carpet, in fair condition.

The toilet rooms and locker rooms throughout the building have ceramic mosaic tile, typically in poor condition. Most tile floors have a dingy appearance and could use a good deep cleaning. The slab under the pool liner has settled and cracked, creating the leak that caused the indefinite closure of the pool. Kitchen areas have quarry tile, with sections of missing and cracked floor and wall base tiles.

There are numerous bare concrete slab floors in shop spaces in fair condition, and painted slabs in poor condition that are peeling – especially a concern in food storage areas.

Walls:

Select corridors, stair wells, the cafeteria and platform proscenium opening have brick walls with terrazzo base in fair to good condition.

Corridors are typically painted Concrete Masonry Units (CMU) in good condition. Many of the shop spaces have CMU walls, typically painted up to 6' and then left with natural finish above. There are localized cracks in CMU joints at several locations in the school.

Glazed block is the primary wall material found in locker rooms and the weight room, in fair to poor condition in all locations.

Main entry has a 2-story stone wall finish with terrazzo base at main and second floor, all in good condition.

Classrooms walls and many interior partitions consist of metal stud with metal lath and painted plaster finish in good to poor condition. Multiple locations have damaged areas including chipped /peeling paint (often near or behind mechanical units and windows), cracks, and holes.

The pool, toilet rooms, and kitchen/food service area have ceramic wall tile in fair condition, with many cracked base tiles. Folding acoustical partition walls were noted between four 2nd floor classrooms, in fair condition. Their acoustical effectiveness is low.

Ceilings:

The majority are 24"x 24" acoustical dropped ceiling systems with either black or white grids. The condition varies as some areas appear newer while other areas either have water damage from pipes/roof leaks or dirt from adjacent air diffusers. Many active leaks exist, both from roofing leaks as well as melting snow entering rooftop air intakes, which

continually damage ceiling tiles.

The cafeteria and many classrooms have 12" x 12" ceiling tile with concealed spline suspension systems, which are fair to poor condition. Some tiles have water damage, have partially detached from the concealed grid, or have been recently replaced or painted. If painted, the tiles lose much of their acoustical value. Many classrooms have tiles removed to run technology wiring, that were not replaced.

Doors, Casework, and Specialties:

Wood doors and built-in casework, as one would expect in a 46 year old facility, are in fair to poor condition; many are scratched, worn, dented, or delaminated. Some have been replaced with mismatched, inferior products.

Built-in specialties such as toilet partitions, shelving, etc. are generally in fair condition, and show significant wear and tear. The gym bleachers were salvaged from an elementary school, and have become impossible to repair. Lockers in locker rooms are in poor condition, dented, and rusted. Hall lockers are generally in fair condition, but are too narrow, and are not used by students.

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

In addition to all academic programs required for graduation, Northeast's current career/ technical programs include: Automotive Technology, Auto Body, Carpentry, Cosmetology, Culinary Arts, Drafting and Design, Design and Visual, Dental Assistant, Early Childhood Education, Electrical, Electronics, Graphic Communications, Health Medical Assistant, HVAC, Metal Fabrication, Office Technology, and Plumbing. Implementation of the curriculum standards, developed by the Department of Education in terms of the new Vocational Frameworks and Certificate of Proficiency, will require a reevaluation of the building space and equipment needs of Northeast.

There is a desire to expand program offerings to meet student demand; however the following programs cannot be offered by this regional vocational facility due to the lack of building space: Masonry, Hotel/Hospitality, Marketing, Robotics, and Pre-engineering, and Alternative Energy Technology. These are all Chapter 74 programs and must follow the facility guidelines established under those regulations.

Additionally, over the recent past years, students have been denied their first choice career selection due to over-subscription in those programs; for example: Plumbing, Drafting and Design, Dental Assisting.

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, a description of the cafeteria, gym and/or auditorium and a description of the media center/library (maximum of 5000 characters).

There are 21 general education classrooms in the facility, with an average area of 790 NSF, the smallest being 620 SF and the largest 1025 SF. There are seven (7) Science classrooms, with an average area of 934 NSF; only one is outfitted as a lab, at 1,368 SF. None of these spaces has ever been upgraded. Generally educational spaces are crowded, and often there is a mismatch between class enrollment and the room available to teach it, resulting in severe overcrowding. A two-classroom modular unit was installed at the rear of the school three years ago to help accommodate classroom space demand, and has remained as space demands have not gone away.

A few core academic classrooms have been created out of previous storage spaces on the lower level, and are windowless, unventilated spaces.

There are no smaller academic support spaces or extended learning spaces in the facility, which makes flexibility with small group learning, one-on-one, and differentiated learning very difficult. Special Education spaces are mainly concentrated in the south-west corner of the building, creating a de-facto segregated situation. The special education suite is two ex-classrooms divided up into small study and work spaces with partitions that do not go to the ceiling, making private conversations impossible and sound trespass and disturbance the norm.

The Library is central to the facility on the main level, often congested and significantly undersized at 2,686 total SF and 50 seats, has never had significant upgrades.

The cafeteria is undersized at 7,665 SF, and is one large room with a tall ceiling, making for a noisy, chaotic space. There are four lunch periods, and even then, the room can be crowded. There is no auditorium in the building, so the cafeteria

has a stage at one end and functions as the assembly space. However, the stage lighting is non-functional and the sound system is poor, so making presentations can be difficult. The stage is a notorious site for recurring piping leaks. The gym is significantly undersized at 8,160 SF, with a small bleacher capacity, and very little space around the competition basketball court. Locker facilities are similarly undersized, and support facilities such as a weight room have been carved out of mismatched existing spaces.

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).

Northeast Metro Tech was designed and built in 1968-70 for approximately 900 students. As noted above in this application, currently the school serves 1267 students, representing an over-commitment of facilities of roughly 40%. Consistently for the last seven years there has been a surplus of applicants for which there are not places in the school programs. All CTE programs are fully enrolled, with wait lists for most of them. There are currently 325-330 places, or “seats” at the school per grade level, and an average of 650 Freshman class applications are received annually, creating a backlog or surplus of roughly 325 students, or almost double the number of places in a class.

Another limiting factor is general classroom space: all academic classrooms have a very high utilization rate—near 98% in most cases. As noted above, there are (21) general education classrooms in the facility, (2) general classrooms in temporary external modular space added to soak up some of the demand for classrooms, (6) Science classrooms and one (1) true Science Lab, and (14) “Related” classroom spaces adjacent to shops.

Often there is a mismatch between the number of students enrolled in a class and the classroom space available in which to hold that class, resulting in severely crowded spaces with little room for teachers or students to move around the room, re-organize into work groups, or conduct one-on-one differentiated learning. There is very little suitable academic support space for breakout groups.

Average academic classroom size is 790 SF and often these classrooms hold a class of 25-28?? students. The smallest classroom of 620 SF—World History, a windowless basement space carved out of storage—often houses classes of 24-25?? students.

The single science lab is 1,368 SF, slightly below standard of 1,440 SF, but is configured with fixed casework and the lab area is crowded with desks from the classroom area. The MSBA standard for a school of the proposed enrollment would be eight full science labs, each with a prep room.

The entire Nursing program space is located in the lower level, partially subgrade, and was created from storage space along the windowless subgrade back wall. Other classroom spaces—typically below standard size—have been carved out of storage rooms on the main level.

Special Education needs at the school have increased on pace with peer institutions, and as a result, two academic classrooms were occupied by the Special Ed learning center. There are no special education resource rooms or other learning support spaces intermixed with classrooms or shops.

In the past five years, Northeast has created Related classroom space by carving out of existing shop space, in order to free up existing Related classrooms for academic classes. Even with this move, currently four (4) CTE programs do not have a Related classroom within, adjacent, or close by the shop.

Other examples of crowding typically center on shared facilities that were designed for a smaller population of students and teachers. Examples include but are not limited to:

- crowding in toilet room facilities
- altercations or disciplinary issues in corridors and stairs due to congestion
- the need for four lunch periods to handle the enrollment in each grade level, long service/ wait time on the lunch line, and cafeteria seating at or above capacity
- a Library at 2,686 SF and 50 seats, less than one-third the size of the recommended 9,800 SF for this population
- Nurse’s office suite roughly 30% undersized
- undersized athletic support facilities
- inadequate teacher support facilities
- inadequate parking facilities for students and faculty.

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).

Past major or capital repairs have included:

1980 – Roof Replacement

1989 – Replaced rooftop screw chiller

2005 - The boilers were re-tubed and currently tubes are replaced as needed.

C.2008-10 - Approximately 60% of the interior lighting fixtures were retrofitted with upgraded T8 lamps and ballasts – By a donation from Sylvania.

2010? - The fuel oil suction line between the building and the underground fuel tank was replaced.

c.2012 - chilled water pump rebuilt

2012 - Main power disconnect switch failed and was replaced

2013 - The primary hot water pumps were rebuilt and the motors replaced

2013 - Due to corrosion and leaking, the expansion tanks were replaced

2013 and ongoing - Major isolation valves were replaced in the boiler room to allow the boiler to be isolated. The school has been adding strategically placed isolation valves around the facility, as there were few in the original heating system design.

2014 - Fire alarm system control panel was upgraded after the carpentry shop fire

2014? - The fuel oil transfer pumps and the internal parts of the duplex strainer were replaced

2015 – added handicapped lift to serve cafeteria level

2015 - A new H&V rooftop unit was installed in as part of the fire repairs to the carpentry shop.

None of these repair projects were paid for with override votes; all were handled under emergency budget appropriations using with operational funds. Fire repairs to the Carpentry Shop were paid with insurance settlement funds.

Under the present superintendent's administration, a Capital Improvements and Repair Program was instituted (attached), which did not exist in previous administrations. Budgets being stretched to the max in a typical year by such items as rising health insurance costs and even modest salary increases to keep pace with cost of living, it has been difficult to fund and begin implementation this program.

Current maintenance practices include daily interior cleaning of rooms, corridors, and toilet rooms, responding to trouble tickets and work orders in the digital system that are submitted by teachers and staff, and ongoing basic maintenance projects.

Unfortunately, due to the age of the building and its components, much of the staff's time—especially in the winter—is spent in crisis management mode, dealing with and fixing leaking water pipes and valves, malfunctioning unit ventilators, plumbing issues, leaking compressed air lines for the pneumatic controls, and leaking or malfunctioning dampers; or rigging up temporary fixes for piping leaks such as drip pans and hoses to sink drains. The winters of 2013-14 and 2014-15 were especially challenging due to record snowfalls: air intakes on the roof sucked in a lot of snow, which then melted and leaked to the interior in many locations.

There is a manual of ongoing scheduled maintenance for major equipment. This basic maintenance (such as lubrication, drive belt, and filter changes) is typically performed by the in-house staff, and more complicated repairs are done by outside vendors. Sometimes students in the HVAC career program perform some basic maintenance under direct supervision of the instructors.

Typical summertime maintenance operations include complete top-to-bottom cleaning and polishing of each room with furniture removed, major scheduled equipment maintenance, patching and painting, furniture repair and cleaning, and similar yearly tasks.

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.

Roof Leaks: The EPDM roof membrane was replaced in 1980 and at 35 years old, is long out of warranty and leaks regularly. There are 25 new leaks at last count (February 2016).

The record drawings indicate the original roof deck is 2" poured gypsum supported by 1-½" form board on open web steel joists. There is the potential that roof leaks have compromised the structural integrity of the poured gypsum roof deck. Confirmation of this condition will require further invasive investigation and testing, such as a test cut in representative areas of each roof section. Evidence to support this hypothesis is the following: on an especially hot day on April 16, 2015, while completing an existing conditions assessment, representatives of Dore & Whittier Architects observed a curious "ballooning" of the membrane in several areas of the roof over the Electrical Shop and Maintenance areas. One cause of this condition could be heating and evaporation of water trapped within the roof assembly, bubbling up the membrane as it seeks a way to escape. If there is this much trapped moisture, the integrity of roofing components is called into question.

Roof leaks regularly cause interruptions to the delivery of the educational program in the school. Major leaks will close a room, and because utilization of rooms is maximized in the building already, losing one room puts the schedule under great stress. Some leaks were active a long time before being discovered, causing porous materials such as carpeting and ceiling tile to be wetted, which caused mold and mildew growth. The rooms had to be emptied, decontaminated with bleach, dried, and re-painted.

Fire Protection Systems: Water supply to the building is an 8-inch line that will not support the required flow and volume for a full-building automatic sprinkler system. There is no system present in the building.

The fire detection and alarm system, though having had a few minor upgrades, does not have the correct number and location of detection devices, and is out of code compliance in many aspects.

In 2014, as the result of a fire in the dust collection system, the Carpentry shop burned and took a total loss. The roof structure was destroyed, much of the equipment and tools were lost, shop electrical and mechanical systems were totaled, and finishes were destroyed in much of the room. Had there been adequate detection and suppression, this fire could have been a much more minor event. Fortunately it happened when the building was not occupied, and the building construction and quick action by the fire department contained the fire to that one shop area.

Structural Settling: There are two areas of note that have experienced settlement: the Pool/Natatorium, and a corridor just north of the Kitchen area.

The slab under the pool liner has settled and cracked, creating the leak that caused the indefinite closure of the pool. A report by XYZ Engineers (date, attached) indicates this settling might be either due to an underground aquifer that gradually displaced soils supporting the slab-on-grade floor of the pool, or a leak in the piping at the main drain of the pool that likewise displaced soils. Either condition would cause the slab to collapse and crack.

Settling is also noted in the corridor north of the Kitchen on the east side of the building. Several panels of the terrazzo floor have dropped 1 ½" leaving a misalignment in the floor that is a trip hazard, and a possible indication of further structural unrest at this location. The settlement corresponds to the north wall of the mechanical room below, where the structure switches from slab-on-grade to slab-on-deck supported by a high retaining/foundation wall. It is possible that backfill behind the retaining foundation wall was not properly compacted before the slab-on-grade was cast over top of it, leading to settlement.

There are other areas of localized minor settlement and resultant cracking that do not pose a serious concern, but contribute to the overall run-down appearance of the school building.

Sewer Collapse: The sewer pipe leaving the building and connecting to the Town of Wakefield sanitary system is 46 years old and beginning to deteriorate. Sections of the sewer pipe have collapsed and caused

major backups in the plumbing system. Clearly the school cannot operate if its main sewer connection is non-functional. When it has occurred, this is a major health condition that puts the school out of commission until it is repaired.

Stair Issues: The stair railings and guards do not meet current building code; most are quite open having only two horizontal divider rails, and not at the correct height. The present railing and guard system would be acceptable in an industrial-type facility, but not a school building that hosts small children in the Early Education CTE program.

Egress stairs from the second level appears to be under-capacity in their required egress width; further occupant load study is required to confirm this. Anecdotally, during fire drills the second floor population does not have good response time getting out of the building due to congestion on the exit stairs from this level. This is a structurally-limited issue that would be very difficult to correct.

Exit Signs: Many exit signs are not illuminated (light is either non-functional or the sign is a cardboard placard), or lack lighted directional indication of the egress path. Many locations that should have an exit directional sign do not.

Priority 1

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

Roof Leaks: leaks are located, traced, and patched or repaired as best they can be.

Recommended action on the gypsum deck of test cut has not yet been taken, as this hypothesis was only recently proposed.

Mold and mildew growth has been decontaminated and repaired/ re-painted.

Fire Protection Systems: A study to run a new larger water supply line (and gas line) to the building was drafted in 1994, but was never realized. At this point the option to extend these utilities to the site is a main priority in any renovation or new build scenario.

The fire alarm system main panel was upgraded in 2014 as a result of the Carpentry shop fire. The balance of the system remains unchanged.

Structural Settling: The pool was indefinitely closed rather than sustain the cost to repair the floor slab.

The corridor settling is under observation for any further movement or change in condition.

Sewer Collapse: The collapsed sewer pipe sections were located and replaced, and the line requires frequent cleaning out.

Stair Issues: The stair railings and guards cannot be changed without a renovation project to replace them; they remain as-is. The width of exit stairs is structurally limited and cannot be changed without a major intrusive and structurally-difficult renovation project.

Exit Signs: burned out lamps are replaced, but missing exit signs require running new electrical wiring, and circuit capacity is not available.

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.

Roof Leaks: As stated above, roof leaks regularly cause interruptions to the delivery of the educational program in the school. Major leaks will close a room, and losing one room puts the school's overall schedule under great stress.

Some leaks caused mold and mildew growth. The rooms had to be emptied, decontaminated with bleach, dried, and re-painted. Again, the schedule is put under stress and a substitute room needs to be somehow arranged in an over-committed school building.

A factor not to be ignored is the demoralizing effect for students and teachers of having to go to school in a building with ongoing leaking roof, which certainly impacts the ability of students to learn and teachers to be at their most effective. This is true for leaks within classrooms and shops, which directly affect program delivery, as well as leaks in common areas and corridors; one can walk around the bucket containing the leak, but one cannot help notice it, and it saps morale over time.

Fire Protection Systems: A letter of warning was received from the Wakefield Fire Chief regarding the lack of a sprinkler system in the building (June 19, 2015, attached). Theoretically the building is "grandfathered" to not need a sprinkler system; however the AHJ can at any time require its installation, which would be a financial burden to the school as a stand-alone project, and would require the extension of a minimum 10-inch water supply from Farm Street to the building.

The fire alarm and detection systems are in much the same status. There is no mandate requiring their upgrade, but the school lives in fear of some tragedy occurring due to the absence of updated equipment.

Structural Settling: The pool was a major, well-used component of the physical education and inter-scholastic athletics programs, as well as a treasured community resource. The school has made other arrangements with pools in nearby Towns, but this is neither sustainable nor ideal.

The corridor settling fortunately is not in the most traveled part of the corridor, but is a trip hazard.

Sewer Collapse: As noted above, the school cannot operate if its main sewer connection is non-functional. When backups have occurred, this is a major health condition that put the school out of commission until it is repaired. The fact that one section of pipe has rotted and collapsed would indicate that others are soon to follow. These failures would come without warning and have total and immediate impact on the entire school to operate.

Stair Issues: The stair issues are similar to the sprinkler: they are "grandfathered" code conditions, but their resolution would add a level of safety to the building.

Exit Signs: Again, similar to the other code issues, adding missing exit signs increases the level of safety in the building.

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):

Dore & Whitter Architects, Inc.

Date of Study/Report: 3/1/2016

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

D&W conducted an existing conditions survey that identified each of the conditions and deficiencies outlined in this SOI.

Is the perceived Health and Safety problem related to asbestos?: NO

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):

Is the perceived Health and Safety problem related to an electrical condition?: NO

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):

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):

Though these are not issues of "imminent structural collapse", they are issues resulting from deficiencies and poor condition of the structure and its building systems. Roof leaks may be contributing to structural compromise of the gypsum roof deck, which is a potential safety issue. Lack of a fire protection system is a potential safety issue. Structural settling is a safety/welfare issue. Sewer pipe collapse is a health and welfare issue. Stair and Exit Sign issues are potential safety issues.

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):

Roof leaks have led to mold/mildew growth, which is a health and welfare issue.

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):

Roof leaks have led to mold/mildew growth, which is a health and welfare issue. Roof leaks may be contributing to structural compromise of the gypsum roof deck, which is a potential safety issue.

Remedies:

Leaks are located, traced, and patched or repaired as best they can be by building maintenance staff or outside vendors.

Recommended action on the gypsum deck of test cut has not yet been taken, as this hypothesis was only recently proposed.

Mold and mildew growth has been decontaminated and repaired/ re-painted.

Is the perceived Health and Safety problem related to accessibility?: NO

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):

Priority 2

Question 1: Please describe the existing conditions that constitute severe overcrowding.

Northeast Metro Tech was designed and built in 1968-70 for approximately 900 students. Currently the school serves 1,267 students, representing an over-commitment of facilities of roughly 40%. Northeast is not currently able to fully serve its constituent communities to the degree of demand made by those communities for its educational programs and services.

As detailed above in this SOI, consistently for the last seven years there has been a documented surplus of applicants for which there are not places in the school's programs. All CTE programs are fully enrolled, with wait lists for most of them. Any loss of students in any class through normal attrition are immediately replaced from the waiting list. Enrollment maximums are based on physical places/stations in the shops and/or safety requirements dictated by Chapter 74 rules and guidelines.

In addition to its core academic programs, Northeast currently offers fifteen (15) career/ technical programs. Implementation of the curriculum standards, developed by the Department of Education for the new Vocational Frameworks and Certificate of Proficiency, will require a reevaluation of the shop and classroom space and equipment needs of Northeast, and it is already clear that many shops are undersized.

There is a desire to expand program offerings to meet student demand; however the following programs cannot be offered by this regional vocational facility due to the lack of building space: Masonry, Hotel/Hospitality, Marketing, Robotics, and Pre-engineering, and Alternative Energy Technology.

Additionally, over the recent past years, students have been denied their first choice career selection due to over-subscription in those programs; for example: last year the Health Assisting program had 56 applicants for 26 spaces, more than double the number of available places in a highly in-demand career path.

Another limiting factor is general classroom space: all academic classrooms have a very high utilization rate—near 98% in most cases. Often there is a mismatch between the number of students enrolled in a course and the classroom space available in which to teach it, resulting in severely crowded spaces with little room for teachers or students to move around the room, re-organize into work groups, or conduct one-on-one differentiated learning. For example, the 9th grade Biology class often has 30 students enrolled in a room that can physically fit only 24 desks.

There are 21 general education classrooms in the facility, with an average area of 790 NSF, the smallest being 620 SF and the largest 1025 SF. There are seven (7) Science classrooms, with an average area of 934 NSF; only one is outfitted as a lab, at 1,368 SF. None of these spaces has ever been upgraded, and most experience crowded conditions many periods of the day.

In the past five years, Northeast has created "Related" classroom space by carving out of existing shop space, in order to free up existing Related classrooms for academic classes. Even with this move, currently four (4) CTE programs do not have a Related classroom within, adjacent, or close by the shop.

As special education needs in the district increase on par with peer institutions, more pressure is placed on space demands due to needs of special education teachers for smaller academic support spaces or extended learning spaces in the facility (which do not currently exist). The somewhat segregated special education learning suite is two ex-classrooms divided up into small study and work spaces, which long ago took those spaces out of circulation for general education.

As has been detailed in other sections of this SOI, shared or common spaces such as the library, cafeteria, and gym were designed for a population of 900, or for a different model of Career & Technical Education than exists now, and are undersized for the present population of 1,267 students. Other examples of crowding typically center on functional and support facilities such as nurse's office, academic support offices, toilet rooms and corridors that were designed for a smaller population of students and teachers.

Priority 2***Question 2: Please describe the measures the School District has taken to mitigate the problem(s) described above.***

As noted above, Northeast consistently attracts roughly twice as many student applicants as there are places in the school—places which are structurally limited by space rules and guidelines, number and size of classrooms, and design capacity of building infrastructure and shared spaces. To try and serve our constituent communities, we have taken the following measures to alleviate crowding:

We have built offices and support spaces in former corridors, which alleviates claims on program space, but worsens corridor crowding and congestion at pinch points.

A two-classroom modular unit was installed at the rear of the school three years ago to help accommodate classroom space demand. It is utilized 100% of the school day.

Two core academic classrooms and the entire Health Assisting program space have been created out of previous storage spaces on the main and lower levels, and are interior, windowless, under-ventilated spaces.

In the past five years, Northeast has created “Related” classroom space by carving out of existing shop space, in order to free up existing Related classrooms for academic classes. Some shops have gotten smaller as a result. Related and Core academic room assignments have been juggled, but this does not create more space; it only seeks to better balance room and class size needs. Even with these moves, four (4) CTE programs do not currently have a Related classroom within, adjacent, or close by the shop.

Over the past several years, the District has purchased cargo container boxes and constructed outdoor material cribs to store shop materials to alleviate interior crowding. Inside the shops, mezzanines and other storage areas have been constructed by students to free up floor space for teaching areas.

On the operational side, we have to run four lunch periods to seat the student body from each class into the cafeteria. We have hired security professionals and employ a School Resource Officer from the Wakefield Police Department to assist with corridor monitoring, as congestion at times has led to altercations and other discipline issues in hallways.

Priority 2

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.

Northeast is not currently able to fully serve its constituent communities to the degree of demand made by those communities for its educational programs and services. The enrollment numbers have been detailed above in this SOI.

We also have an imbalance in enrollment interest in existing programs. Several of our career tech areas don't have the space to accommodate all of those students who would choose that area as their preferred placement; e.g. Drafting and Design, Health Assisting, Plumbing, Dental Assisting, Early Child Care, HVAC, and Electrical. Our Community Advisory Committees, made up of local industry leaders and entrepreneurs, have indicated a demonstrated need for qualified job applicants in these areas of interest. Some specific job descriptions in demand by our community partners—and not currently being well-served—include Medical Technician, Machinist, Robotics Operator/Programmer, and Engineer.

Additionally, proposed new programs which also need applicants in the workforce—Masonry, Hotel/Hospitality, Marketing, Robotics, Pre-engineering, and Alternative Energy Technology—cannot be started at Northeast due to lack of space. Our duty to serve our communities and local labor markets is severely limited by our facility size.

The lack of academic classroom space seriously limits our ability to offer any electives or AP courses to our students.

We have only one true science lab, capable of serving 24 students, to perform any lab experiments that require sinks or use of chemicals. The other six science rooms are classrooms only, most with no running water, sinks, gas, hood vents, or proper casework. For a student population of 1267, this greatly curtails the delivery of any meaningful upper-level science program.

The size of the library is an excellent example of how crowding impacts the educational delivery of the school's programs. There are times when access to the library must be carefully managed and coordinated so it is not overrun with too many students at once. This certainly results in the curtailing of some students' educational opportunities if they have to wait or forgo access to the library to complete an assignment.

Please also provide the following:

Cafeteria Seating Capacity:	300
Number of lunch seatings per day:	4
Are modular units currently present on-site and being used for classroom space?:	YES
If "YES", indicate the number of years that the modular units have been in use:	3
Number of Modular Units:	2
Classroom count in Modular Units:	2
Seating Capacity of Modular classrooms:	30
What was the original anticipated useful life in years of the modular units when they were installed?:	1
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:	13
Please provide a description of each non-traditional classroom space, its originally-intended use and how it is currently used (maximum of 1000 characters):	

Two special education classrooms were created from SPED offices and reading lab.
 SPED secretaries' office was converted into Dental Assisting Classroom.
 Dental storage closets were converted into a Dental waiting room and demo lab.
 Teacher's offices and computer storage room in Office Tech shop area were removed and made into classroom space.
 Two core academic classrooms and the entire Health Assisting program space have been created out of previous storage spaces on the main and lower levels.
 In the past five years, Northeast has created Related classroom space by carving out of existing shop space, in order to free up existing Related classrooms for academic classes. Some shops have gotten smaller as a result.
 Offices and support spaces were built out in former corridors, which alleviates claims on classroom space, but worsens corridor crowding and congestion at pinch points.

Please explain any recent changes to the district's educational program, school assignment policies, grade configurations, class size policy, school closures, changes in administrative space, or any other changes that impact the district's enrollment capacity (maximum of 5000 characters).:

The only change is our School Committee voted not to accept any new School Choice students because of our extensive waiting list of district resident students

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

the freshman class is limited to 330
 We try to keep the academic classes to a 26;1 ratio when possible
 the career tech areas vary from 1 to 20 down to 1 to 10 or 11

Priority 3

Question 1: Please provide a detailed description of the "facility-related" issues that are threatening accreditation. Please include in this description details related to the program or facility resources (i.e. Media Center/Library, Science Rooms/Labs, general classroom space, etc.) whose condition or state directly threatens the facility's accreditation status.

There were 45 recommendations listed by the NEASC reviewers. Many of these recommendations are similar or identical to conclusions reached by Dore & Whittier Architects in their Existing Conditions Survey. Most of the more serious or systemic issues are mentioned already elsewhere in this SOI. We will detail those major items that are not routine maintenance or repair items, which are not already covered in sufficient detail elsewhere. They include:

2. Bring all handicapped access points into compliance with ADA. See SOI General Description – Building Interior, and Priority 7.
3. Encourage Facility Manager to obtain certifications: this will enable more effective planning for capital improvements, better management of labor forces, deeper technical knowledge of building systems, better troubleshooting skills, and more targeted workflow and efficiency.
7. Remove all identified asbestos floor tiles.
8. Ensure ventilation systems in shops, classrooms, and offices are working properly – ventilation rates in these spaces likely do not meet the International Mechanical Code, Chapter 74 requirements, and mechanical best practices.
11. Ensure all areas where additional walls have been constructed are fire code compliant – for example, partitions build in the Special Education suite and wood mezzanines in several shops may not be built to proper fire-resistive construction.
12. Investigate hiring licensed Plumber and Electrician for maintenance staff to make repairs throughout the building.
13. Observation of underground storage tank (UST) provided no indications of monitoring system. Verify it meets state requirements – we state elsewhere in this SOI that the UST does have an alarm; it must have been missed by the reviewer, or was installed after the visit.
14. Develop a comprehensive preventative maintenance schedule for electrical, HVAC, and plumbing equipment – this would be work done and managed by a certified Facility Manager – re. #3 above.
20. Repair/replace non-functioning water fountains throughout the facility – very few fountains actually work, and none are fully accessible. Complete replacement is warranted.
23. Investigate adding formal science laboratory space – it cannot be underscored enough: there is only one true science lab in this facility (but it has fixed casework and is undersized), while the MSBA recommends eight (8) for a school of the proposed enrollment.
26. Repair or replace air conditioning units in Early Childhood Career Center area to align with the MA State Frameworks for Early Education and Care, 2.B.01.
28. Investigate replacing plumbing fixtures to increase conservation efficiency – it is astounding how much energy it takes to clean one gallon of potable water in a municipal system, and equally astounding how much energy and cost could be saved with the installation of low-flow fixtures in a building of this size. These are funds that could then be directed to educational pursuits.
29. Repair/replace exterior door locks to prevent unauthorized access to the facility – security is a major issue in large institutions in this day and age, and no true security can be achieved without fully functioning locks. Centrally-controlled, power/magnetic-actuated locks would be the facility standard for a building of

this type and size.

30. Drain, clean, and refurbish swimming pool and natatorium – realizing that pools are outside the MSBA funding mechanism, it would be up to the District to gauge the willingness of sending towns to contribute to any costs associated with this item. While the aquatic program has been truly a wonderful thing for this school, it is not mission-critical.

31-34. Rehabilitate outdoor athletic facilities – these items cover many recommendations echoed by the architectural team, that conditions of the fields are deplorable, in some cases are an injury/safety hazard to players, and need to be made handicapped-accessible for spectators.

35. Refurbish the locker rooms – interior athletic support facilities are in equally bad shape, and need major renovation.

36. Remove or repair all playground equipment in disrepair – there is an old playground at the rear of the site which is abandoned and overgrown. Equipment should be removed and the space repurposed. The newer equipment near the baseball field may also need repairs. The basketball courts are cracked, heaved and are a major safety issue, and as such are not used.

41. Increase the CFM on the exhaust system in the HVAC and Welding CTE area to meet industry standards – again, this area should meet the Mechanical Code, Chapter 74 requirements, and best practices.

42. Improve soundproofing in basement classrooms – this issue is present in many classroom areas throughout the school, particularly the second floor classrooms with demountable partition walls.

43. Repair all Public Address System speakers and sound system throughout the building – this is a major operational issue, communication issue, and a safety coordination and evacuation issue. It would be very difficult to coordinate evacuation in an emergency such as an “active shooter” situation. Many rooms do not have a working speaker, or volume is so diminished it cannot be heard above shop machines. Many rooms also lack a working telephone system/handset.

Priority 3

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

Please refer to other sections in this SOI where many of these measures have already been detailed: General Description-Boiler; HVAC; Priority 1, Q2; Priority 5, Q2.

Priority 3

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(s) identified.

2. Non-compliance with ADA excludes a whole class of students from equal opportunity to education.
3. A non-certified Facility Manager operates inefficiently and wastes funds that could be better spent on education.
7. Asbestos is a known health risk, and should be abated from the building.
8. Poor ventilation is a health issue and an indoor air quality issue at the least and a health risk at its worst.
11. Non-code compliant walls are a potential safety risk to building occupants.
12. On-staff licensed Plumber and Electrician may save the District money over hiring out small jobs to outside vendors; funds that could be spent on education.
14. A building that is not well-maintained dominates the attention of students and teachers alike; neither can do their best work when fighting against a broken-down building.
20. Clean potable water is a basic right and necessity in all public buildings.
23. The lack of true science laboratory space greatly impacts the ability to provide a meaningful upper-level science program in the school, and also will not attract qualified teachers to this institution.
26. Non-functioning air conditioning units are a MA Framework violation, as well as a potential health risk for infants and toddlers.
29. Lack of security on doors and windows is a major safety issue, as well as being a psychological "drag" on occupants who may worry for their safety.
- 31-34. Poor outdoor athletic facilities are an injury/safety hazard to players, and exclude handicapped members of the general public as spectators or participants.
35. Dilapidated locker rooms are a potential safety issue, carry accessibility issues, and are frankly demoralizing in their current state.
36. Playground equipment in disrepair is a safety issue.
41. Poor ventilation is a health issue and an indoor air quality issue at the least and a health risk at its worst.
42. Poor soundproofing impacts students' ability to hear and understand what is going on in their classroom, if they are being disturbed by sound trespass from an adjacent classroom.
43. A non-functional Public Address System speakers and sound system is a major operational issue, communication issue, and a safety coordination and evacuation issue which impacts students and staff alike.

Please also provide the following:**Name of accrediting entity (maximum of 100 characters):**

New England Association of Schools and Colleges (NEASC)

Current Accreditation Status: Please provide appropriate number as 1=Passed, 2=Probation, 3=Warning, 4=Lost:

3

If "WARNING", indicate the date accreditation may be switched to Probation or lost: 2/1/2015

If "PROBATION", indicate the date accreditation may be lost:

Please provide the date of the first accreditation visit that resulted in your current accreditation status.:

5/13/2014

Please provide the date of the follow-up accreditation visit: 2/1/2015**Are facility-related issues related to Media Center/Library? If yes, please describe in detail in Question 1 below.:**

YES

Are facility-related issues related to Science Rooms/Labs? If yes, please describe in detail in Question 1 below.:

YES

Are facility-related issues related to general classroom spaces? If yes, please describe in detail in Question 1 below.:

YES

Are facility-related issues related to SPED? If yes, please describe in detail in Question 1 below.:

NO

Are facility-related issues related to support spaces? If yes, please describe in detail in Question 1 below.:

NO

Are facility-related issues related to "Other"? If yes, please identify the other area below and describe in detail in Question 1 below.:

YES

Please describe (maximum of 100 characters).:

Please see attached NEASC Decennial Report. pg.23,24,25

Priority 4

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

Northeast Metro Tech, as a regional vocational education institution, does not make enrollment projections in the classic sense that other school districts do. NEMT is a selective institution with an application process and selection criteria, and not all applicants are accepted; thus there is a documented application backlog that is a reliable statistic that can indicate potential for future growth. Enrollment in most shop-based programs is capped by Chapter 74 requirements and/or the number of students that can safely participate in the program. Other programs are capped by the practical limits of instruction: the student/instructor ratio, physical constraints of the instructional space, or other practical limits.

In general, Northeast uses the following empirical data to plan its growth:

- Current and past enrollments: school total, and per program
- Trend line plot: school total, and per program
- Numbers of Applications
- Number of Acceptances (which is typically the number of “seats” - capped at 1260-1270 per year)
- Application backlog: school total, and per program
- Program post-graduation outplacement rate

In addition to this empirical data, the administration relies upon the input and counsel of its Community Advisory Committees (CACs)—one Advisory Committee for each vocational program as well as an overall School Advisory Committee—made up of community members who are business and industry leaders from the twelve sending towns. They advise the Superintendent and core administrative team on such items as career/employment trends, workforce needs, placement opportunities, skill set requirements, program content, technical advice, and other educational and operational factors. The CACs make enrollment recommendations on which programs should be grown, which remain steady but still relevant, which are waning in their economic importance, and perhaps most importantly, which emerging fields will require workforce development looking into the future.

In addition to the CACs, the Northeast District School Committee also provides oversight and guidance on matters that directly bear on enrollment maintenance and distribution over its CTE programs.

Current Situation: Northeast enjoys a solid reputation as a viable choice for high school students interested in a comprehensive technical education, with solid career prospects thereafter. The school has a current grade 9-12 enrollment of 1267 students. As stated elsewhere in this SOI, there are 325-330 places—or “seats”—at the school per grade level. An average of 650 Freshman class applications are received annually, making an annual backlog of roughly 320 students, or almost double the number of places in the class. This surplus situation has existed consistently for at least seven years. There is a chronic shortage of classroom space for academic subjects and educational support services that has existed for at least five years in the school. Detailed enrollment trends broken down by sending town for Classes of 2012 – 2019 are available upon request.

Enrollment Looking Ahead: In the future, Northeast is optimistic and confident about its ability to maintain its strong market position in the realm of school choices in the North Shore region. Several factors contribute to this outlook:

- strong application rates year upon year

- strong demand for qualified graduates and high outplacement rates in most programs/fields the school offers
- continued information from community advisory committee members and the regional business community that demand remains high for certain programs
- strong population growth in many sending towns in the District, e.g.: Chelsea +7.4%; Malden +7.4%; Melrose +2.0% ; No. Reading +7.4%; Reading +4.4%; Revere +13.7%; Saugus +2.1%; Stoneham (-3.5%); Wakefield +0.5%; Winchester +2.7%; Winthrop (-4.4%); Woburn +4.9%.
[Percent change between 2000 U.S. Census and projected 2015 population, from CityData.com/U.S. Census]
- Northeast's accreditation reports which, aside from serious facilities demerits, have very strong ratings for programs and instructors.

Additionally, over the last 18 months the administrative team has taken a hard look at the current CTE program offerings, and—again with input from its advisory committees—has made the decision to make some fundamental changes in program offerings going forward. The school will continue successful programs, add some relevant new programs, and discontinue programs where interest and/or relevance is on the wane. These moves will only strengthens Northeast's position in the school choice “market” going forward.

Priority 4

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

The factors related to enrollment backlog detailed above have caused the administrative team to realize that the time is now to take advantage of a major renovation or new building project to simultaneously:

- increase its capacity to serve its constituent communities,
- handle its consistent backlog of student applications, and
- tune its facilities to handle the changes in programming.

Therefore, the administration is moving forward under this SOI with the goal of expanding its enrollment to 1,600 students.

Priority 4

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.

As stated in Priority 2, Q3: Northeast is not currently able to fully serve its constituent communities to the degree of demand made by those communities for its educational programs and services. The enrollment numbers have been detailed above in this SOI.

There is a disproportionate imbalance in enrollment interest in some existing programs.

Additionally, proposed new programs which need qualified applicants in the workforce cannot be started at Northeast due to lack of space. Our duty to serve our communities and local labor markets is severely limited by our facility size.

We would also restate the issues related to facility crowding detailed elsewhere in this SOI that have already placed a limit on enrollment, much less any ideas of further expansion.

Please also provide the following:

Cafeteria Seating Capacity:	300
Number of lunch seatings per day:	4
Are modular units currently present on-site and being used for classroom space?:	YES
If "YES", indicate the number of years that the modular units have been in use:	3
Number of Modular Units:	2
Classroom count in Modular Units:	2
Seating Capacity of Modular classrooms:	30
What was the original anticipated useful life in years of the modular units when they were installed?:	1
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:	13
Please provide a description of each non-traditional classroom space, its originally-intended use and how it is currently used (maximum of 1000 characters).:	

Two special education classrooms were created from SPED offices and reading lab.

SPED secretaries' office was converted into Dental Assisting Classroom.

Dental storage closets were converted into a Dental waiting room and demo lab.

Teacher's offices and computer storage room in Office Tech shop area were removed and made into classroom space.

Two core academic classrooms and the entire Health Assisting program space have been created out of previous storage spaces on the main and lower levels.

In the past five years, Northeast has created Related classroom space by carving out of existing shop space, in order to free up existing Related classrooms for academic classes. Some shops have gotten smaller as a result.

Offices and support spaces were built out in former corridors, which alleviates claims on classroom space, but worsens corridor crowding and congestion at pinch points.

Please explain any recent changes to the district's educational program, school assignment policies, grade configurations, class size policy, school closures, changes in administrative space, or any other changes that impact the district's enrollment capacity (maximum of 5000 characters). :

Northeast no longer accepts school choice students, as long as there is a wait list of in-district students.

There have been no other structural changes in enrollment-centered policies.

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

entering freshman class 330
classrooms appoximatly 26;to1
career tech 20 ; 1 to a low of 11or 12 to 1

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.

These issues have been explained in detail elsewhere in this SOI. A bulleted list is repeated here:

Site:

- No natural gas service on the site, and the water main, sewer, and electrical service are undersized and should be upgraded.
- Sewer main is compromised and has failed recently

Building Envelope:

- Complete lack of insulation in foundation, walls, and roof.
- Fenestration consists of the original single-pane-glazed aluminum-framed windows and doors (non-thermally broken), uninsulated steel egress doors and uninsulated steel overhead doors, mostly in fair to very poor condition. "Kalwall" panels in most cases are delaminating or degraded.
- EPDM roof membrane replaced in 1980 (35 years old) leaks regularly throughout building. Roof leaks have potentially compromised integrity of the poured gypsum roof deck, which may be a structural issue.
- Natatorium walls: vapor drive has caused severe efflorescence on the building exterior, leading to corrosion of reinforcing steel and expansion and spalling in cast-in place concrete foundation walls above grade on the pool building.

MEP FP Systems:

- Northeast was constructed in 1968-70. Aside from a few pieces of equipment, all components are 46 years old, and no major upgrades have occurred at the school.
- HVAC Systems, Pneumatic Controls, Boilers, Electrical and Lighting Systems, Fire Alarm, Standby Power, and Communication Systems have all reached the end of their useful life and should be replaced.
- Current heating fuel is No. 4 Fuel Oil, which requires a heating element to be pumped into the building, and is not a clean-burning fuel.
- The boilers are utilized year-round for domestic hot water heating, which causes them to run at very low efficiency in warmer months.

Priority 5

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

Site Issues: A study was undertaken in 1994 to bring a 10" water line in from the north side of the school, but was never executed. Utilities upgrades, due to Northeast's somewhat isolated position in relation to major roads, would be costly and difficult. The sewer line was repaired, and must be cleaned out on a regular basis, but has deteriorated to the point that another major failure could come at any time.

Envelope Issues: The complete lack of insulation is a structural issue for which there are no easy solutions. Some insulation was added to the roof during the 1980 re-roofing job, but leaks and saturation have likely de-rated its effectiveness by this point, and the deck's integrity is suspect. A capital budget has been **sketched out**, including such upgrades as door/window replacement and roof replacement, but funding remains elusive, as the school is faced with other pressing budgetary issues. There is no contemplation of a comprehensive envelope insulation upgrade without a full-scale gut renovation project.

MEP FP Issues: Again, major capital items like boiler replacement, RTU replacement, plumbing valve replacement, and other such improvements are on a capital list, but funding has not been enabled for these items. The school repairs what it must using operational funds, and attempts to improve systems incrementally where it can; for example, adding zone valves to isolate sections of the building for emergency repairs.

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.

Sewer Collapse: As noted elsewhere in this SOI, the school cannot operate if its main sewer connection is non-functional. When backups have occurred, this is a major health condition that put the school out of commission until it is repaired. The fact that one section of pipe has rotted and collapsed would indicate that others are soon to follow. These failures would come without warning and have total and immediate impact on the ability of the entire school to operate.

Gas and Electrical Utility Upgrades: These needed upgrades are an opportunity- cost issue, as related to impact on delivery of the educational program:

If the District is spending more on fuel oil than it would on gas (per BTU) and gas-fired heating equipment is orders-of-magnitude more efficient, then the school is diverting resources away from educational expenditures, and needlessly spending on energy.

If the District is not able to provide an electrical service upgrade to the school, it is prevented from developing future programs or introducing more modern shop equipment which may be more power-intensive than present offerings, and providing such basic infrastructure as a realistic number of convenience outlets per each classroom, lab, or shop.

Building Envelope: Again, needed upgrades are an opportunity-cost impact on the educational program in the following ways:

Poor insulation, doors, and windows waste energy and money that could otherwise be spent on educational programs for students.

A factor not to be ignored is the demoralizing effect for students and teachers of having to go to school in a building that is drafty, often cold in the winter, and actually leaks snow into the building through rusted door jambs and roof air intakes, and can be intolerably hot in the spring and fall, all due to the poor thermal performance of single-pane windows and almost no insulation. These conditions certainly impact the ability of students to learn and teachers to be at their most effective, and sap overall morale in the building. Absenteeism of teachers and students would almost certainly be improved with upgrades in these areas, which would improve learning continuity across the board. In many ways going to school in this building is like taking classes in a masonry barn, with a leaking roof, and a non-functional, leaky heating system.

MEP FP Systems: More of the same arguments hold true for these non-functional and outdated systems: money spent patching up ancient systems is money not spent on students. Money spent on emergency repairs is completely out of scale with the benefit of the repair—for example, the \$56,000 custom main electrical switch...think of how much “new electrical system” this money would have bought. The maintenance staff is in crisis management mode for much of the school year, patching leaking and non-functional systems, jerry-rigging temporary fixes, which diverts resources away from a more strategic approach to building maintenance, and lowers morale. A well-run, high-functioning school makes the facility experience fade to the background, and allows the educational experience to take front-and-center stage in students' and teachers' minds, where it should be.

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.

Whether the decision is made to do a major renovation/addition to the existing building, or build a new replacement facility, it is very clear that improvements to the building systems described above will have a major positive impact on the delivery of educational programs at Northeast. Our existing building is always neat and clean, and we are proud of how it presents to the public, but its systems are truly crumbling. We continue to repair as needed and make any improvements we can within our budget, often using students carefully supervised by staff to perform small projects as classwork that directly relate to their content areas; i.e. HVAC, Plumbing, Electrical, Welding, Carpentry, etc. Every day we walk on eggshells: one major issue or breakdown and our E&D money will be wiped out, and the possibility of classes being interrupted or the entire school being forced to close while facility issues are dealt with is an ever-present possibility for which we cannot plan.

Naturally, making any of the required building system upgrades suggested above would extend the life of the existing building considerably, and make its use as a career/technical high school much more effective and successful. But we must also look at the ability of the existing structure to fit the developing educational program, and the suitability of the arrangement of existing spaces to continue to meet educational needs in a re-envisioned facility.

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):

Dore and Whittier Architects, Inc.

The date of the inspection: 2/17/2015

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

The school facility has numerous deficiencies: functional, shop safety, code violation, accessibility for the disabled, mechanical, electrical, fire protection, indoor environmental quality, building safety and security, technology, and deferred maintenance. Some of these have direct bearing on this Priority 5, "Replacement, renovation, or modernization of school facility systems...to increase energy conservation and decrease energy-related costs". But all these deficiencies need to be viewed in total as many of them are interrelated, and their repair, improvement, or resolution is so closely intertwined as to be inseparable in the context of a renovation project scope.

Dore & Whittier Architects was the team leader for a pre-feasibility study, and it employed the specific skills and knowledge base of its staff and a team of consultants in the engineering disciplines of site/civil, structural, mechanical, electrical, plumbing, and fire protection, as well as consulting experts in the fields of information technology, security, food service, hazardous materials, and construction cost estimating.

The architects and their consultants surveyed the existing conditions of the building, wrote up their findings in a report, and wrote a scope of work for a Capital Improvement Plan (CIP) addressing issues in the building related to:

- health/safety/welfare improvements
- code compliance
- repair or replacement of deficient systems and assemblies
- functional use of building (impacts on learning and/or below MSBA standards)

- handicap accessibility
- maintenance to extend the life of the facility

Quantities were assigned to each scope item and its approximate cost was estimated. This CIP was intended to establish a planning baseline cost to “just fix up” what presently exists and bring it up to present codes and standards, with no changes to program. The cost of the CIP was estimated at \$56,221,552.

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 detailed above in this SOI, consistently for the last seven years there has been a documented surplus of applicants for which there are not places in the school's programs. All CTE programs are fully enrolled, with wait lists for **most** of them. One can fairly say that the entire range of programs offered at Northeast is not available to a significant number of students who desire to access these courses of study. Roughly 235 students annually are disenfranchised in this way.

There is also an imbalance in enrollment interest in existing programs. Several career tech areas don't have the space to accommodate all students who would choose that area as their preferred placement; e.g. Drafting and Design, Health Assisting, Plumbing, Dental Assisting, Early Child Care, HVAC, and Electrical. As a prime example, last year the Health Assisting program had 56 applicants for 26 spaces, more than double the number of available places in a highly in-demand career path. Expansion of these programs is prevented by lack of space.

Our Community Advisory Committees have indicated a demonstrated need for qualified job applicants in these areas of interest. Some specific job descriptions in demand by our community partners, and not currently being well-served include Medical Technician, Machinist, Robotics Operator/Programmer, and Engineer.

Additionally, proposed new programs which also need applicants in the workforce—Masonry, Hotel/Hospitality, Marketing, Robotics, Pre-engineering, and Alternative Energy Technology—cannot be started at Northeast due to lack of space. Our duty to serve our communities and local labor markets is severely limited by our facility size.

Looking into the very near future, implementation of the curriculum standards developed by the MA DOE for the new Vocational Frameworks and Certificate of Proficiency, will require a reevaluation of Northeast's shop and classroom spaces and equipment needs, and it is already clear that many shops are undersized.

The lack of academic classroom space seriously limits our ability to offer any electives or AP courses to our students.

We have only one true science lab, capable of serving 24 students, to perform any lab experiments that require sinks or use of chemicals. The other six science rooms are classrooms only, most with no running water, sinks, gas, hood vents, or proper casework. These conditions greatly curtail the delivery of any meaningful upper-level science program.

Another significant structural limitation of this facility is the serious lack of handicapped accessibility under the MAAB/ ADA regulations that specifically excludes a whole class of people from many areas of our building, and thus many of our programs. Issues include:

- The main entrance to the school is not accessible, having a full flight of stairs separating the doorway from the main level; there is no lift.
- The Pool entrance has a compliant ramp that leads to the main level; however it is well removed from the center of the building.
- The school is built with several grade-steps in the elevation of the main floor level from front to back, leaving large areas with no accessible route. One ramp links the front to the rear of the building, but its slope far exceeds the allowable limit.
- The Gymnasium, often used by the general public as well as students, is separated from the accessible route by a short flight of stairs on both its east and west sides.

- Some shops are isolated by short stairways, as is the stage in the Cafeteria.
- One egress corridor ends in a short flight of stairs, making it a dead-end corridor to the mobility-impaired.
- There is no elevator linking all three levels; thus the lower level and the 2nd level have no H/C access. A lift was recently installed (by students) linking two "steps" in the main level.
- The side entrance serving the Day Care Center and the Breakheart Café (the Culinary program's restaurant)—both open to the public—opens onto a stair landing separated by a flight of stairs from either level, up or down.
- There are episodic improvements to access in toilet rooms, but none are fully accessible.
- Door and floor maneuvering clearance violations abound throughout the building.
- Most hardware is knob-type, not lever type. Some has been converted.
- Athletic fields are not accessible – there are major grade changes between the main grade elevation of the school (which varies from south to north, and is the reason for the internal steps), the upper football/track complex, the basketball courts, the baseball field, and the lower softball/practice field complex.

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.

Northeast is seeking assistance from the MSBA and its constituent communities to enable us to add the programs mentioned above, tune existing programs to meet projected demands, and balance overall enrollments.

The factors related to enrollment backlog detailed above have caused the administrative team to realize that the time is now to take advantage of a major renovation or new building project to simultaneously:

- increase its capacity to serve its constituent communities,
- handle its consistent backlog of student applications, and
- tune its facilities to handle the changes in programming.

Therefore, the administration is moving forward under this SOI with the goal of expanding its enrollment to 1,600 students.

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.

We constantly have our ear to the ground to determine the effectiveness and relevance of our educational programs in the community and the real world of the local labor market. All recent labor market surveys, the Work Force Investment Board, Northeast's partner Co-Op employers, and our Advisory Committee all support the growing need for the above-mentioned career paths in the North Shore area of our sending towns.

Without a fundamental gut renovation/addition or replacement building project, we will not be able to fulfill the imperatives suggested by the above list of facility constraints.

We would also call the review committee's attention to the **attached** NEASC Decentennial Report summary related to the current state of facilities at Northeast (see also Priority 3 of this SOI). This summary echoes many of the issues, concerns, and conditions mentioned in this SOI, as well as mentioning a few more that are not covered here. Its impact on the delivery of our educational program is simple and direct: without these improvements, Northeast is in danger of losing its accreditation. The school is currently at "Warning" status, and would probably slide to probationary status at the next inspection if nothing significant is done.

REQUIRED FORM OF VOTE TO SUBMIT AN SOI

REQUIRED VOTES

If the SOI is being submitted by 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 the SOI is being submitted by 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 _____, prior to the closing date, 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.

CERTIFICATIONS

The undersigned hereby certifies that, to the best of his/her knowledge, information and belief, the statements and information contained in this statement of Interest and attached hereto are true and accurate and that this Statement of Interest has been prepared under the direction of the district school committee and the undersigned is duly authorized to submit this Statement of Interest to the Massachusetts School Building Authority. The undersigned also hereby acknowledges and agrees to provide the Massachusetts School Building Authority, upon request by the Authority, any additional information relating to this Statement of Interest that may be required by the Authority.

Chief Executive Officer *

theodore nickole

Superintendent

School Committee Chair

michael t. wall

Superintendent of Schools

theodore nickole

(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. Please note, in districts where the Superintendent is also the Local Chief Executive Officer, it is required for the same person to sign the Statement of Interest Certifications twice. Please do not leave any signature lines blank.