

**NEW MILFORD BOARD OF EDUCATION**  
**New Milford Public Schools**  
**50 East Street**  
**New Milford, Connecticut 06776**

**FACILITIES SUB-COMMITTEE**  
**MEETING NOTICE**

<b>DATE:</b>	<b>September 8, 2020</b>
<b>TIME:</b>	<b>6:45 P.M.</b>
<b>PLACE:</b>	<b>New Milford High School Library Media Center</b>

While this is an in-person meeting for Board of Education members and district staff, due to COVID-19 restrictions on capacity and social distancing requirements that make public attendance impossible, members of the public will be permitted to attend the meeting via the Zoom or YouTube Live links provided below.

There will be live public comment offered through the Zoom format for items on the agenda. Public comment may also be emailed to [suptoffice@newmilfordps.org](mailto:suptoffice@newmilfordps.org) for distribution to Board members no later than 3 PM of the meeting date.

**Join Zoom Meeting**

<https://zoom.us/j/92828897876?pwd=amhlb0lYcHcycnpIQlZDVENPV0U0Zz09>

Meeting ID: 928 2889 7876

Passcode: 891927

**One tap mobile**

+13126266799,,92828897876#,,,,,0#,,891927# US (Chicago)

+19292056099,,92828897876#,,,,,0#,,891927# US (New York)

**Dial by your location**

+1 312 626 6799 US (Chicago)

+1 929 205 6099 US (New York)

+1 301 715 8592 US (Germantown)

+1 346 248 7799 US (Houston)

+1 669 900 6833 US (San Jose)

+1 253 215 8782 US (Tacoma)

Meeting ID: 928 2889 7876

Passcode: 891927

Find your local number: <https://zoom.us/u/agxH5Q60I>

Watch via YouTube Live: <https://youtu.be/RPe6WssK4a8>

**AGENDA**

**New Milford Public Schools Mission Statement**

The mission of the New Milford Public Schools, a collaborative partnership of students, educators, family, and community, is to prepare each and every student to compete and excel in an ever-changing world, embrace challenges with vigor, respect and appreciate the worth of every human being, and contribute to society by providing effective instruction and dynamic curriculum, offering a wide range of valuable experiences, and inspiring students to pursue their dreams and aspirations.

- 1. Call to Order**
- 2. Public Comment**

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TOWN CLERK  
2020 SEP -4 A 9: 58

NEW MILFORD, CT

An individual may address the Board concerning any item on the agenda for the meeting subject to the following provisions:

- A. A three-minute time limit may be allocated to each speaker with a maximum of twenty minutes being set aside per meeting. The Board may, by a majority vote, cancel or adjust these time limits.
- B. If a member of the public comments about the performance of an employee or a Board member, whether positive, negative, or neutral, and whether named or not, the Board shall not respond to such comments unless the topic is an explicit item on the agenda and the employee or the Board member has been provided with the requisite notice and due process required by law. Similarly, in accordance with federal law pertaining to student confidentiality, the Board shall not respond to or otherwise discuss any comments that might be made pertaining to students.

**3. Items for Information and Discussion**

- A. NV5 Update
- B. Elevators – SNIS & SMS
- C. NMHS Fire Alarm
- D. Municipal Building Committee (MBC) Projects
- E. School Reopening Update

**4. Public Comment**

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**5. Adjourn**

**Sub-Committee Members:** Brian McCauley, Chairperson  
Pete Helmus  
Eileen P. Monaghan  
Olga I. Rella

**Alternates:** Angela C. Chastain  
Wendy Faulenbach

# **Feasibility Analysis For**



# **Sarah Noble Intermediate School UST Replacement**

**25 Sunny Valley Rd  
New Milford, CT 06776**

**Prepared by:  
BL Companies**

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Meriden, Connecticut 06450  
203-630-1406  
[www.blcompanies.com](http://www.blcompanies.com)  
BL#2000750.00

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### **B. Additional Options Considered**

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- B.2 Replace Existing with an Above Ground Tank

**A. EXECUTIVE SUMMARY****A.1 – Project Overview**

On July 23<sup>rd</sup>, 2020 BL Companies was engaged to perform a feasibility analysis for the Sarah Noble Intermediate School UST Replacement project. The purpose of this report is to provide an assessment of the existing UST, existing site conditions, recommendations for replacement options, and specifications for tank removal.

We recommend the existing fuel oil tank be removed and a 2,500 gallon Above Ground Storage Tank (AST) be installed adjacent to the existing generator. The proposed AST will provide fuel sufficient to power the emergency generator for approximately 5-days. In coordination with the State of Connecticut and New Milford requirements for Emergency Shelters, the existing hot water boilers do not require dual fuel (oil and natural gas). The fuel oil will only be connected to the emergency generator.

**A.2 – Existing Conditions Overview**

The existing generator provides emergency/ standby power to the school through a primary ATS located in the electrical room. The generator burn rate is assumed to be 31 gph when occupied (day) and 14 gph when unoccupied (night). There is an existing 500 gallon day tank within the generator enclosure. For a 5-day emergency power event the generator will require 2,700 gallons of fuel.

The existing boilers are dual fuel, being capable of operating on natural gas (current primary fuel source) and oil (backup fuel source). The boilers are HB Smith, sectional cast iron, with PowerFlame burners. Based on the date of the PowerFlame burners this system is approximately 23 years old and 80% efficient. The boilers and burner appear to be in serviceable condition; however, they are reaching the end of their expected useful life and should be considered for replacement over the next five years<sup>1</sup>.

There are no requirements or recommendations from the State of Connecticut for emergency shelter to have the capability operating on two separate fuel sources<sup>2</sup>. There are no requirements or recommendations regarding minimum operating time for emergency power generation<sup>2</sup>.

The existing UST is located at the front of the building, between the bus lanes and the building. This area contains a pad mounted utility transformer, pad mounted emergency generator, and natural gas service entrance. The area is bordered by concrete side walk and the building perimeter. There is well established turf, one mature deciduous tree, and several mature evergreen trees arranged to provide screening at the generator.

The UST has three access hand holes with concrete pads at grade. This arrangement indicates the tank is sitting perpendicular to the building. The tank is assumed to have two concrete piers parallel to its length for ballast. The assumed fuel oil piping consists of two supply lines. One set to the emergency generator that runs in a straight line. The other set of fuel oil supply lines appears to cross underneath the natural gas service, posing a challenge for potential removal.

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<sup>1</sup> Table 4, Comparison of Service Life Estimates, 2015 ASHRAE Handbook – HVAC Applications.

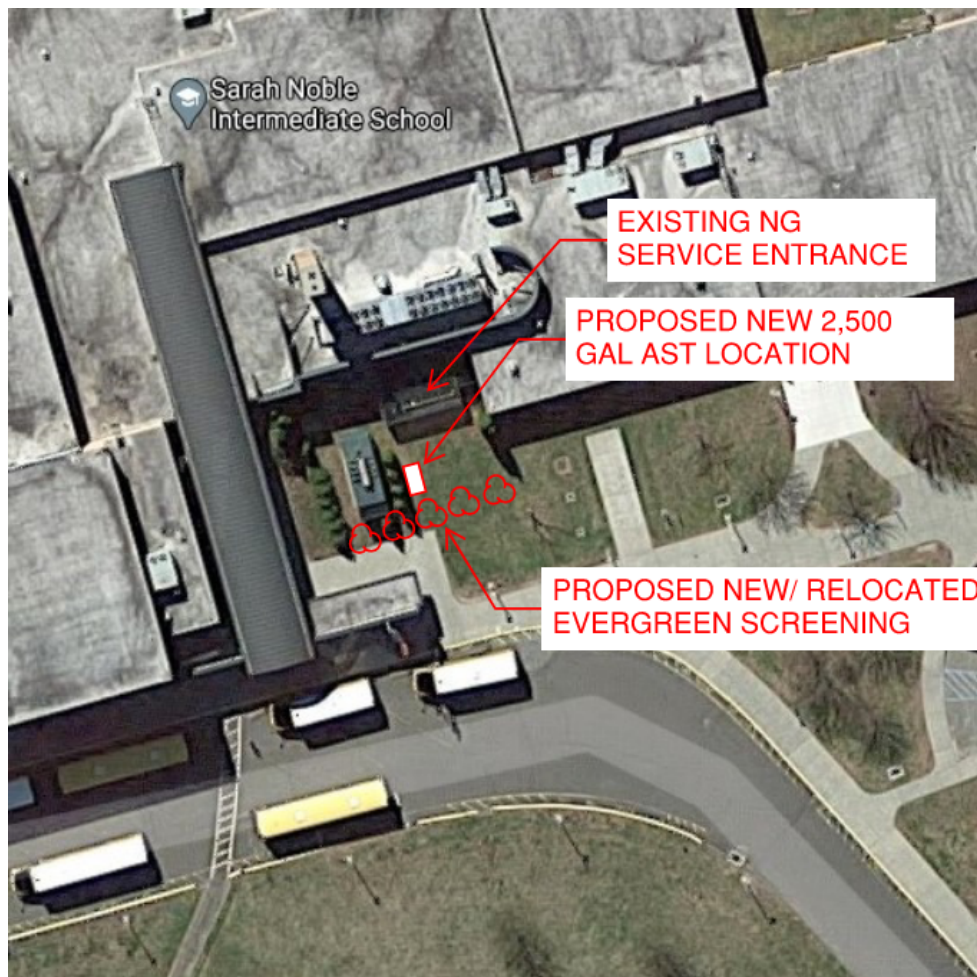
<sup>2</sup> State Response Framework (SRF), Version 4.2, July 2019. Published by DESPP, DEMHS, in partnership with other CT State Agencies and Non-Governmental Organizations.

### A.3 – Recommendations

#### *Option 1 –*

Remove existing UST per tank removal specifications. Install 2,500 gallon AST to serve emergency generator only.

- a. Pro's:
  - i. This option provides the lowest first cost and least impact to the site.
  - ii. This option provides fuel oil source suitable for the emergency generator (A-2, low-sulfur diesel for reciprocating engines, as opposed to A-1 heating oil currently being used).
  - iii. Enables the site to continue use of the existing generator in its current configuration.
- b. Con's:
  - i. This option requires testing and inspections through its life, in accordance with current environmental regulation<sup>3</sup>.
  - ii. This option requires monitoring of fuel levels and scheduled delivery of fuel. During an extended emergency power situation, fuel delivery may be required regularly.



<sup>3</sup> <https://portal.ct.gov/DEEP/Underground-Storage-Tanks/Underground-Storage-Tank-Regulation-Summary>

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Scope of work required for Option 1:

- Provide 2,500 gal Con-Vault, double wall containment, above ground fuel oil storage tank, with pre-fabricated concrete pad.
- Provide new double wall fuel supply lines to generator, include fuel oil 'polisher'<sup>4</sup>, and fuel oil transfer pump.
- Provide Pneumencator leak detection and tank level monitoring system.
- Relocate mature evergreen trees as shown to provide screening for new site equipment arrangement.

Opinion of Probable Cost for Option 1:

*Estimated total cost for demolition and new construction - \$124,000*

General Conditions, Bonding, Permits.....	\$10,000-20,000
Demolition and Removals.....	\$10,000-15,000
Site Work and Excavation.....	\$20,000-25,000
Back Filling and Site Restoration.....	\$12,000-15,000
Electrical Controls and Wiring.....	\$10,000-12,000
Facility Fuel Oil Piping.....	\$8,000-12,000
Facility Above Ground Fuel Oil Storage Tanks.....	\$32,000-35,000

Unit Pricing (budget range):

Excavating/ stockpiling/ management of contaminated soils.....	\$ 40-105 (per cubic yard)
Transportation and disposal of contaminated soils .....	\$ 45-150 (per cubic yard)
Additional clean fill .....	\$ 35-45 (per cubic yard)

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<sup>4</sup> <https://www.generac.com/Industrial/professional-resources/news-whitepapers/powerconnect-newsletter/archived-articles/december/diesel-fuel-whitepaper>

**Option 2 –**

Remove existing UST per tank removal specifications. Replace existing diesel emergency generator with appropriately sized natural gas generator.

## a. Pro's:

- iii. This option eliminates the need for fuel oil on site and the liability associated with the potential environmental impacts.
- iv. This option provides the ability to recover waste heat from the power generation process to offset the winter heating load.
- v. This option reduces or eliminates the electrical utility costs. Arrangements may qualify for 'virtual net-metering' with the local utility.

## b. Con's:

- vi. This option presents the greatest first cost and impact to building infrastructure.
- vii. This option requires further feasibility analysis and engineering to determine overall project cost.

Scope of work required:

- Remove existing diesel emergency generator, existing wiring to remain for reuse.
  - There is a market for surplus generators, however, the salvage costs are not known at this time.
- Perform a load study on the building electrical systems. This is required to appropriately size a replacement generator.
- Perform a feasibility and construction cost analysis for natural gas generator and natural gas co-generation. This is highly recommended to identify potential DEEP grant funding, annual energy savings (electrical and NG), and life-cycle cost savings.
  - Municipal co-generation systems may qualify for utility incentives.
- Additional design services are required for complete scope of work.

Opinion of Probable Cost for Option 2:

*Estimated total cost for demolition - \$53,000*

General Conditions, Bonding, Permits.....	\$4,000-8,000
Demolition and Removals.....	\$10,000-15,000
Site Work and Excavation.....	\$20,000-25,000
Back Filling and Site Restoration.....	\$12,000-15,000

## Unit Pricing (budget range):

Excavating/ stockpiling/ management of contaminated soils.....	\$ 40-105 (per cubic yard)
Transportation and disposal of contaminated soils .....	\$ 45-150 (per cubic yard)
Additional clean fill .....	\$ 35-45 (per cubic yard)

*Total estimated new or proposed work is unknown due to the limited scope information. These options are not mutually exclusive.*

NG Generator to Replace Diesel

Feasibility Study and Load Study .....	\$10,000-15,000
New NG Generator.....	\$240,000-390,000

Microgrid/ Cogeneration

Co-Generation/ Microgrid Feasibility .....	\$6,000-10,000
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Engineering, Integration, Coordination..... \$180,000-240,000

**B. ADDITIONAL OPTIONS CONSIDERED**

These additional options were eliminated as feasible options. Explanations of the options and feasibility are described below.

**B.1 – Replace Existing with an Under Ground Tank, Continue to service dual-fuel boilers and generator:**

This option would replace fuel oil tank with a new two-compartment underground storage tank; including new fuel transfer pumps, tank monitoring system(s), two sets of fuel oil piping, and fuel polishing system for generator only. This fuel storage system would require DEEP registration and regular inspections/ testing.

This arrangement is not recommended because it presents the greatest first cost as compared to an AST, would pose an increased risk for underground contamination as compared an AST, and presents the greatest potential for environmental risks associated with on-site fuel storage.

**B.1 – Replace Existing with an Above Ground Tank, Continue to service dual-fuel boilers and generator:**

This option would replace fuel oil tank with a new two-compartment above ground storage tank; including new fuel transfer pumps, tank monitoring system(s), two sets of fuel oil piping, fuel polishing system for generator only. This system would be located next to the emergency generator with suitable landscaping planted to provide screening.

This arrangement is not recommended because this facility does not require a dual fuel system. There is a significant cost associated with providing a two-compartment tank and high efficiency dual-fuel boilers are not readily available when system replacements are required. Therefore, fuel oil capacity is based on the generator requirements only.