FALL BROOK ELEMENTARY SCHOOL PROJECT – Leominster, MA

FALL BROOK BUILDING COMMITTEE (FBBC) MEETING #23

Tuesday, January 14, 2025 In-Person 1:00pm

Office of Emergency Management
37 Carter Street, Leominster, MA

Peter Angelini, Mark Bodanza, Greg Chapdelaine, Bill Charpentier, Robin Desmond, Steven Mammone, Dean Mazzarella, Chair, Melanie Mikels, Elliot "Butch" Nadeau, Raymond Racine, Jennifer Reddington, Brandon Robbins, Jeffrey Sullivan

Meeting Minutes

A publicly posted meeting of the Fall Brook Building Committee (FBBC) was held at the above listed date, time, and location. Committee members and participants were:

Voting Members (Quorum = 7)	Present	Notes
Mr. Peter Angelini		City Councilor
Mr. Mark Bodanza		City Councilor
Mr. Greg Chapdelaine	X	City Purchasing Agent
Mr. Bill Charpentier		City Building Inspector
Ms. Robin Desmond	X	Superintendent of Schools
Mr. Steven Mammone	X	Asst. Superintendent of Schools
Mayor Dean Mazzarella, Chair		Mayor and School Committee member
Ms. Melanie Mikels	X	School Business Manager
Mr. Elliot Nadeau	X	School Facilities Director
Mr. Raymond Racine		Leominster DPW Director
Ms. Jennifer Reddington	X	City Comptroller
Mr. Brandon Robbins		City Councilor
Mr. Jeffrey Sullivan	X	Fall Brook Elementary School Principal
Other Participants		
Meredith Tarr	X	City of Leominster
John Roseberry		City of Leominster
Jacob Fleming	X	Leominster DPW
Christine Silverman		Leominster Public Schools

Richard Bergeron		Leominster Public Schools
Will Sullivan	X	Leominster Public Schools
Mark Maillet	X	Renaud HVAC & Controls, Inc.
Craig DiCarlo	X	LeftField, Project Director
Linda Liporto		LeftField, Senior Project Manager
Jim Rogers		LeftField, President
Adele Sands		LeftField, Education Liaison
William Spears		Miller Dyer Spears, Principal-in-Charge
Nereyda Rodriguez	X	Miller Dyer Spears, Project Manager
Danyul Cho	Remote	Miller Dyer Spears, Project Architect
Amy MacKrell		Miller Dyer Spears
Carlos Caraballo		Miller Dyer Spears
Brian Pace	Remote	Miller Dyer Spears
Kristen Hill		Vaysen Studio
Lena Owens		Studio 2112
Lynne Giesecke		Studio 2112
Dana Geva		Studio 2112
Frank Holmes		Langan
Maggie Laracy	Remote	Langan
Keith Lane	Remote	GGD Consulting Engineers
Louis Vieira	Remote	GGD Consulting Engineers

1 – Call to Order

Ms. Desmond called the meeting to order at 1:07pm.

Roll call was taken, and it was determined that a quorum was present.

2 – Administrative Actions

2a – Previous Meeting Minutes

A motion to approve the December 10, 2024, meeting minutes was made by Mr. Chapdelaine and seconded by Ms. Reddington. There was no discussion. A show of hands vote was taken. The motion carried unanimously.

2b – Invoice Log and Warrant Approval

LeftField presented the current invoice log including invoices received for the month of December for OPM services by LeftField and design services by MDS, totaling $90,597.50.

LeftField presented the warrant for December invoices. A motion to approve warrant number W30FY25 in the amount of $90,597.50 was made by Mr. Chapdelaine and seconded by Ms. Reddington. There was no discussion. A show of hands vote was taken. The motion carried unanimously.

2d – Budget Revision Request #3

LeftField presented a draft Budget Revision Request #3 to transfer unused funds from one line item to another. In advance of the meeting Mr. DiCarlo reviewed the proposed transfer with Ms. Reddington who expressed no concerns.

A motion to approve Budget Revision Request No. 003 to transfer $603,000.00 from *0001-000 OPM Feasibility Study/Schematic Design* to *0004-0000 Other* was made by Ms. Reddington and seconded by Mr. Chapdelaine. There was no discussion. A show of hands vote was taken. The motion carried unanimously.

2e – Budget Update

LeftField presented the Feasibility budget through December 2024. The project has committed 70% and expended 51% of the Feasibility and Schematic Design Phase budget. Expenses remain in line with the progress of the work.

2f – Project Schedule Update

LeftField presented the current Feasibility Study and Schematic Design schedule. The project is nearing the end of the Schematic Design phase. The Schematic Design pricing set will be issued to the cost estimators on January 15, 2025. A special meeting of the FBBC is requested for Tuesday, February 25, 2025, to review and vote on the Schematic Design submission which is scheduled to be transmitted to the MSBA on February 27, 2025.

3 – Designer Report

3a – Sustainability Goals

MDS presented sustainability goals for the project, which were included in the meeting packet. MDS presented sustainability strategies in the categories of Site, Water Resources, Energy, Materials and Carbon, Indoor Air Quality and Wellness, and Equity.

3b – Overview of the MSBA Green Schools Program

MDS presented information on the MBSA Green Schools Program, which is achievable and could yield an increase to the MSBA's reimbursement rate by up to 4%. To receive the additional reimbursement, the project must exceed the current Stretch Energy Code and meet the Specialized Opt-in Energy Code.

Mr. Chapdelaine inquired about the potential to install an unconnected, underground gas line from the street to the new building as a backup system should it be needed in the future.

3c – LEED Scorecard Review

MDS presented the current LEED Scorecard, noting points that are likely, possible, and not probable. The likely points show the project to be solidly in the LEED Silver category. MDS will look into the potential for the project to achieve LEED Gold without additional cost.

3d – HVAC Systems Life Cycle Cost Analysis (LCCA) Overview

GGD presented the goals of a Life Cycle Cost Analysis (LCCA) and the engineering assumptions included in the analysis. All HVAC system options are fossil-free, electrified heating systems. All options meet or exceed MSBA requirements for Green Schools Program, LEED Silver, and the Opt-in Specialized Energy Code. The system that is shown to have the lowest LCCA over a 50-year period is generally the system that is recommended for the project.

The baseline system and three options are as follows:

> BASELINE: Air Source Heat Pump Plant - Mixed-Air Overhead VAV System and High Efficiency Air-Source to Hydronic Heat Pump Chiller/Heating Plant for Chilled/Heating Hot Water
>
> OPTION 1: Air-Source VRF (Variable Refrigerant Flow) and DOAS (Dedicated Outdoor Air Systems w/ Air Source Heat Pump) for Classrooms/Office areas & Air Source Heat Pump Rooftop Units for Gym, & Cafeteria with Supplemental electric heating for entryways, storage, and utility rooms.
>
> OPTION 2: Air Source Heat Pump Plant - VAV Displacement System w/ Passive Radiant Cooling/Heating Panels and High Efficiency Air-Source to Hydronic Heat Pump Chiller/Heating Plant for Chilled/Heating Hot Water
>
> OPTION 3: Geothermal Heat Pump Plant - VAV Displacement System w/ Passive Radiant Cooling/Heating Panels and Geothermal Hydronic Heat Pump Chiller/Heating Plant for Chilled/Heating Hot Water

GGD presented the benefits and challenges for each of the systems; Option 1 has the lowest LCCA but has the largest quantity of equipment and therefore has more potential for issues with maintenance and operation; Option 2 is an air-source heat exchange system (ASHE) and has less noise, better indoor air quality, smaller equipment, and more efficient energy usage than Option 1; Option 3 is similar to option 2 but is a ground-source heat exchange system (GSHE) connected to a geothermal wellfield and therefore has the lowest operating cost but the highest up front cost.

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GGD presented the LCCA results under 3 investment payback scenarios: 1) with no incentives or refunds, 2) with Mass Save incentives only, and 3) with Mass Save incentives plus Inflation Reduction Act (IRA) refunds. Mass Save is considered a dependable funding source, whereas the IRA is considered somewhat less dependable due to questions about the future of the IRA law under the new federal administration.

Under investment payback scenarios 1 and 2, Option 1 costs $2.8 million less than the baseline system over a 50-year lifespan and Option 2 costs $2 million less than the baseline system. Under investment payback scenario 3, Option 3 costs $5 million less than the baseline system.

GGD answered questions and provided additional information about geothermal systems. The LCCA was based on an estimate of 65 geothermal wells, which can be installed beaneath the building, parking lot, drive aisles, and/or fields. GGD advised that if the funding is available, Option 3 is their recommendation. If funds are not available to cover the higher upfront costs of Option 3, then their second recommendation is Option 2.

GGD presented a matrix of other considerations including first cost, potential for incentives, operating costs, energy efficiency, maintenance, indoor air quality, acoustics, and future replacement costs. The most advantageous system is Option 3, the second most advantageous system is Option 2, and the least advantageous system is Option 1. Options 2 and 3 are familiar to most communities because they are hydronic systems, versus Option 1 is a refrigerant-based system. Another disadvantage of Option 1 is that all replacement equipment in the future must be from the same manufacturer, the school cannot mix-and-match manufacturers with a VRF system. Mr. Maillet advised that projects with VRF systems (Option 1) tend to have a potential for system failure at low temperatures. Failures can be caused by refrigerant leaks for failed compressor modules. GGD advised that all options include an electrical backup system for heating if the main heating system is temporarily out-of-service. The backup system will run off the emergency generator, which will be sized to maintain a minimum temperature to prevent frozen pipes, but not the normal temperature for occupancy.

3e – Questions and Discussion

LeftField advised that a decision is not needed today, but a decision is needed at the February 11, 2025, meeting.

Ms. Mikels observed the annual electrical costs for each of the systems are higher than for the current school.

Mr. Sullivan noted that the MSBA reimbursement reduces the difference in cost experienced by the city between the various systems, especially the $800K difference between Option 1, which has known operational challenges, and Option 2 which is GGD's recommendation.

4 – Items not Anticipated 48 Hours in Advance of the Meeting

Mr. Chapdelaine advised that Mr. Jacob Fleming will replace Mr. Raymond Racine as a Fall Brook Building Committee member. The city will inform the project team once the change has been approved by City Council. LeftField offered to assist in sending the requested change to the FBBC roster to the MSBA. Once the MSBA has approved the change, Mr. Fleming will be a voting member of the FBBC.

5 – Public Comment

No public comments were heard.

6 – Next Steps

LeftField presented the meetings and activities anticipated for the next three months. The Schematic Design pricing set will be available January 15, 2025. School tours will take place over the next two weeks. Public Meeting # 2 is scheduled for January 30, 2025. The FBBC's direction on a mechanical system is needed at the February 11, 2025, FBBC meeting. The Schematic Design submission will be transmitted to the MSBA on February 27, 2025. Public Meeting #3 will be scheduled for the latter half of March 2025.

LeftField presented MDS's request to have approval to start Detailed Design a month or two earlier than currently scheduled. This would allow MDS to complete the Design Development submission before the holiday break at the end of 2025. Doing so would involve the city fronting the money for design fees before the MSBA executes the Project Funding Agreement and recommences reimbursements to the city. Mr. Chapdelaine and Ms. Reddington advised that the decision will be dependent on the Maor's and Comptrollers review of the city's cash flow projections.

7 – Adjournment

At approximately 2:15pm, Ms. Desmond and Ms. Mikels left the meeting, resulting in the loss of a quorum. Following the loss of quorum, no further official business was conducted and the meeting continued as an informal discussion. The meeting was adjourned around 2:20pm.

Documents and Exhibits

- Fall Brook Building Committee Meeting #23 slideshow presentations by LeftField and MDS, dated 1/14/25

Attachments

- None