

PERMANENT BUILDING COMMITTEE  
SCHOOL BUILDING COMMITTEE SUB-COMMITTEE  
MEETING MINUTES



Project:	Clinton Middle School	Project No:	202000640305
Subject:	School Building Committee Meeting	Meeting Date:	07/16/2024
Location:	ZOOM	Time:	6:30 PM
Distribution:	Attendees, Project File	Prepared By:	E. Grijalva
MSBA Module:	D- Detailed Design		

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**Meeting Agenda**

1. Call to Order & Number of Voting Members
2. Rauscher Farm Walkway and Bridge to Clamshell Pond
3. COA Carriage House Project Invoice for Approval
4. Previous Topics & Approval of June 18,2024, MM
5. CMS Invoices and Commitments for Approval
6. LPA|A Update
7. Project Schedule Timeline
8. Other topics not reasonably anticipated 48 hrs prior to meeting
9. Public Comment
10. Next Meeting
11. Adjourn

<b>Name</b>	<b>Affiliation</b>
Steven Meyer*	PBC Member- Superintendent
Chris McGown *	PBC Chair
Chris Magliozzi*	PBC Member, Vice Chair
Michael Ward*	PBC Member- Town Admin
Brian Delorey*	PBC Member
Mike Moran	PBC Member
Matt Varakis	SBC Member
Bill Connolly	SBC Member
Matt Kobus	SBC Member
Tyler Steffey	SBC Member, CMS Principal
Trip Elmore	DWMP- Project Director
Terry Hartford	DWMP – Sr. Project Manager
Elias Grijalva	DWMP – Assistant PM
Sean Brennan	LPA A –Project Architect
Peter Caruso	LPA A – Project Manager
Kevin Seaman	Seaman Engineering
Jamie Blume	Fontaine Bros- Project Executive
Chelsey Mutrie	Fontaine Bros – VP of Precon

**\*PBC Voting Members**

Item No.	Description	Action
29.1	<p><b>Call to Order &amp; number of voting members present</b> 6:31PM meeting was called to order by PBC Chair C. McGown with 5 of 7 voting members in attendance.</p>	Record
29.2	<p><b>Rauscher Farm Walkway and Bridge to Clamshell Pond</b></p> <p>M. Ward provides an update on a potential new project in the town, stating that a bid specification will need to be completed before advertising for bids.</p> <p><b>Discussion:</b>  <b>C. McGown</b> asks will this project be considered be chapter 149 or 30B?  <b>M. Ward</b> replies, it's not exactly a parking lot but more of a horizontal construction project, like what you might see in DPW work. It includes a parking area, a walkway, and a small bridge over the stream.  <b>C. McGown</b>, states there is a deck in the drawings, I would assume this would be price bid project.  <b>M.Ward</b> comments I wanted to bring this to the committee's attention. Perhaps the chair and I could discuss it offline and come up with recommendations for potential candidates to handle the RFP/RFQ.</p>	Record
29.3	<p><b>COA Carriage House Project Invoice for Approval</b>          Spencer, Sullivan, &amp; Vogt (SSV) Invoice 2407-03, in the amount of \$7,370.00</p> <p>A motion was made by M. Ward and seconded by B, Delorey for the approval of SSV invoice 2407-03.</p> <p>Discussion: None; Roll Call Vote: B. Delorey (Y), C. Magliozzi (Y), M. Ward (Y), S. Meyer(Y), C. McGown (Y); Abstentions: None; All in favor, motion passes</p>	Record
29.4	<p><b>Previous Topics &amp; Approval of June 18, Meeting Minutes:</b>          A motion to approve the June 18, 2024, previous meeting minutes, was submitted by S. Meyer and seconded by M. Ward.</p> <p>Discussion: None; Roll Call Vote: B. Delorey (Y), C. Magliozzi (Y), M. Ward (Y), S. Meyer(Y), C. McGown (Y); Abstentions: None; All in favor, motion passes</p>	Record

<p>29.5</p>	<p><b>PBC Invoices for Approval</b></p> <p><b>Invoice 1:</b> DWMP Invoice No.021; Description: Design Development; Amount: \$40,000.00</p> <p><b>C. McGown</b> states the incorrect invoice was uploaded in the meeting materials and requests the correct copy to be sent.  <b>E. Grijalva</b> acknowledges the error and confirms C. McGown request.</p> <p>A motion was made by S. Meyer and seconded by M. Ward for the approval of DWMP Invoice No.021.</p> <p><b>Discussion:</b>  <b>M. Ward</b> comments we're currently arranging project funding through borrowing, with funds expected by the end of summer. Vendors and relevant parties are informed that all approved invoices will be processed together. We're consulting with our bond advisor and bond council, with a call scheduled tomorrow. The borrowing will begin in September, and we're planning for future fiscal years to ensure adequate funds and minimal tax impact. Finalization will take several weeks.      Roll Call Vote: B. Delorey (Y), C. Magliozzi (Y), M. Ward (Y), S. Meyer(Y), C. McGown (Y); Abstentions: None; All in favor, motion passes.</p>	<p>Record</p>
	<p><b>Invoice 2:</b> LPA A Invoice No. 2220-2406; Description: Design Development; Amount: \$272,500.00</p> <p>A motion was made by M. Ward and seconded by S. Meyer for the approval of LPA A Invoice No. 2220-2406.</p> <p>Discussion: None; Roll Call Vote: B. Delorey (Y), C. Magliozzi (Y), M. Ward (Y), S. Meyer(Y), C. McGown (Y); Abstentions: None; All in favor, motion passes</p>	
<p>29.6</p>	<p><b>LPA A Update</b></p> <p>P. Caruso provides a brief update on the geothermal well test.</p> <p><b>Geothermal Well Test Update</b></p> <ul style="list-style-type: none"> <li>• Consulting Engineering: <b>GZA Geoenvironmental</b>; Driller: <b>Skillings</b> <ul style="list-style-type: none"> <li>○ Hit rock at 60 feet</li> <li>○ Drilled 505 feet total</li> <li>○ Receiving 45gpm at 495 feet</li> <li>○ Grouting took place end of last week, cures for (5) days</li> </ul> </li> <li>• <b>Thermal Conductivity testing: July 22, 2024</b> <ul style="list-style-type: none"> <li>○ Report is expected end of August/Early September.</li> <li>○ Place a boiler and heat the ground for a period. This will measure how much heat is exchanged and how much the ground warms up during that time. If results are favorable, less wells will be required.</li> <li>○ Strategically placed well, it will be incorporated into the well field.</li> <li>○ Estimated wells (30)</li> </ul> </li> </ul> <p>K. Seaman provides a comparison of HVAC systems, focusing on displacement diffusers versus displacement chilled beams.</p> <p><b>Displacement Ventilation</b></p> <ul style="list-style-type: none"> <li>• Outdoor air introduced low in the room within the occupant breathing zone results in a higher ventilation effectiveness over a mixing system reducing required outdoor air by as much as 20%.</li> </ul>	<p>Record</p>

- Unlike a conventional mixed air system, the displacement system limits mixing of air and contaminants within the room for improved indoor air quality with laminar upward airflow at the occupants.
- Low velocity supply results in low sound generation.
- Reduced impact to the ceiling system as only return/exhaust grilles are required.
- A reduction in space cooling load and associated supply air volume is experienced as a significant percentage of the lighting cooling load as well as various other loads (roof, etc....) are exhausted from the room with the high return/exhaust air.

#### **Displacement Diffuser & Sensible Only (DOAS) Fan Terminal**

- **In wall displacement diffuser:** Ventilation devices installed within the wall of a room to introduce fresh air.
- **Sensible cooling DOAS FVAV Terminal:**
  - **Dedicated Outdoor Air System (DOAS)** – Handles the ventilation needs by conditioning and supplying outdoor air separately from the space heating and cooling system. Ensure fresh, conditioned air is provided to the space without overloading the main HVAC system.
  - **Fan Variable Air Volume (FVAV)** – type of terminal unit that combines a fan with a variable air volume control. Allows adjusting the amount of air delivered to the space based on demand, helps in maintaining comfort and improving energy efficiently.
  - **Sensible Cooling:** process of cooling that primarily reduces the air temperature as opposed to latent cooling.

#### **Merged Technology Displacement – Chilled Beams**

- Water can convey more BTU energy than air such that a 1" diameter pipe could convey the same BTU energy as an 18"x18" +/- duct using conventional design criteria.
- The use of a chilled beam system with DOAS displacement ventilation shall result in reduced ductwork sizes by more than 50% since the ductwork is sized for outdoor air only and not the air required for peak cooling demand.
- Approximately 50% of the space sensible (temperature) cooling load is supported through the chilled beam with the remainder from the DOAS system.

#### **Discussion:**

- M.Moran asks, is there any antifreeze in the system?  
K. Seaman states, usually the lowest amount for the geothermal field would be 25% concentration. May be slightly higher for fluid exposed to outdoor air.
- M.Moran asks, how do you size the equipment? Do you have to size it for the heat load or cooling load?  
K. Seaman replies, we size the system for both heating and cooling, with the understanding that the geothermal alone won't support all the building heating and cooling needs as the systems in the building are mixed. For the geothermal, the goal is to balance the heating and cooling loads annually, so that the heat energy in and out of the field is roughly equal annually for optimal efficiency.

- T. Elmore asks, how many data points do you have for each type of system? Do you have temperature sensors installed? Also, are there any components like fans that will need to be replaced over time, considering sensors don't last for 50 years?  
 K. Seaman replies, each room will have a single combo sensor that detects temperature, humidity and CO2. Sensors have life spans between five to ten years.

**Spatial Impact Equipment Comparison between the systems (refer to meeting packet for visual on displacement diffusers Vs Displacement chilled beams)**

<b>Displacement with FVAV (DFVAV)</b>	<b>Displacement chilled beam (DCB)</b>
Fan powered DFVAV Terminal required for DOAS air and space air control <b>Pro:</b> May meet ASHRAE 241 – Control of Infectious Aerosols without added devices <b>Pro:</b> Allows more shelving space at exterior wall over DCB option  <b>Con:</b> Higher maintenance than DCB with air filter and fan motor to service.  <b>Con:</b> Higher operating cost than DCB due to required fan operation.	Vav Terminal required for DOAS air control  <b>Pro:</b> Less maintenance than DFVAV as no air filter to replace and no fan motor to service <b>Pro:</b> Lower operating cost than DFVAV due to no fan motor.  <b>Con:</b> Requires annual inspection and cleaning of DCB coil  <b>Con:</b> On its own, may not meet ASHRAE 241 – Control of Infectious Aerosols.

**Discussion:**

- T. Elmore comments that ASHRAE standard was not identified as a goal requirement on this project.  
 K. Seaman explains it's the newest standard that came out of covid, figured could be a potential option to consider.
- P. Caruso comments, we are asking the committee to decide between the displacement diffusers, which are already included in the design, and the displacement chilled beams. Switching from one system to the other is estimated to cost an additional \$7 per square foot. With 39 classrooms, each approximately 900 square feet, the estimated cost per classroom is \$6,300. This brings the rough total additional cost for the switch to almost \$250,000.
- K. Seaman recommends the chilled beams as anything that doesn't have moving parts is typical a good thing for maintenance.
- S. Meyer comments, we've been fortunate in recent years, with COVID relief funds helping us avoid significant budget cuts or staff layoffs. However, this will eventually end, and when budgets tighten, preventative maintenance is often the first to be cut. For example, we might reduce the frequency of filter replacements from three times a year to two, which could lead to equipment failures like burned-out motors. This underscores the importance of reliable systems that require less frequent maintenance.

A motion was made by B. Delorey and seconded by M. Moran to proceed forward with the displacement chilled beam system.

Discussion: None; Roll Call Vote: B. Delorey (Y), C. Magliozzi (Y), M. Ward (Y), S. Meyer(Y), C. McGown (Y); Abstentions: None; All in favor, motion passes

**Project Schedule Timeline** (refer to meeting packet for high level overview of next (6) months.

T. Elmore provides a brief overview of the upcoming months.

**Monthly Meetings**

- PBC/ SBC meetings will be held at least monthly.
- Dates will be discussed at the end of each meeting.

**Design Phase**

- Currently in design development with LPA.
- Design development will continue through November.
- Switch to 60% construction documents after November.

**Construction Schedule**

- Reevaluating the construction schedule with Fontaine.
- Adjusting the schedule and sequence of activities for the next 18 months.
- Ongoing back-and-forth discussions for refinement.

**Scope and Assessment**

- Reviewing and refining the schedule and scope.
- Geothermal test well completed.
- Upcoming roof test sampling by hazmat crew.

**Design Development Working Groups**

- August-October: Working groups to assist in design development.
- Involving various parties, including PBC, SPC members, police, and fire departments.
- Reviewing building systems, owner requirements, and community use.

**Community and School Input**

- September: Focus on school and personnel input.
- Opportunities for community involvement, e.g., historic graphics and library committee.

**Interior Design and Program Elements**

- October: Focus on interior design elements (flooring, colors, sustainability, music program).

**Design Development Submission**

- November: Organizing for December submission to the MSBA.
- **December 3:** Updated reconciled estimate and value engineering items to be presented to the school building committee, Seeking owner approval for MSBA submission
- **December 6:** MSBA submission

**Discussion:** None

**Other topics not Reasonably Anticipated 48 hours prior to the Meeting:**

**Discussion:** None

29.6

**Public Comment:**  
**Discussion:** None.

Record

29.7	<b>Next SBC Meeting:</b> PBC/SBC Meeting: August 13, 2024 @ 6:30PM; Location: Remote <b>Discussion:</b> None	Record
29.8	<b>Adjourn:</b> 8:20PM A motion was made by C. Magliozzi and seconded by M. Moran to adjourn the meeting.  Discussion: None; Roll Call Vote: B. Delorey (Y), C. Magliozzi (Y), M. Ward (Y), S. Meyer(Y), C. McGown (Y); Abstentions: None; All in favor, motion passes.	Record

Sincerely,

DORE + WHITTIER

Elias Grijalva

Assistant Project Manager

Cc: Attendees, File

The above is my summation of our meeting. Please contact me for incorporation into these minutes if you have any additions and/or corrections.