Concord Middle School Building Committee
Sustainability Subcommittee
Meeting Minutes
April 24, 2020

Present: Mike Carroll (Hill International), Frank Cannon, Kate Hanley, Russ Hughes, Laurie Hunter, Charlie Parker, Matt Root, Laurie Hunter, Martine Dion.

Call to Order
Mr. Root called the meeting to order at 9:40 AM as a Zoom Conference call.

Approve meeting minutes from January 30 and February 6 meetings
A motion was made by Kate Hanley, seconded by Russ Hughes, and passed unanimously to approve the Sustainability Subcommittee minutes from the January 30 and February 6 meetings. The motion was unanimously approved.

Tim Hult Sustainability Overview
The meeting began with comments from Tim Hult who reviewed the need for a 'base building' in the analysis of costs. Tim also asked the Sustainability Subcommittee to agree on the major sustainability elements, along with the Committee's best judgement as to costs. Kate questioned the request by indicating that 'Incremental cost depends on what your baseline assumptions are'. Kate indicated that difficult issue is: 'what's an incremental cost compared to a base that is undefined?' Kate also indicated that the community would not support LEED Silver as a base building. However, Tim added that the community wants to understand the incremental costs associated with the various sustainability objectives and that the use of the 'base building' is helpful in this regard as well as being instructive to the community.

Solar
Charlie Parker delivered a presentation on CMS Solar for the Subcommittee which provided a definition of Net Zero along with goals, capacity requirements, and next steps. The following is a high-level summary of the key points from the presentation:

- Definition: A Net Zero project should be designed to generate more energy than it consumes, over the course of a year. However, Net Zero is not a term that is limited to the generation of electricity or to solar PV. To be Net Zero, a project must also be super-efficient with a low 'Energy Use Intensity' at ~25kBTU's/square foot of energy consumption or less. We have been following this efficiency play book in defining our sustainability recommendations. Second, the generation must happen on-site. Third, no biomass or fossil fuels. Fourth, RECs cannot be used in place of generation to offset consumption.
- Based on our projected EUI, we will need to produce 1.1M kWh's of electricity. This will require 1MW of solar capacity. (Concord's Landfill solar installation is 1.7MWs.)
- Roles/responsibilities: The CMS project will deliver the Solar Readiness elements which will include the underlying infrastructure that needs to be built into the site (conduits, some prewiring, proper roof structure &orientation, etc.). The CMLP will be expected to deliver the PV financing, construction, and ongoing maintenance.
- Avoided costs for the Town through this system are ~$4M over 30 years *to the Town* for the power that would otherwise be purchased off the NE Grid and transmitted to us using the NE Grid's transmission lines. Project is cash positive to the Town on Day 1 and throughout the life of the system. Cost of project is ~$2.1M with an annualized rate of return of 1.8% over 30 years.
- As much as half of the project can be built-out on the roof, depending on final specs. The remainder will need to be built-out on the site, beyond the roof.
- The array would generate 1% of the power consumed annually by Concord's commercial segment and would add 13% to the Town's solar capacity.

After the presentation, a series of questions were raised and answered on safety, Town Zoning, sizing of the system, additional costs for footings & conduits, and on the extent to which storage and PV panels could affect the existing limits on impervious services. Additionally, it was clarified that maintenance would be performed by the CMLP. Martine Dion made the point that an approach where the CMLP delivers the project will be lower in costs than through the CMS building project. Martine also indicated that the cost of canopies for schools will be higher than canopies in non-school locations, due to the need for higher structures and better quality.

Motions were made and unanimously passed to (1) present the draft of the letter to CMLP to the full committee for approval (attached) and (2) include the bullets (slide 9) to provide the background rationale. The goals from Slide 9 include:

- Project generates 100% of the energy that is consumed on-site
- Project maximizes use of solar-ready rooftop
- Additional areas beyond the rooftop will be identified in order to meet goal
- Project will not be funded from school construction budget.

Text of Letter to Dave Wood, CMLP, from CMS Building Committee:

Thank you for attending our Sustainability Subcommittee meeting. You indicated a willingness to pursue the construction of a PV system for the CMS, based on our requirements for the project and we wanted to thank you for this. At this time, we are in a position to provide further clarification of our goals.

As you know, we are pursuing a Net Zero goal for the CMS. This will require commitments and deliverables from both the Building Committee and the CMLP. The Building Committee is already committed to providing a 'Net Zero Ready' facility, including both the CMS building itself, as well as the school parking areas or other areas, as appropriate. As for the financing and installation of the PV arrays and the remaining components of the system, this aspect of the project is the responsibility of the CMLP and we are pleased to have this help.

Our CMS net zero goal is for *'100% of our annual kWh consumption to be off-set by on-site generation over the course of a year'*. More specifically, this goal is based on an EUI of 25 for 140,000 square feet and the estimated capacity to meet that goal is 1 MW. In addition, we have sized a storage system that is sufficient to mitigate 4 hours of peak solar production from a 1 MW site. We believe the CMS rooftop and other areas on the site will be sufficient to meet our requirement of 1 MW of capacity. Last, we would like the installation completed as soon as construction of the project is complete.

We would like to have the CMLP reaffirm its commitments to proceed with solar generation for CMS, along with an acceptance of the feasibility of the scale, financials, schedule that this will entail.

Thank you,

Building Committee, Sustainability Sub-Committee

Minutes prepared by Charlie Parker, 5/12/2020