

Minutes for CMSBC Sustainability Subcommittee– January 28, 2021, prepared by Charlie Parker

Attendees: Charlie Parker, Frank Cannon, Kate Hanley, Laurie Hunter, Matt Root, Russell Hughes, Kristen Olsen, Martine Dion, Duclinh Hoang, Ian Parks, Peter Martini

Meeting was convened by Matt Root, Subcommittee Chair, on Jan 13 at 8:02PM

Approval for the minutes for the previous meeting (1/13/2021) was moved forward by Kate Hanley and seconded by Russell Hughes - unanimously approved.

Kristen proceeded with a presentation of Sustainability slides 1/28/2021, starting with questions that had been submitted by the subcommittee based on the previous meeting.

Water usage: 30% water usage reduction goal vs code requirements, no irrigation planned

Storm Water reuse: No current plans for interior use. UV lights could be used for toilet water, but it becomes a maintenance issue.

MERV impacts: Andy O. mentioned that Merv 13 is the standard they follow, but COVID may push the requirement to higher level (i.e. Merv 16 may mitigate virus risks). Fan horse power increases as MERV increases and this will impact the EUI in increases power requirements. Different options could be modelled.

GSHP: Question is first cost. But SMMA is prepared to evaluate it if we are interested. Long payback period. Decision point is whether to pursue a test bore hole which is additional cost if the bore hole is not used. Schematic design is the time to start to focus on GSHP merits/costs.

Displacement ventilation: This is an excellent system with value add to air quality and comfort. Trade-off is the necessity to provide heat through a separate system and that will be extra cost. Displacement ventilation systems must be separated from the heating systems.

Electric kitchen: No issues. However, the basic challenge is how much ventilation is required and how to manage it. Demand control ventilation system is recommended. No oil-based fryers, but there are air friers. Possibility to eliminate fried foods. And, no cooking days are possibility as well to reduce energy demand.

Gas burners in science labs: There are viable electric alternatives.

Matt recommended that we get a better focus on what metrics and capabilities we prefer – example is MERV 16 as a choice. Recommendation is to start narrowing our preferences. Kristen said this narrowing process will happen in the Schematic Design Phase.

Daylighting: Need a conversation during schematic design on the results of daylight modeling and the different design options associated with daylighting. 25% window to wall ratio. Quality of the daylight should be the key goal.

EUI: ASHRAE EUI of 19 is possible but nor realistic. Level of the ASHRAE modelling is not at the level necessary to provide a realistic number. Operational behavior to get to EUI 25 will be critical – plug

loads, screen savers, set points for HVAC. Charlie asked for a more aggressive approach to the EUI to ensure that we achieve 25 and not stray upwards toward the 30's. Window to Wall ratio for Net Zero is ~25 but daylighting requirements will be reviewed in each instance. General range is 25-30. And, it's about a strategic approach to window placement.

Waste Reduction: MA law mandates construction recycling. Monthly reports will be required on waste-reduction related to construction.

Healthy materials: Following LEED guidelines. Will pursue Environmental Product Declaration and Health Product Declaration credits. Minimum 50% FSC wood with a goal of 90%. Low emitting materials will also be included.

Building Envelope Details: In Feasibility currently; building has not been detailed which will start in Design. Air infiltration will be addressed during commissioning. A spec for testing will be developed during schematic design. 0.08 is an acceptable target but SMMA would recommend 0.10 to 0.15.

Discussion of Metrics:

Kristen asked for the Committee's high-level goals and asked to Zoom out. Kate asked why we need to continue focusing on the same high-level material and that this is confusing in terms of what we are trying to do. Kate indicated that the matrix takes us to the next level and that we've already proposed these same goals. The question is whether we are making progress in getting a better definition or are we retracing old ground. Kristen recommended that we hold-off on getting more specific until we get to the Schematic Design Phase. Matt responded with comments that we need to get more specific now to ensure that we hit the targets that are important. Matt also recommended that we review the EZ Stretch Code as a vehicle to get to where the Committee would like to be.

Next Steps:

Need to organize our recommendation by starting with a prioritization of our goals through metrics.

Citizen Comments:

Brian Foulds commented that he feels the process seems to be getting in the way of moving ahead substantively on areas like metrics, which are important.

Jerry Frenkil suggested a model for evaluating the contribution of each design choice in terms of impact on the EUI. This would require a cost/benefit analysis of each choice to determine ways to optimize the overall design to get to our 25 goal.

Michael McAteer appreciates discussion on metrics. Requests focus on daylighting and using the school as an instrument for education, including using solar. NBI has gathered information on EUI for schools.

Kate Hanley made a motion to adjourn, seconded by Russ, and agreed by the full committee at 9:29 am.