

## MEMORANDUM

**TO:** Board of Directors, Massachusetts School Building Authority  
**FROM:** John K. McCarthy, Executive Director  
**DATE:** March 18, 2015  
**RE:** Update on Sustainable Building Design Guidelines and Policy Recommendations

---

As described in the March 19, 2014 Board Memorandum and recently updated at the January 14, 2015 Board meeting, the Massachusetts School Building Authority (the “MSBA”) has performed an evaluation of current practices associated with its Sustainable Building Design Guidelines. This memorandum provides a summary of these efforts and makes recommendations for related policy updates that will affect all new construction and major renovation/addition Core Program projects requesting Preferred Schematic approval on or after the July 29, 2015 MSBA Board meeting.

Since its formation, the MSBA has been an advocate of “Green” sustainable building design for all MSBA-funded public K-12 school buildings. MSBA guidelines include a base level of sustainable requirements for all projects and also include provisions that award a school district an additional 2% of a project’s eligible costs if the project achieves higher levels of sustainability under the established criteria. Staff monitor revisions to building and energy efficiency codes and have updated the sustainable criteria accordingly, and as follows:

- From the outset, the MSBA demonstrated a commitment to sustainable building design by adopting the 2006 version of Massachusetts Collaborative for High Performance Schools (“MA-CHPS”) *Massachusetts High Performance Green Schools Guidelines*, as administered by the Collaborative for High Performance Schools (“CHPS”) organization.
- In March 2010, the MSBA further developed the Sustainable Building Design Guidelines by establishing a minimum standard for all Core Program projects using either the 2009 MA-CHPS or 2009 United States Green Building Council LEED for Schools (“USGBC LEED-S”) criteria.
- In March 2014, the MSBA recommended an update to require projects that submit for Preferred Schematic approval after the June 4, 2014 MSBA Board meeting to register with United States Green Building Council (“USGBC”) LEED-S version 4. At the time of this recommendation, updates to the Massachusetts Collaborative for High Performance Schools (“MA-CHPS”) guidelines and the Massachusetts “Stretch Energy Code, were still under review by others and, therefore, staff recommended adoption of the revised LEED-S criteria as its only sustainable criteria until such time that the other updates were final.

As of the January 2015 Board meeting, 107 Core Program projects have registered with either CHPS or USGBC, with 39 projects completed. The total additional reimbursement from MSBA through this program to date is \$92.1 million, averaging over a million dollars per project.

## **Discussion**

State and federal standards continue to require increasing levels of energy efficiency with a goal of “Zero Net Energy Buildings” by 2030. Massachusetts adopted the 2012 International Energy Conservation Code (“IECC”) as part of the Massachusetts State Building Code increasing the energy efficiency standard over the prior code. In response to the nationwide increase in code standards, CHPS and USGBC have phased in compliance with updated sustainable criteria. Potential updates to the Massachusetts “Stretch Energy Code” may be forthcoming, pending the outcome of ongoing efforts by the State to update current energy efficiency standards. However, if and when proposed changes may be implemented is unknown at this time.

In response to these increased standards, USGBC introduced LEED-Version 4 for schools in 2013. The Collaborative for High Performance Schools did not update its 2009 MA-CHPS criteria but did introduce Northeast CHPS (“NE-CHPS”) Version 3 in 2014. These revisions establish levels of efficiency and sustainability well above previous standards.

With assistance from one of its consultants, MSBA staff assessed these changes by performing the following tasks:

- Reviewed the new 2012 IECC, LEED-S Version 4 and NE-CHPS Version 3.0 including comparisons to previous editions.
- Verified equitable levels of achievement and requirements between the new NE-CHPS and LEED-S criteria.
- Conducted outreach meetings with design consultants and related organizations to receive feedback from professionals that have direct experience with these sustainable requirements.
- Recommended updated minimum “best practices” standards for all Core Program projects and potential additional reimbursement for Districts that elect to achieve higher levels of energy efficiency.

The MSBA has completed its comparison of these sustainable standards, including a recommendation to adopt NE-CHPS 3.0 as an alternative system to LEED-S V4 as a measure of sustainability, and to continue using the LEED-S criteria with increased levels of energy efficiency to match the minimum standards of NE-CHPS 3.0. By allowing school districts and design teams an option to choose either system, the MSBA will continue to recognize two approaches to achieve its commitment to sustainable schools based on the needs of the individual project. Although MSBA policy places emphasis on increased energy efficiencies, the sustainable design elements promoted by this policy also support more efficient transportation costs, lower water consumption, reduced use of materials, and encourages a quality educational indoor environment.

## **Recommendation**

As presented at the Facilities Assessment Subcommittee on March 11, 2015, recommendations for this proposed policy require that all new construction and major renovation/addition Core Program projects funded by the MSBA participate in the High Efficiency Green School Program by achieving, at a minimum, and for no additional reimbursement, the levels of certification noted below, including energy efficiencies of 10% above the current building code. Districts that

attempt 2% additional reimbursement points through this program will be required to achieve higher levels of sustainable achievement, including energy efficiency at approximately 15% above the current building code (with considerations for addition/renovation vs. new construction).

MSBA staff recommends that all new construction and major renovation/addition Core Program projects requesting Preferred Schematic approval **on or after July 29, 2015**, must comply with one of the four following options:

- Using LEED-S V4, for no additional reimbursement, achieve a minimum of “Certified” (40 points), including a minimum of 3 points in Energy & Atmosphere (“EA”) Credit “Optimize Energy Performance.”  
*OR;*
- Using NE-CHPS 3.0, for no additional reimbursement, achieve a minimum of “Verified” (110 points for new construction or 85 points for addition /renovation), including 6 points in Energy Efficiency (“EE”) Prerequisite #1.0.  
*OR;*
- Using LEED-S V4, for 2% additional reimbursement points, achieve a minimum of “Silver” (50 points), including a minimum of 6 points in EA Credit “Optimize Energy Performance.”  
*OR;*
- Using NE-CHPS 3.0, for 2% additional reimbursement, achieve a minimum of “Verified” (110 points for new construction or 85 points for addition /renovation), including a minimum of 9 points in EE Credit #1.1.

The requirement to comply with the current policy remains in effect for all Core Program projects that request Preferred Schematic approval before the July 29, 2015 MSBA Board meeting.

### **MSBA Sustainable Schools Policy**

*(In addition to 963 CMR, 2.04 General Site and School Construction Standards)*

#### **Minimum Requirements**

<b>Current Policy</b>	<b>Proposed Policy</b>
Using LEED-S V4, for no additional reimbursement, achieve a minimum of “Certified” (40 points).	Using LEED-S V4, for no additional reimbursement, achieve a minimum of “Certified” (40 points), including a minimum of 3 points in EA Credit “Optimize Energy Performance.” <i>OR;</i> Using NE-CHPS 3.0, for no additional reimbursement, achieve a minimum of “Verified” (110 points for new construction or 85 points for addition / renovation), including 6 points in EE Prerequisite #1.0.

#### **Additional Reimbursement**

<b>Current Policy</b>	<b>Proposed Policy</b>
Using LEED-S V4, for 2% additional reimbursement, achieve a minimum of “Silver” (50 points), including a minimum of 6 points in EA Credit “Optimize Energy Performance.”	Using LEED-S V4, for 2% additional reimbursement points, achieve a minimum of “Silver” (50 points), including a minimum of 6 points in EA Credit “Optimize Energy Performance.” <i>OR;</i> Using NE-CHPS 3.0, for 2% additional reimbursement, achieve a minimum of “Verified” (110 points for new construction or 85 points for addition / renovation), including a minimum of 9 points in EE Credit #1.1.

The MSBA will continue to monitor advancements in the industry and the effectiveness of MSBA policy to support the sustainable qualities of the schools in Massachusetts.