



## ***Summary of Changes to LEED for Homes for Mid-Rise Buildings***

The Mid-rise Guidance was developed with input from Providers, Technical Advisory Sub-Committee members, representatives of EPA and NYSERDA's ENERGY STAR Multi-family program, and the LEED for Homes staff and consultants. The Mid-rise Working Group has met bi-weekly for 4 months to develop these guidelines

The goal of the mid-rise guidance is to make minor changes to LEED for Homes so as to enable mid-rise buildings to pursue LEED for Homes certification. The Mid-rise Guidance primarily includes changes of three different types:

- 1) Credits that reference codes or standards not applicable to mid-rise buildings;
- 2) Credits that have reduced or limited value in mid-rise buildings; and
- 3) Credits that were constructed with performance assumptions based on single-family or low-rise designs that are not applicable to mid-rise buildings.

The Mid-rise Guidance is designed as an addendum to LEED for Homes, so most of the prerequisites and credits from LEED for Homes still apply. The total number of prerequisites, the total number of points within each credit category, and the total number of points overall have not changed.

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### **Scope**

*Change:* Includes 4-6 story buildings, with specific definitions for what constitutes a "story". Must have at least two units.

*Rationale:* The scope of the program was limited to no more than 6 stories during the pilot to create clear differentiation between LEED for Homes and LEED-NC. Otherwise, the scope of the program mirrors the scope of ASHRAE Std. 90.1-2004.

### **Innovation and Design Process**

*Change:* ID 1 - deleted credit for Integrated Project Planning. Added credit for Trades Training.

*Rationale:* At the level of mid-rise buildings, most projects already have an integrated project team. The trades play a critical role in the project's success, and it is important to communicate early the unique aspects of the projects and what is expected of each trade.

## **Locations and Linkages**

*Change:* LL 3 - deleted credit for Previously Developed site; added credit for Brownfield Redevelopment.

*Rationale:* Mid-rise projects are often located on previously developed sites. Developing brownfields has many environmental benefits, but is often costly, making incentives important. This credit mirrors SS Credit 3 from LEED-NC.

*Change:* LL 5 - cut transit options for earning Community Resources credit; moved them to a new credit in SS (SS 7 Alternative Transportation).

*Rationale:* Because of the higher density of people, Alternative Transportation will be more significant for mid-rise buildings compared with low-rise, and merits its own credit. The new design provides an incentive for locating near community resources and also transit.

## **Sustainable Sites**

*Change:* SS 2 - reduced the number of points for Landscaping, allowing new credits to be added (see SS 7).

*Rationale:* A typical mid-rise building will have much less landscaped area proportionately than a single-family or low-rise building. It is also less common for mid-rise buildings to have large turf lawns. The new point allocation reflects this reduction in significance, while making space to add new credits for alternative transportation in SS 7.

*Change:* SS 3 - added new credit for Heat Heat Island Effect: Roofs.

*Rationale:* The percentage of the built site will be higher for a typical mid-rise than a low-rise building, increasing the significance of the heat island effect. The new credit mirrors SS Credit 7.2 in LEED-NC.

*Change:* SS 4 - replaced Management of Runoff from Roof with new credit for Stormwater Quality Control.

*Rationale:* The previous credit in SS 4.3 was poorly suited to projects in which the roof area is large in proportion to the site area. The new credit mirrors SS Credit 6.2 from LEED-NC and allows projects with small sites to earn credit for improving the quality of roof runoff.

*Change:* SS 6 - increased the housing density requirements for the Housing Development Density credit.

*Rationale:* Typical mid-rise buildings will have a higher density than low-rise buildings; the old credit structure would have awarded points to almost every mid-rise buildings.

*Change:* SS 7 - added new credits for Alternative Transportation, including Public Transit, Bicycle Storage, Parking Capacity/Low Emitting and Fuel-Efficient Vehicles.

*Rationale:* The greater number of people in mid-rise buildings increases the impact of alternative transportation. Also, many of these features are more appropriate for mid-rise buildings. These credits mirror SS credits 4.1-4.4.

## **Water Efficiency**

*Change:* WE 1 - restructured credit for Water Reuse to be performance-based rather than prescriptive.

*Rationale:* The current Water Reuse credit is prescriptive and easy to use, but it's based on assumptions about the roof area of a home and how much rainwater can be collected. The differences in mid-rise buildings made this approach unworkable. The revised credit maintains the intent of the original credit, but flexibly ensures that water savings are rewarded appropriately.

*Change:* WE 2 & 3 - reduced maximum points for Irrigation System and increased maximum points for Indoor Water Use.

*Rationale:* The smaller landscaped area for a typical mid-rise building decreases the significance of irrigation, while the higher number of residents increases the significance of indoor water use. The new credits reward water-efficient clothes washers and dishwashers.

## **Energy and Atmosphere**

*Change:* EA 1 – changed the energy modeling requirement so the performance baseline is ASHRAE 90.1-2004, Appendix G.

*Rationale:* The International Energy Conservation Code, which is the baseline used for LEED-H, is only applicable to single-family and low-rise buildings. ASHRAE Standard 90.1 was written for buildings  $\geq 4$  stories. The new approach is based on EA Credit 1 in LEED-NC – it requires modeling as per Appendix G in Std. 90.1; the simulation guidelines rely largely on rulings from LEED-NC; and it requires a minimum performance of 14% better than code.

*Change:* EA 1 - added prerequisite for Reduced Envelope Leakage.

*Rationale:* Compartmentalization is critical for energy efficiency in mid-rise buildings, but the energy model does not adequately address this. The new prerequisite mirrors language within the EPA's ENERGY STAR Multi-family program.

## **Materials and Resources**

*There are no changes to this section.*

## **Indoor Environmental Quality**

*Change:* EQ 2 - removed credit for No Fireplace / Improved Fireplace.

*Rationale:* The credit as written would have been achieved by nearly all mid-rise buildings. Very few mid-rise buildings have a fireplace. Where fireplaces are installed, they are direct-vent natural gas fireplaces. Both are rewarded with 2 points in LEED for Homes.

*Change:* EQ 4 & 5 - changed the ventilation reference from ASHRAE Std. 62.2 to a hybrid of ASHRAE Std. 62.2 and ASHRAE Std. 62.1.

*Rationale:* The scope of ASHRAE 62.2 states that it is not intended for buildings with more than 3 stories. However, ASHRAE 62.1, written for buildings  $\geq 4$  stories, requires a much greater ventilation rate, which would create an unnecessary energy penalty.

*Change:* EQ 4 - added prerequisite for compartmentalization.

*Rationale:* Compartmentalization reduces the transfer of air between units, which improves the efficacy of ventilation systems and reduces the transmittance of unhealthy air – improving comfort and health.

*Change:* EQ 11 - added new credit for Environmental Tobacco Smoke Control.

*Rationale:* Environmental Tobacco Smoke poses a significant threat to human health. In a mid-rise building, it is important to minimize smoke transfer from other units. The new credit is based on EQ Prerequisite 2 in LEED-NC.

## **Awareness and Education**

*There are no changes to this section.*