

MEETING SUSTAINABLE DEVELOPMENT REQUIREMENTS IN THE 2019 GEORGIA QUALIFIED ALLOCATION PLAN

2019



The 2019 Georgia QAP includes significant changes to both the sustainability threshold requirements and scoring options. New this year, Sustainable Building Certification is changed from an optional point item to a threshold requirement for all projects. This applies to both 4% bond deals and 9% credit projects. There are no longer any points for base or higher level green building certification. In addition, the two points for Sustainable Communities Certification, previously available through EarthCraft Communities or LEED for Neighborhood Development certification, are removed.

This paper will review requirements for sustainability in the 2019 QAP and provide guidance on selecting a certification program for use in LIHTC applications.

SUSTAINABLE BUILDING CERTIFICATION

Threshold requirements now require all tax credit projects, both new and rehab, to be certified under one of the following programs: National Green Building Standard (NGBS), EarthCraft Multifamily (ECMF), EarthCraft Sustainable Preservation (ECSP) for historic renovation and adaptive reuse projects, Enterprise Green Communities (EGC), or LEED for Homes (LEED H). All programs certify both new construction and rehab projects with the exception for LEED for Homes which only applies to new construction and ECSP which only certifies historic structures undergoing rehabilitation.

NEW CONSTRUCTION

All programs can be applied to new construction, including single family and low, mid and high-rise multifamily. LEED H and Enterprise require a performance path for energy efficiency. This is typically accomplished with HERS ratings for low-rise buildings and a whole building energy model such as, eQUEST for mid- and high-rise projects. NGBS and ECMF offer the option of using an energy model or a prescriptive path for energy efficiency. In our certification work, we find that HERS ratings for low-rise multifamily buildings often do not show the necessary energy efficiency levels for NGBS and ECMF without significant upgrades in equipment and material efficiencies. We therefore recommend that low-rise projects certifying under these programs commit to meeting prescriptive path requirements in the design phase. Whole building energy models for mid- and high-rise buildings provide more accurate results, making it easier and less costly to meet energy efficiency requirements through the performance path.



City Lights Phase 1 certified under the National Green Building Standard.

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LEED H and EGC have significantly more stringent requirements than NGBS or ECMF regarding insulation, framing efficiencies, and, most critically, testing at completion of ventilation flow rates. This means that the airflow of whole building, bath exhaust, and kitchen exhaust ventilation systems must be measured at completion and show that they all flow at the designed rates.

One other key requirement for LEED H and EGC is for a building to incorporate advanced framing techniques such as open (“California”) corners, ladder T walls, and right sized headers. Alternately, the building can have continuous exterior insulation. Advanced framing is inexpensive and typically saves money through reduced material use, but it must be managed carefully in the field to ensure that it is installed consistently. Like the ventilation air flow rates, if missed during construction, these requirements are costly to correct and can cause a project to not meet certification. Our recommendation for these programs is to install continuous insulation on the exterior of the building, ensuring that the project can be certified if any advanced framing measures are missed.

For mid and high-rise projects LEED H and EGC certification is a significantly more complex process. For these projects, we recommend either NGBS or ECMF for the relative ease of the certification process. Beyond energy efficiency, all programs have requirements and optional credits for sustainable site development, indoor air quality, sustainable material use, water efficiency, and operations and maintenance training. In addition to meeting program requirements, enough optional credits must be included in the project to meet the minimum point threshold for certification in each program.



NGBS, EarthCraft, Enterprise, and LEED all qualify for sustainable building certification for new construction.

RENOVATION

Renovation projects are classified by scope of work and building type. Scope of work is defined as either moderate or substantial. Moderate is typically limited to finishes and mechanical systems, while substantial involves building envelope work such as new insulation, cladding, or windows. Substantial renovations expose enough of the structure to be comparable to new construction projects. As with new construction, buildings are classified as low-, mid-, or high-rise. Certification programs apply to these project scopes and building types differently.

The QAP requires a building energy audit and a report identifying planned improvements for all renovation projects as part of the application. Energy Audit reports must identify energy conservation measures (ECM) that would result in an overall energy savings of 20% or greater over pre-retrofit levels or have a Savings to Investment Ratio (SIR) of 2.0 or greater.

Low-rise Renovation

Low-rise moderate and substantial renovation projects can be certified under NGBS, ECMF, and EGC. Substantial renovations can be certified under LEED H when the building is gutted completely and all insulated surfaces have been inspected.

ECMF Renovation requires a project to meet a minimum point score and show at least a 20% energy efficiency improvement over existing conditions through preparation of HERS ratings. Single family renovation projects may use a prescriptive list of measures or demonstrate energy efficiency improvement through before and after HERS ratings.

NGBS renovation projects must meet a minimum point score and show at least a 15% energy efficiency and 20% water efficiency improvement over existing conditions. Higher levels of certification require both increased efficiencies and additional points.

Renovation projects under Enterprise Green Communities must meet a minimum score and show a HERS index of at least 85.

LEED H substantial renovations must meet all the criteria of the new homes program.

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Mid and High-rise Renovation

Mid and high-rise moderate and substantial renovation projects can be certified under NGBS, ECMF, and Enterprise. Substantial renovations can be certified under LEED H Multifamily High-rise.

NGBS makes no distinction between low, mid, and high-rise requirements. Projects can use either HERS ratings or eQUEST models to confirm required energy efficiency improvements.

ECMF has the same 20% energy efficiency improvement as the low-rise program. Energy savings must be demonstrated through preparation of a whole building energy model such as eQUEST or HERS ratings on a sample of units.

EGC requires that mid- and high-rise rehab projects demonstrate that the completed building will meet the energy efficiency requirements of ASHRAE 90.1 2010 which requires an eQUEST model to confirm.



Briarcliff Summit's renovation was certified under Enterprise Green Communities.



COST OF CERTIFICATION

Multifamily fees are based on the number of buildings and either per square foot or per unit cost. Inspector fees vary based on the program selected, and project type, size, and location, typically ranging from \$100 to \$400 per unit depending on project size, location, and program. In addition, all programs except EGC charge a fee to certify each project. This fee typically varies from \$35 to \$75 per unit and is paid directly to the certifying authority.



CONCLUSIONS & RECOMMENDATIONS

We have established the following recommendations for developers to meet QAP requirements as cost effectively and easily as possible. While we always encourage our clients to aim for higher performance, we recognize that managing costs and time are critical in a competitive construction climate.

DUCT & ENVELOPE SEALING

All new construction projects must meet the following duct and envelope leakage requirements at completion:

- Duct leakage to outside (LTO) is < 8 cfm/100 square feet. Note that non-ducted HVAC systems are exempt from leakage requirements.
- Air infiltration rate is 7 air changes per hour at 50 pascals (7 ACH50). For units 1200 SF and smaller, Envelope Leakage Ratio (ELR50) of .35 CFM50 per SF of building envelope may be used in lieu of 7 ACH50.

All renovation projects must show either a 20% improvement in duct and envelope leakage OR meet the same leakage rates as new construction noted above.

We recommend including the following duct and air sealing techniques in all projects:

Envelope Sealing

- Caulk bottom plate to slab at unit envelope
- Seal all visible gaps in wall and floor sheathing
- Seal windows and doors to framing
- Rigid air barrier behind any chases, tubs on exterior walls, and framed soffits
- Seal shower and tub drains
- Air seal bands at unit envelope
- Seal all pipes and wires at top and bottom plates
- Seal top and interior walls of any chases
- Block cantilevered floors at exterior wall
- Caulk electrical boxes, plumbing pipes, and other gaps at exterior walls and ceilings
- Seal all gaps in drywall at mechanical closets
- Caulk all HVAC boots and bath fans to drywall
- Caulk washer and dryer boxes to drywall
- Seal attic access hatches to framing

Duct Sealing

- All flex to metal connections sealed with mastic at the duct liner, not insulation
- All collars to plenums, sealed with mastic to metal or duct board, no mastic on insulation
- All plenums to air handlers sealed with mastic, no mastic on insulation
- Seams in metal connectors sealed with mastic
- Seams in air handler sealed with tape or mastic
- Transfer grilles must have metal sleeves sealed to drywall on both sides
- Holes in air handler for condensate and refrigerant lines sealed with caulk or mastic

SELECTING A CERTIFICATION PROGRAM

Green building certification is a complex process that requires investments of both time and money from the entire project team to succeed. Proper planning from the earliest stages of design for certification and including appropriate materials and systems clearly in plans and specifications helps assure that certification will go smoothly. Choosing among different programs is typically based on a combination of cost, complexity of the certification process, and familiarity with a program or programs.

Based on our experience with all the certification programs in the QAP, we have developed recommendations for the most cost-effective programs for various project types. These recommendations are based on cost and simplicity of meeting certification requirements. They do not address owner or investor preference or the potential marketing value one program may have over another. When a developer or contractor has had good experience with a program, it is appropriate to continue with that program.

Recommended certification programs:

- For low-rise new construction projects, we recommend NGBS or ECMF.
- For low-rise renovation projects, we recommend NGBS or ECMF.
- For any size historic building undergoing rehabilitation or adaptive reuse, we recommend NGBS or ECSP.
- For mid- and high-rise new construction projects we recommend NGBS.
- For mid- and high-rise renovation projects we recommend NGBS or ECMF.

NEXT STEPS

Determining the most appropriate sustainable building program to pursue for a QAP application should involve the entire project team, including construction, design, and sustainability consultants. New construction projects can review the requirements of several programs in a single meeting to help the team decide on the best path to certification. For existing buildings, completing the initial energy audit, energy modeling, and a team meeting to review certification options will provide guidance on the most appropriate certification program. It is valuable to have the consultant providing the certification services involved as early as possible in the design process to advise the architects and contractors on details and specifications to assure a smooth path to certification.

Preparing for Your Application

All projects require a completed worksheet from the selected Sustainable Building certification program, and renovation projects must have a sample of all units tested for duct and envelope leakage as part of the required energy audit for application. For new construction projects, we recommend allowing a minimum of 3 weeks prior to the application deadline to review program options and complete the certification worksheet. For renovation projects, we recommend at least 4-6 weeks to perform these tasks plus the testing and energy audit report.

How We Can Help

SK Collaborative has extensive experience in energy audits and certification for QAP projects throughout Georgia as well as other state programs. We have the capacity to complete on-site inspections and audit reports for renovation projects promptly. Having completed thousands of units under all the sustainable certification programs we have the experience to help you select the most appropriate program for your project and guide you through the process of completing the worksheet for your application and working with the project team throughout the design and construction process to assure smooth certification at completion.

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