Renovations: 2020 Guiding Principles Recommendations February 1, 2022

Modernizations* are required to meet Appendix A of the 2020 Guiding Principles for Sustainable Federal Buildings (GP). However, LANL is required to continue certifying existing buildings under Appendix B of the GP. Renovation projects can assist by complying when the project scope of work correlates with a GP. The following list are often more than recommendations due to the fact they are frequently statutory or regulatory. For further assistance, contact site-sustainability@lanl.gov.

*Modernization is defined in Chapter 14 of the ESM as: The comprehensive replacement or restoration of virtually all major systems (such as plumbing, mechanical, electrical), interior finishes (such as ceilings, partitions, doors, and floor finishes), and building features (as in space reconfiguration or exterior wall, window, or roof replacement).

Recommendations:

GP 1.1 Integrated Design and Management

Option 2: Use a collaborative, integrated process and team tailored to the size and function of the building to plan, program, design, construct, commission, and transition to operation the building renovation. Identify team members and roles. Ensure all opportunities from Option 1 (See Appendix B of the 2020 GPs) are considered in the project. OR

Option 3: For buildings with renovation projects, use an integrated design process consistent with 2018 IgCC Appendix F Integrated Design.

GP 1.2 Sustainable Siting

Option 2: In the case of full or partial building renovation projects, use an integrated design process to apply 2018 IgCC Section 501.3.1 (5.3.1) Site Selection and Section 501.3.2 (5.3.2) Predesign Site Inventory and Assessment as applicable.

GP 1.3 Stormwater Management

Option 2: For buildings with renovation projects disturbing a surface area of 5,000 or greater square feet, use planning, design, construction, and maintenance strategies to maintain or restore the predevelopment hydrology of the property in terms of temperature, rate, volume, and duration of flow, in accordance with statutory requirements (42 U.S.C. § 17094). OR

Option 3: For buildings with renovation projects disturbing fewer than 5,000 square feet, use site planning, design, construction, and maintenance strategies, such as Low Impact Development (LID), to manage on-site stormwater and to maintain or restore hydrologic conditions after development, to the maximum extent that is technically practicable.

GP 2.1 Energy Efficiency

Option 5: Conform to Federal design energy performance specifications established under 10 CFR parts 433, subpart A, and 10 CFR parts 435, subpart A by designing the building to exceed ANSI/ASHRAE/IES Standard 90.1 by at least 30 percent, where life cycle cost-effective.

GP 2.2 Energy Metering

Verify the use of existing meters or, if no meter exists, install building-level meters or advanced meters to the maximum extent practicable for electricity, and standard metering devices for natural gas and steam. (Refer to Attachment 2 to Chapter 14 for details.)

GP 2.3 Renewable Energy

Option 2: Conform to 2018 IgCC Section 701.4.1.1 (7.4.1.1) On-Site Renewable Energy Systems, with the exception that there is no minimum energy production (kBtu/ft2) requirement.

GP 2.4 Benchmarking

Option 3: Conform to 2018 IgCC Section 1001.3.2.1.3.2 (10.3.2.1.3.2) Track and Assess Energy Consumption.

GP 3.2 Water Metering

Option 2: Conform to 2018 IgCC Section 601.3.4.1 (6.3.4.1) Consumption Management.

GP 4.1 Ventilation and Thermal Comfort

Option 2: Conform to 2018 IgCC Sections 801.3.1 (8.3.1) Indoor Air Quality and 801.3.2 (8.3.2) Thermal Environmental Conditions for Human Occupancy.

GP 4.2 Daylighting and Lighting Controls

Option 3: Conform to 2018 IgCC Sections 801.3.7 (8.3.7) Glare Control, 801.4.1 (8.4.1) Daylighting, 801.4.1.1.1 (8.4.1.1.1) Minimum Daylight Area, 801.4.1.2 (8.4.1.2) Minimum Sidelighting Effective Aperture for Office Spaces and Classrooms, and 801.4.1.3 (8.4.1.3) Shading for Offices; or 801.5.1 (8.5.1) Daylight Simulation.

GP 4.5 Moisture and Mold Control

Option 2: Conform to 2018 IgCC Section 801.3.6 (8.3.6) Moisture Control.

GP 4.6 Indoor Air Quality during Construction

Option 2: Conform to 2018 IgCC Sections 1001.3.1.5 (10.3.1.5) IAQ Construction Management, and 1001.3.1.8 (10.3.1.8) Construction Activity Pollution Prevention: Protection of Occupied Areas.

GP 5.3 Products

Option 2: Conform to 2018 IgCC Section 901.4.1.4 (9.4.1.4) Multiple-Attribute Product Declaration or Certification.

GP 5.4 Ozone Depleting Substances

Option 2: Conform to 2018 IgCC Section 901.3.3 (9.3.3) Refrigerants.

GP 5.6 Solid Waste Management

Option 4: For buildings with renovation projects, develop and implement a construction and demolition waste management plan for construction projects. Where markets exist, divert at least 50 percent of construction and demolition materials from landfill and non-energy generating incineration, in alignment with EPA's Waste Management Hierarchy.