



SUSTAINABLE FACILITIES POLICY

I. Introduction and Purpose

The purpose of this policy is to incorporate green building standards into all new and renovated facilities constructed and owned by the City of Hendersonville to demonstrate the City's commitment to sustainable building design in its own building practices and policies. This includes:

- Reducing energy costs by maintaining energy efficiency standards; and
- Taking advantage of federal credits and utility rebates available for energy efficient buildings.

The below standards are required if the construction plans are replacing or modifying the specified area and/or building feature. The City Manager or assignee shall at their discretion exempt certain requirements as requested.

II. Requirements

Exterior Design and Construction

- a. All new buildings and renovations are required to participate in Duke Energy's Energy Design Assistance Program if eligible and should contact Duke Energy in early design phases to determine eligibility.
- b. EVSE ready parking: Associated parking lots shall be constructed to be electric vehicle supply equipment (EVSE) capable. This includes:
 - i. Electric panel capacity, dedicated branch circuit that is not less than 40-ampere and 208/240-volt, and continuous raceway both underground and surface mounted to enable the future installation of electric vehicle supply equipment.
 - ii. Parking lots constructed to accommodate 20% of spots as EVSE capable. Parking lots with 10 or fewer parking spaces are exempt from this requirement.
- c. Solar: Building and associated area shall be designed as solar PV ready, excluding non conditioned buildings. This includes:
 - i. Adequate electrical conduit from the roof, ground, or parking lot to the electrical room to accommodate roof, ground mounted, and/or parking lot solar;
 - ii. Designated space in electrical panel for future solar interconnection or for 2nd electrical panel or sub-panel;
 - iii. Designated space outside or in electrical room for PV system equipment such as inverters and transformers for adequate cooling;
 - iv. Design roof to accommodate additional load requirement for PV system;

- v. Solar orientation (direction and angle) should be included as a building design consideration for new construction;
 - vi. Designing solar PV ready roof to accommodate the largest system size possible while not interfering with Duke Energy limitations on maximum power generation; and
 - vii. For renovations: When installing, ensure the existing roof is in a condition to adequately support the PV system's full lifespan without needing repairs or replacement that would require disassembling the PV system.
- d. Permeable Pavement: 20% of the total area of new parking lots shall be constructed with pervious pavement/paver systems
- i. Water & Sewer Facilities excluded from this requirement if there is a potential for surface and/or groundwater contamination from operations.
- e. Alternative Transportation: Must install at least 1 bike rack for every 1,500 square feet of building area if building is accessible to the public.
- f. Landscaping: Design in a way that reduces water use, manages stormwater, and enhances biodiversity which may include but is not limited to:
- i. Plants specified on the Tree Board's Recommended Landscape Species List;
 - ii. Invasive plants prohibited;
 - iii. Utilize smart irrigation instead of spray;
 - iv. Where possible, source trees with larger canopy to increase wildlife habitat potential; or
 - v. Minimize sod/turf to decrease water and maintenance.
 - vi. Utilize green infrastructure in site design to mimic the predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain stormwater runoff on-site.
- g. Grey infrastructure: Incorporate rainwater harvesting systems into all new facilities that will require irrigation or have equipment/vehicle washing stations on-site.

Interior Design and Construction

- h. Lighting:
- i. All interior and exterior lighting is LED;
 - ii. Motion sensing lighting required at frequently visited communal areas such as but not limited to public restrooms and/or kitchens where it does not impose a safety risk such as equipment operating areas; and
 - iii. Consider lighting controls that allow for automatic or remote turn off or dimming when not needed.
- i. Heating & Cooling, HVAC
- i. Units shall have the minimum rating that includes:
 1. Central AC: 15 SEER rating or higher
 2. Heat pump: 10.5 Heating Seasonal Performance Factor, HSPF or higher
 3. Gas Furnace: 94 HSPF or higher
 4. Boiler and/or oil furnace: 90 Annual Fuel Utilization Efficiency, AFUE or higher

- ii. Procurement process shall prioritize efficient electric equipment such as conventional heat pumps and mini split heat pumps.
 - iii. Units shall have low-impact refrigerants or no refrigerants where possible.
 - iv. Where economically feasible, boilers shall not be used with a preference for solar hot water heaters and on demand water heaters where practical.
 - v. Smart thermostats are required in areas that enable personal preferences in temperature control.
 - vi. Prior to procurement, a 5 year cost analysis shall be completed to consider the overall cost savings and environmental impacts either by the contractor or Sustainability Manager.
- j. Windows: Required maximum U factor of 0.3 and SGHC 0.4 unless deemed as a historic building
- k. Plumbing:
- i. Fixtures shall not exceed the following flow rates:
 - 1. Water closets = 4.8 L / flush
 - 2. Urinals = 0.5 L / flush
 - 3. Lavatory faucets = 1.9 L / min
 - 4. Kitchen faucets = 5.7 L / min
 - 5. Showers = 5.7 L / min.
- l. Appliances: Must be EnergyStar certified
- m. Ambient and indoor air quality:
- i. Paint shall not exceed 50 g/l of volatile organic compounds, VOC's. Industrial maintenance safety coatings shall not exceed 480 g/l of VOCs.