



WEST BUILDING HIGHLIGHTS OF SUSTAINABLE FEATURES

The North Carolina Museum of Art's new West Building, designed by architects Thomas Phifer and Partners, is registered with the United States Green Building Council and anticipates a Silver LEED Certification (Leadership in Energy and Environmental Design) rating.

Energy Efficiency/Climate-Control Systems

- State-of-the-art HVAC and filtration systems include high-efficiency chillers and computerized systems to monitor temperature and humidity. System operates at about 45% over ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) efficiency standards, reducing energy consumption.
- Super-insulated pre-cast wall panels and high efficiency glass curtain walls protect interior from swings in outside temperature.
- Window shades and curtains reduce interior heat gain.
- Ventilation system uses heat exchangers to recapture heat or cooling from exhaust air to reduce by 75% the energy required to produce preconditioned replacement air.

Continuous Energy Monitoring

- Energy use, temperature, and relative humidity, as well as VOCs and carbon emissions, are continuously monitored.

Low-Emitting VOCs, Natural or Recycled and Recyclable Materials

- VOCs from paint, coatings, and finishes are closely monitored.

Lighting

- 50% of daytime gallery lighting is achieved through ceiling vaults and coffers and glass walls, reducing consumption of energy by artificial lighting.
- Ceiling-vaults and coffers are shaded by north-facing louvers, reducing heat and direct sun penetration.
- Roof-mounted photocells detect changing sky conditions, controlling track lighting and shading systems for optimal efficiency. Artificial multi-track lighting is all low-voltage halogen, switched by integrated control systems and ramp on-off to protect against surge.

Responsible Landscaping

- Drought-tolerant and native plant species are maintained by an irrigation system with progressive drought management.
- Over 50% of new landscape is either mulched or comprises tall meadow grasses, reducing the need for mowing and irrigation.
- Throughout the Museum campus, large areas of mowed turf are being replaced with native grasses in order to reduce mowing emissions and improve water quality.
- Invasive species are being removed from forested areas to re-establish native stands.

Comprehensive Water-Management Strategy

- Water runoff is captured from the building roof, the Museum campus roadway, and air-conditioning condensate, and is stored in a 90,000-gallon cistern. It is used to irrigate four acres of new landscape and replenish three reflecting pools, eliminating the need to use municipal water for these uses.
- 9,000 square feet of porous gravel pavement collects rainwater into nutrient-reducing sub-filtration beds under the elms and river birch.
- Lawn areas utilize 8,800 cubic feet of porous soils where nutrients are removed as water drains slowly.
- Overflow from the cistern and heavy rains is managed for the entire 50-acre building site through an advanced water-quality swale and pond system.
- A two-acre bio-swale slows runoff from heavy rains through a series of grass-and-rock formations, reducing flow velocity and removing nutrients.
- A terraced five-acre pond removes excess nutrients from the new facility and existing museum, contributing clean water to the Neuse River system as it flows to the coast.

Transportation

- New bicycle and pedestrian trails connect the NCMA campus to the Capital Area Greenway system.
- Museum Park walking loops, which are highly desirable exercise lengths, have been expanded.
- Large areas of overflow parking have pervious surfaces.

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Press Information

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