



POLICY

Section: Administration

Subject: Sustainable and Green Building Practices

Approved By: DENR Secretary

Eff. Date: March 3, 2004

Revised:

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Purpose

The Department of Environment and Natural Resources (DENR) is committed to become an exemplary model and a leader in implementing the state's initiatives for responsible environmental stewardship. DENR's mission, vision, and values statements position the department as a role model and resource for statewide environmental sustainability practices. DENR senior management challenges both itself and individual DENR Agencies to develop and implement sustainability initiatives and to instill in employees a conservation ethic.

DENR recognizes that, under state statutes for lifecycle costing and energy conservation, North Carolina government is obligated to integrate sustainable building practices in capital construction and remodeling. State government is working to make state buildings and state leases more energy efficient, more environmentally friendly, less expensive to build, less costly to operate, and easier to maintain.

This policy requires DENR agencies to use sustainable and green building practices wherever feasible and practicable. It is noted that, under the state statute for construction bidding and contracting, bids are based on specifications that prescribe the design conditions for a facility construction or renovation. Each DENR agency has the responsibility to include sustainable and green building practices in the specifications of DENR construction or renovation projects. Under lifecycle costing and energy conservation requirements, each DENR agency has the responsibility to include sustainable and green building practices in the specifications of DENR leases to the extent feasible. In addition to reducing long-term costs and environmental impacts, these practices will play an important role in increasing environmental awareness and productivity in DENR's employees.

Definitions

Environmental Sustainability - "...meeting the needs of the present without compromising the ability of future generations to meet their own needs." Environmental sustainability is the act of working toward minimizing the unwanted environmental impacts of daily activities and projects. State Government and individual employees have many opportunities to implement sustainable practices, both at home and at work, that encourage wise use of resources and that reduce or eliminate pollution. (*NC DENR Sustainability Policy – effective December 2001*)

Sustainable Building – Any building has an impact on the environment during its construction, its operational lifetime, in its renovations, in its normal maintenance, and in its eventual demolition. Energy and water efficiency, economic operation, efficient use of natural resources, and a healthy interior environment that promotes productivity are the hallmarks of an environmentally sustainable building. Land use, building design, construction and operational strategies come

together in an environmentally integrated building design that is less costly to operate, flexible for various uses, and can cost the same or less to build than old building methods.

Green Building – Green buildings are high quality buildings that can last longer, cost less to operate and maintain, and provide greater occupant satisfaction than typical standard design buildings. Commitment to better performance, close teamwork throughout the design process, openness to new approaches, and information sharing on how these are best applied are key priorities, as well as the construction budget, in a Green building design process. A “Green” Building places a high priority on health, environmental and resources conservation performance over its lifecycle. These priorities expand and complement the normal building design elements of economy, durability, and usefulness. *(Derived from the “The Green Building Design and Construction Guidelines,” City of Santa Monica, CA, Green Building Program)*

Life Cycle Cost – Under GS 143-64.12 ‘Authority and Duties of State Agencies’ State government agencies are required to use life-cycle cost analysis for the design, construction, operation, maintenance, and renovation of State Facilities. As defined under part 10 of the Code of Federal Regulations section 436 ([10 CFR 436](#)), “**Life cycle cost** means the total cost of owning, operating and maintaining a building over its useful life (including its fuel and water, energy, labor, and replacement components), determined on the basis of a systematic evaluation and comparison of alternative building systems, except that in the case of leased buildings, the life cycle cost shall be calculated over the effective remaining term of the lease.”

State of NC Requirements and Trends

Executive Order Number 156 – This NC Executive Order expands upon provisions originally outlined in Executive Order No. 8, requiring state agency participation in solid waste reduction, recycling, and buying recycled products. The Executive Order directs state agencies to develop and incorporate policies and practices into their daily operations that preserve natural resources, conserve energy, eliminate waste and emissions, and lessen overall environmental impact.

Executive Order Number 26 – This NC Executive Order was in response to the continuing drought in the state during the summer of 2002, though it created permanent sustainable practices in all state agencies. The two main items it requires are (1) All state government agencies discontinue “non-essential” water use until further notice; and, (2) All agencies immediately develop and begin implementing long term, financially feasible conservation measures.

General Statute 143-64.12 Authority and Duties of State Agencies – “(a) The General Assembly authorizes and directs that State agencies shall carry out the construction and renovation of State facilities, under their jurisdiction in such a manner as to further the policy declared herein, ensuring the use of life-cycle cost analyses and energy-conservation practices.”

North Carolina State Construction Office – This State government office has authority and responsibility critical to sustainable, green, high performance construction or renovation. The State Construction office is working on documents, manuals, and specifications that will “... integrate the sustainability process from planning, design, and review through occupancy”. *(2001 State Construction Office report)*

Policy

The Department of Environment and Natural Resources and its Divisions are expected, to the extent feasible, to take real and permanent steps to integrate sustainable and green building practices for projects in capital construction, facility renovation, facility leasing, land development, landscaping, and facility purchases. In compliance with North Carolina’s general statutes on energy-conservation and life-cycle analysis, all sustainable and green building projects will address efficient design for energy, water, lighting, ventilation, landscaping, pollution prevention, use of natural resources, and flexible/efficient work areas. The Department will take every opportunity to instill and maintain sustainable and green building principles and practices in its coordination with other State agencies during construction, renovation, and leasing projects.