

Green Building Practices and the Policy Plan

Presentation to the
Tysons Land Use Task
Force

October 22, 2007

Noel Kaplan

Fairfax County Department of
Planning and Zoning

Scope of Presentation

- Introduction to the “green building” concept
- Development of Policy Plan amendment addressing green building issues and related consideration of density/intensity linkages
- Proposed Policy Plan Amendment and schedule
- Focus tonight is solely on green buildings and Plan policy
 - Presentation does not address the air quality component of the Plan Amendment
 - Presentation does not address broader green building issues

Green Building Practices

The green building concept:

- Practices in the design and construction of buildings and their associated landscapes that serve to minimize the adverse environmental impact of the development
- Holistic approach to reducing negative environmental impacts of buildings on the environment and occupants

Green Building Practices

- U.S. Green Building Council's definition of Green Design:

Design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants in five broad areas:

- Sustainable site planning
- Safeguarding water and water efficiency
- Energy efficiency and renewable energy
- Conservation of materials and resources
- Indoor environmental quality

Green Building Practices

Environmental Impacts of Buildings:

- Over 70% of all U.S. electricity demand
- Over 50% of all U.S. natural gas demand
- 30% of total U.S. greenhouse gas emissions
- 12% of potable water use in the U.S.

(U.S. Dept. of Energy and U.S. Green Building Council)

Green Building Practices

Green Building Benefits:

- Efficient use of natural resources
- Air quality benefits relating to reduced energy use
- Reduced life-cycle costs of buildings
- Improved indoor air quality/healthier work environments

Green Building Practices

- A “green building” can, but does not necessarily, include the following components:
 - Better site design practices
 - Low impact development techniques of stormwater management
 - Green Roofs
- The green building concept complements LID and better site design

Green Building Practices

Green buildings do not necessarily look particularly different from other buildings



Green Building Practices

Leadership in Energy and Environmental Design (LEED®)

- Comprehensive, holistic green building rating systems developed by the U.S. Green Building Council
- Developed through the involvement of experts from all segments of the building industry
- Has effectively become a green building standard in the United States
- Several levels of certification based on attainment of threshold numbers of credits

Green Building Practices

LEED rating systems:

- LEED-NC (new construction and major renovations)
- LEED-CI (commercial interior projects)
- LEED-CS (core and shell projects)
- LEED-EB (existing building operations & maint.)
- LEED for Schools
- Other systems in development/pilot (e.g., LEED for homes; LEED for neighborhood development)

Green Building Practices

LEED categories:

- **Sustainable sites**
(e.g. transit access, preferred parking practices, limit site disturbance, SWM, heat island reduction)
- **Water efficiency**
(e.g. water use reduction, water efficient landscaping, water conserving fixtures)
- **Energy and Atmosphere**
(e.g. optimization of energy performance, on-site renewable energy, green power purchase)
- **Materials and Resources**
(e.g. building re-use, construction waste mgmt., use of recycled or rapidly renewable materials)
- **Indoor Environmental Quality**
(e.g. low VOC emitting materials, daylighting, increased ventilation, lighting and thermal comfort controls)
- **Innovation and Design Process**
(e.g. innovation going beyond other LEED credits, LEED accredited professional)

Green Building Practices

ENERGY STAR® program

- U.S. Environmental Protection Agency and U.S. Department of Energy/industry partnership
- Energy efficiency benchmark of certain nonresidential buildings
- “Designed to Earn the ENERGY STAR” recognition available based on building design plans
- “ENERGY STAR Qualified Homes” certification
- Certification of energy efficient appliances, equipment, fixtures, building components, etc.

Green Building Incentives: Arlington County

- Board of Supervisors interest in incentives applied in Arlington County
- Arlington County's incentives:
 - Discretionary density/intensity and building height bonuses linked to LEED—SE/site plan process only
 - Green Building Fund

Green Building Incentives:

June 27, 2007 Memorandum

- Options for density/intensity incentives-- encouragement of green building practices through the Comprehensive Plan
 - General linkage to Area Plan options
 - Bonus densities/intensities through Policy Plan guidance
 - Special Exception procedure for additional density/intensity

Green Building Incentives:

July 9, 2007 Board of Supervisors Actions

Included (but not limited to):

- Authorization of Plan Amendment for public hearings
- Referral of June 27 memorandum to Planning Commission Environment Committee
- Request for consideration of promotion/encouragement of green building practices through the Comprehensive Plan
- Time frame to allow for BOS consideration by the end of 2007

Green Building Incentives: Environment Committee Review

- Meetings in July and August
- Recognition of need for broader public input
 - Workshop held on September 6, 2007
- Recognition of desirability of having a staff “strawman” outline to consider as a starting point
 - Released prior to the workshop

Green Building Incentives: “Strawman” outline

- Six key issue areas identified:
 - 1: Bonus densities/intensities
 - 2: Green building performance levels
 - 3: Geographical application
 - 4: Residential vs. nonresidential application
 - 5: Enforcement
 - 6: Green building fund
- 12 strawman proposals identified—sensitive to issues raised during committee discussions
- Environment Committee concurrence to draft the Plan Amendment and associated staff report consistent with these proposals, with the ability to revise/refine during public hearing process

Proposed Policy Plan Amendment

- Expand “Resource Conservation” heading of Environment section to recognize “green building practices”
- Broadening of related Objective to reference energy and water efficiency as well as designing and constructing buildings to minimize negative impacts on the environment and building occupants
- Strengthening of existing general policy supporting energy and water conservation
 - Support for and examples of green building practices
 - Support for commitments to certification under established green building rating systems (e.g., LEED)
 - Support for commitments to ENERGY STAR programs
 - Support for inclusion of professionals with green building accreditation on development teams

Proposed Policy Plan Amendment (continued)

- For nonresidential and 4+ story multifamily residential development in growth centers, linkage of attainment of LEED certification (or equivalent) to:
 - Development in accordance with Plan options
 - Development involving a change in use from what would be allowed under existing zoning
 - Development at the Overlay Level
 - Development at the high end of the planned density/intensity range

Proposed Policy Plan Amendment (continued)

- For residential development at the high end of the Plan density range, linkage to ENERGY STAR Qualified Homes designation
- Support for monetary contributions for county environmental initiatives, refundable upon LEED certification (or equivalent)
- Support in the Residential Development Criteria for energy efficiency in building design and construction
- Definition of “Green Building”

Proposed Policy Plan Amendment: Density/Intensity Bonuses

- Establishes linkages between green building performance and Plan recommendations but does not offer density/intensity bonuses
 - Concern about implications of piecemeal consideration of bonuses to a variety of systems
 - What would be an appropriate magnitude of a countywide potential bonus?
 - Better potential to craft area-specific density/intensity incentive approaches through Area Plan amendment reviews

Proposed Policy Plan Amendment: Density/Intensity Bonuses (continued)

- Tysons Land Use Task Force can consider the extent to which specific density recommendations can/should be tied to green building performance, considering implications of potential bonus densities/intensities on transportation, utilities, schools, parks, etc.

Proposed Policy Plan Amendment: Schedule

- Board of Supervisors Authorization: July 9, 2007
- Staff Report available this week--
<http://fairfaxcounty.gov/dpz/comprehensiveplan/planamendments.htm>
- Planning Commission Public Hearing: November 8, 2007, 8:15 PM, Board Auditorium, Fairfax County Government Center
- Board of Supervisors Public Hearing: December 3, 2007, 4:00 PM, Board Auditorium