

**FAIRFAX COUNTY PLANNING COMMISSION
ENVIRONMENT COMMITTEE
THURSDAY, JANUARY 28, 2010**

COMMITTEE MEMBERS PRESENT:

Walter L. Alcorn, At-Large
Jay P. Donahue, Dranesville District
Earl L. Flanagan, Mount Vernon District
James R. Hart, Commissioner At-Large, Chairman
Kenneth A. Lawrence, Providence District
Timothy J. Sargeant, At-Large

COMMITTEE MEMBER ABSENT:

Frank A. de la Fe, Hunter Mill District

ENVIRONMENTAL QUALITY ADVISORY COUNCIL MEMBER PRESENT:

Robert D. McLaren, At-Large

DEPARTMENT OF PLANNING AND ZONING STAFF PRESENT:

Pamela G. Nee, Chief, Environment and Development Review Branch (EDRB), Planning Division (PD)
Noel H. Kaplan, Senior Environmental Planner, EDRB, PD
Mary Ann Welton, Environmental Planner, EDRB, PD
Maya P. Dhavale, Planner II, EDRB, PD

PLANNING COMMISSION OFFICE STAFF PRESENT:

S. Robin Ransom, Assistant Director
Kara A. DeArrastia, Deputy Clerk

OTHERS PRESENT:

Inda Stagg, Land Use Coordinator, Walsh, Colucci, Lubeley, Emrich & Walsh, PC

ATTACHMENTS:

- A. Green Building Language from Fairfax County Comprehensive Plan, Policy Plan, Environment Section
- B. Green Building Policy Review

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Chairman James R. Hart called the meeting to order at 7:05 p.m., in the Board Conference Room, 12000 Government Center Parkway, Fairfax, Virginia 22035.

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Environmental Quality Corridor (EQC) Disturbances – Scheduling of a follow-up meeting to the January 6, 2010 Workshop

Noel Kaplan, Senior Environmental Planner, Environment and Development Review Branch (EDRB), Planning Division (PD), Department of Planning and Zoning (DPZ), noted that he had reviewed all of the comments received regarding the proposed EQC Disturbance Policy and had prepared a response document, which was currently under review. He said he would meet next week with staff who had expertise in ecological resources to address the comments regarding habitat values. Mr. Kaplan indicated that he would provide materials to the Committee members in advance of the follow-up meeting.

The Committee agreed to schedule this meeting for Thursday, March 4, 2010, at 7:00 p.m. in the Board Conference Room.

Green Building Policy

Maya Dhavale, Planner II, EDRB, PD, DPZ, identified the handouts (Attachments A and B) distributed to Committee members. She provided a brief summary of the Countywide Green Building Policy as it had been applied in the County for the last two years, as shown in Attachment B. She then reviewed the issues for discussion, also shown in Attachment B.

In response to a question from Commissioner Alcorn, Ms. Dhavale noted that a number of the green residential building rating systems incorporated ENERGY STAR certification, such as EarthCraft, Leadership in Energy and Environmental Design (LEED) for Homes, and National Association of Home Builders (NAHB) National Green Building Program. She explained that mandatory training was required to become an EarthCraft House builder or renovator and EarthCraft single-family homes and multi-family buildings were required to be ENERGY STAR certified. Ms. Dhavale said LEED for Homes was designed solely for single-family homes, but it targeted a higher end of the housing market (top 10 to 25 percent of new homes); whereas, EarthCraft and NAHB targeted the general housing market. She explained that Passivhaus was not a rating system but was a style of building, originated in Germany, where the building envelope was extremely airtight and required little energy for space heating or cooling. She said although Passivhaus addressed energy conservation goals in a very unique way, it did not address other typical green building features. Ms. Dhavale pointed out that Passivhaus had only been in the market in the last year but was gaining prominence.

Commissioner Alcorn said he thought that the green residential market was very dynamic and still evolving. Ms. Dhavale agreed and noted that no individual system was dominating, unlike the green commercial market where LEED remained the predominant system.

Mr. Kaplan explained that the Metropolitan Washington Council of Governments' (COG) Intergovernmental Green Building Group was developing a report that assessed available residential green building standards for the region and was expected to be completed in a year. He said one of the questions that had been raised concerned how these systems compared with one another; however, he indicated that he was not sure if the Intergovernmental Green Building Group would be able to address this question. He commented that, although the systems seemed to have several merits, questions remained on how certain ones could be applied and interpreted.

Responding to a question from Commissioner Flanagan, Ms. Dhavale stated that when staff received an inquiry from a developer about an alternative green building program, staff evaluated the program to determine if it had elements similar to LEED. She explained that these criteria would include whether the program had an independent, third-party verification of the green building elements, was a nationwide standard that people were familiar with, and if implementation had a certain level of rigor associated with it. She pointed out, however, that staff had not received many inquiries.

Commissioner Flanagan suggested that staff evaluate all the available green building rating/certification systems and inform developers in advance which systems would be acceptable. Ms. Dhavale replied that the majority of developers used LEED, which was a well-known, nationwide system, recommended by COG and preferred by Fairfax County, required a certain level of rigor, and became the system of choice for many architects and developers. She said, however, that a few groups were loyal to another system. Ms. Dhavale indicated that Green Globes was one of the few alternatives to LEED in the commercial market.

In reply to a question from Commissioner Flanagan, Ms. Dhavale said developers were very familiar with the Green Building Policy and the associated process and verified with staff as to whether their selected green building program would be acceptable before they submitted their proposal. She noted that the most significant interaction staff had with an alternative rating system was more than a year ago when Green Globes had contacted staff but a proposal had not yet been submitted.

Replying to another question from Commissioner Flanagan, Mr. Kaplan cited an example for a multi-family residential development that sufficiently demonstrated that it would incorporate green building practices through the EarthCraft program. He said the policy was open-ended to allow developers to approach staff with their ideas.

Commissioner Flanagan expressed concern that staff would direct developers on how to achieve their intended score in their selected green building rating/certification system. Chairman Hart responded that he thought it would be difficult for the Committee to make a definitive evaluation and a specific selection among multiple residential green building programs at this point in time, especially in advance of COG's report. He said he also thought that the Committee had decided that Fairfax County would not develop its own independent system but instead would maintain flexibility in the policy. Chairman Hart explained that possible changes to the policy could consider the following questions:

- Should the policy be more specific as to the types of programs with third-party certification anticipated by the County?
- What were the advantages and disadvantages of these programs?

Commissioner Donahue said this evaluation should also consider the number of items included in each green building rating/certification system. He suggested that a system be established for assisted or independent living facilities. Ms. Dhavale cited a case where Sunrise Assisted Living had committed to achieve a LEED-NC Silver level certification, but due to financial difficulties,

had not been able to follow through with this commitment. She also pointed out that there were LEED-certified assisted and independent living buildings in other jurisdictions.

Commissioner Lawrence explained that he had been trying to incorporate into the draft Tysons Plan the concept of community energy planning to help ensure that groups of buildings would be able to address stormwater management and energy production and management collectively rather than individually. He said he thought that under Policy a, the first and third bullets could be construed to apply to these types of new or redevelopment projects, but he suggested that the policy include some useful examples. Commissioner Lawrence pointed out that the policy only discussed the design and construction of buildings (input and process), but failed to address the operation of buildings (outputs and outcomes). He explained that the Tysons plan, for example, supported the monitoring of data on actual electrical consumption in buildings that included green building design practices and comparing that data with levels of usage that had been projected absent the application of green building design practices. He recommended that the Committee and staff spend more time considering the operation and management of green buildings and the associated beneficial outcomes such as savings in energy costs, although the upfront cost to construct was higher. Commissioner Lawrence said, therefore, he had been advocating the provision of a one-time emolument to the developer for the one-time extra cost of constructing a green building, such as a tax break. He noted that the question was how to reward people who operated the building green, which was ultimately the goal.

Ms. Dhavale said she agreed that a goal of green building was energy conservation and low energy consumption. She pointed out that one of the benefits of the LEED system was the prerequisite for a reduction in building energy use. She explained that staff tried to influence the outcome of a green building project through proffers, such as a commitment to create a green building manual that assisted with the operations of the building, but once constructed it was very difficult for staff to ensure that the building operated greenly.

Commissioner Lawrence stated that an implementation entity would be established to ensure that the overarching goals and objectives of the new Tysons Land Use Plan were met, which included monitoring the achievement of the intended goals of Transportation Demand Management and green building and sustainability practices. He said other activity centers could also have a group charged with monitoring new and redevelopment projects to ensure that their operations complied with the applicable green building rating/verification system.

Robert McLaren, At-Large member of the Environmental Quality Advisory Council (EQAC), commented that Commissioner Lawrence had raised some interesting points. He explained that from a zoning standpoint, a building could be constructed to a "green standard," but must also be designed to operate to a certain standard to ensure, for example, that the energy system would be stable over a period of time and semi-pervious or pervious surfaces would be maintained. Commissioner Lawrence said he understood the distinction Mr. McLaren was making between design, execution by construction, and subsequent operation of green buildings. He said he also agreed with Mr. McLaren that the developer would design a building so that it had the ability to operate efficiently.

Chairman Hart stated that, for example, on a special exception or a special permit, the statute gave the County the authority to impose development conditions as necessary to mitigate the impacts from the requested use. He explained that some impacts were addressed in the design while others were mitigated through ongoing monitoring or evaluation of performance, which did not end at the time of the issuance of the building permit, Residential Use Permit (RUP), or Non-RUP, and was forever enforceable. He noted that the County had broader policies like the Occoquan Watershed and other guidelines in the Comprehensive Plan and Zoning Ordinance that addressed water quality and stormwater runoff impacts and supported the monitoring of such impacts to ensure they were mitigated. Commissioner Lawrence said he agreed with Chairman Hart's point.

Chairman Hart also said although he agreed with Mr. McLaren and Commissioner Lawrence that the design and ongoing operation were different concepts, he thought that development conditions, as well as proffers in rezoning applications, would be within the scope of the statute if they provided for ongoing monitoring of the associated impacts.

Mr. McLaren commented that because green building standards were still evolving, it would be inappropriate for the Committee to choose a particular one at this time. He pointed out that the policy discussed green concepts, more so than green building. He said as new standards evolved, staff should determine how many of them were met by the given proposal, but additional requirements should also be imposed, such as minimization of impervious cover, to obtain approval.

Commissioner Flanagan noted that projects must earn a certain score to qualify for LEED certification. Addressing Commissioner Lawrence's remarks, he explained that the RUP had the potential to address the intended operational activities. Commissioner Flanagan recommended that the beginning of Objective 13 be revised to read, "Design, construct, and operate buildings" so that it helped clarify the phrase, "green building practices." Mr. Kaplan concurred with Commissioner Flanagan's perspective that green building practices included building operations, and he noted that operation-related concepts could be explored. He expressed concern, however, about how operational issues could be considered during the development review process. As an example of an operational approach to green buildings, he noted that the LEED for Existing Buildings rating system measured operations only and that building owners/operators must file for recertification at least once every five years to maintain status. Mr. Kaplan noted that DPZ staff had discussed with Department of Public Works and Environmental Services (DPWES) staff the issue of monitoring of building operations, which EQAC had expressed interest in as well. He explained that the challenge was how to accurately interpret data collected on energy use, given all the various factors that could influence energy consumption, such as the nature or intensity of the use, to determine whether the intended target had been attained and the enforcement mechanisms that should be used. Mr. Kaplan concluded by agreeing that operation was part of green building, but he stressed that the current policy language emphasized what could be addressed during the zoning process, which focused on development design rather than building operation.

Chairman Hart said it would be helpful to know whether operators could obtain the services of a third party to conduct an annual monitoring review of their building and provide proof of compliance to the County. Mr. Kaplan said he thought that the challenge of this option was how to accurately interpret the information from the review and determine whether there were existing standards, such as LEED, which would identify the milestones that building operators would need to achieve, and asked whether this should be incorporated into the policy or considered on a case-by-case basis. He also requested that staff determine whether any jurisdictions had implemented a similar process.

In response to a question from Commissioner Sargeant, Mr. Kaplan explained that although Objective 1, Policy d recognized that Objective 13 and the subsequent language identified green building as one of the strategies to preserve and improve air quality, Objective 13 provided a much broader outlook than air quality only.

Commissioner Sargeant pointed out that monitoring could apply to both objectives. He recommended that staff evaluate environmental monitoring and green building measurement tools that would help developers and building operators achieve specified goals of energy and water efficiency and air quality preservation and improvement within a given area. He said such tools included smart grids and smart meters, which would enable consumers to accurately monitor and measure their energy use more efficiently than they could at the present time. Commissioner Sargeant further recommended that staff report their findings to the Committee and also provide an explanation on how the County's broader policy goal would be utilized. He explained that appropriate monitoring tools should be referenced and given focus in the policy to allow more flexibility in green building implementation, until consensus was made on the preferred residential green building standard.

Addressing Mr. Kaplan's earlier remark about the challenge of accurately interpreting the data from a monitoring review, Commissioner Lawrence said trends could be measured to reach conclusions about specific needs, which would initially be based on an appropriate calibration. He cited an example of a concert hall in Tysons, in which its electricity consumption would be at a certain level when the hall was not in use and at another level when it was in use. He explained that this, therefore, posed the question of when the concert hall was not in use, was it completely dark or was it leaking energy, and when the hall was in use, was the light wattage maintained at its initial level? Commissioner Lawrence said that although monitoring would be difficult, it should still be considered because it would provide a better, more comprehensive method of reaching the stated objectives.

Commissioner Flanagan said out of a total of 300,000 to 400,000 buildings in Fairfax County, he assumed that few of them were "green." He said he was uncertain as to what the County hoped to accomplish, in terms of energy use reduction for both new construction and existing buildings. Chairman Hart replied that he did not think the Policy Plan would mandate that people build green.

Mr. Kaplan pointed out that the policy was just one part of a multi-pronged approach to help address air quality, energy, and water conservation. He noted that the County's Energy

Efficiency and Conservation Coordinating Committee had been developing an outreach program to educate the public on energy use and conservation.

Commissioner Flanagan commented that more people were replacing their home appliances and light bulbs with ones that were more energy efficient. Mr. Kaplan responded that code changes would also play a major role in that effort. He explained that the current policy reflected a realistic scope of elements that could be accomplished through the County's available land use processes. He said the policy also recognized that it was not a comprehensive initiative that was applicable to all County residents because there were many other activities that needed to occur outside this process.

Responding to a question from Commissioner Flanagan, Mr. McLaren explained that EQAC had been participating in an ongoing process, which was unrelated to land use, to encourage County residents to perform home improvements that included increasing insulation in their home, replacing all windows with more energy-efficient windows, replacing all incandescent light bulbs with ENERGY STAR qualified compact fluorescent light bulbs, and upgrading their appliances to more energy-efficient models.

Commissioner Sargeant said he thought that this policy review provided the opportunity to inform broader County policy that incorporated existing buildings, based on research of the available green building codes and tests of how each would measure air quality and energy and water usage. He noted that a broader monitoring policy would enable the County to achieve its goals of improved air quality and efficient use of energy and water resources.

Chairman Hart suggested that the Committee continue this discussion once staff had considered all the input received this evening in addition to any input from DPWES, EQAC, and other entities.

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The meeting was adjourned at 8:05 p.m.
James R. Hart, Chairman

An audio recording of this meeting is available in the Planning Commission Office, 12000 Government Center Parkway, Suite 330, Fairfax, Virginia 22035.

Minutes by: Kara A. DeArrastia

Approved: March 25, 2010

Linda B. Rodeffer, Clerk
Fairfax County Planning Commission

Green Building Language from Fairfax County Comprehensive Plan, Policy Plan, Environment Section

Objective 1: Preserve and improve air quality.

Policy d. Support energy conservation, minimization of indoor air pollution and other green building practices consistent with Objective 13 of this section of the Policy Plan.

Objective 13: Design and construct buildings and associated landscapes to use energy and water resources efficiently and to minimize short- and long-term negative impacts on the environment and building occupants.

Policy a. Consistent with other Policy Plan objectives, encourage the application of energy conservation, water conservation and other green building practices in the design and construction of new development and redevelopment projects. These practices can include, but are not limited to:

- Environmentally-sensitive siting and construction of development.
- Application of low impact development practices, including minimization of impervious cover (See Policy k under Objective 2 of this section of the Policy Plan).
- Optimization of energy performance of structures/energy-efficient design.
- Use of renewable energy resources.
- Use of energy efficient appliances, heating/cooling systems, lighting and/or other products.
- Application of water conservation techniques such as water efficient landscaping and innovative wastewater technologies.
- Reuse of existing building materials for redevelopment projects.
- Recycling/salvage of non-hazardous construction, demolition, and land clearing debris.
- Use of recycled and rapidly renewable building materials.
- Use of building materials and products that originate from nearby sources.
- Reduction of potential indoor air quality problems through measures such as increased ventilation, indoor air testing and use of low-emitting adhesives, sealants, paints/coatings, carpeting and other building materials.

Encourage commitments to implementation of green building practices through certification under established green building rating systems (e.g., the U.S. Green Building Council's Leadership in Energy and

Environmental Design (LEED®) program or other comparable programs with third party certification). Encourage commitments to the attainment of the ENERGY STAR® rating where applicable and to ENERGY STAR qualification for homes. Encourage the inclusion of professionals with green building accreditation on development teams. Encourage commitments to the provision of information to owners of buildings with green building/energy efficiency measures that identifies both the benefits of these measures and their associated maintenance needs.

- Policy b. Ensure that zoning proposals for nonresidential development and zoning proposals for multifamily residential development of four or more stories within the Tysons Corner Urban Center, Suburban Centers, Community Business Centers and Transit Station Areas as identified on the Concept Map for Future Development incorporate green building practices sufficient to attain certification through the LEED program or its equivalent, where applicable, where these zoning proposals seek at least one of the following:
- Development in accordance with Comprehensive Plan Options;
 - Development involving a change in use from what would be allowed as a permitted use under existing zoning;
 - Development at the Overlay Level; or
 - Development at the high end of planned density/intensity ranges. For nonresidential development, consider the upper 40% of the range between by-right development potential and the maximum Plan intensity to constitute the high end of the range.
- Policy c. Ensure that zoning proposals for residential development will qualify for the ENERGY STAR Qualified Homes designation, where such zoning proposals seek development at the high end of the Plan density range and where broader commitments to green building practices are not being applied.
- Policy d. Promote implementation of green building practices by encouraging commitments to monetary contributions in support of the county's environmental initiatives, with such contributions to be refunded upon demonstration of attainment of certification under the applicable LEED rating system or equivalent rating system.
- Policy e. Encourage energy conservation through the provision of measures which support nonmotorized transportation, such as the provision of showers and lockers for employees and the provision of bicycle parking facilities for employment, retail and multifamily residential uses.

Green Building Policy Review
Planning Commission Environment Committee 1/28/10

Policy summary:

The Green Building Policy in the Comprehensive Plan:

- Applies to development and redevelopment.
- Discusses the objectives of this policy and potential green building strategies.
- Encourages commitments to the U.S. Green Building Council (USGBC)'s Leadership in Energy and Environmental Design (LEED) rating system OR the equivalent (defined as other comparable programs with third part certification).
- Encourages commitments to ENERGY STAR qualification for homes (when zoning proposals seek development at the high end of the plan density range).
- Encourages participation of green building professionals with accreditation on design teams.
- Encourages provision of information about the green building features of a building to the owners.
- Applies to zoning proposal for nonresidential development and for multifamily residential development of four or more stories in Tysons, Suburban Centers, Community Business Centers and Transit Station Areas when the zoning proposals seek one of the following:
 - 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
- Provides support for a green fund concept.

Issues for discussion:

In the two years since this policy has been adopted, some of the technologies and ratings systems have changed. Additionally, staff has encountered a variety of situations in the implementation of this policy.

1. Residential – since adoption of the policy, new standards have been introduced (EarthCraft, LEED for Homes, Passivhaus, NAHB).
2. Versions of LEED or equivalent – should distinctions be made between the various types of LEED rating systems (e.g. LEED-ND, LEED-EB, LEED-NC)?
3. Other items – goals of the policy, credits to be emphasized, other updates to reflect changes in the last two years.