

**Encouraging Green Building Practices Through the Comprehensive Plan
“Strawman” Outline of a Possible Approach
Presented for Discussion: September 6, 2007**

This document presents one possible approach to the use of the Comprehensive Plan to encourage implementation of green building practices for private sector development in Fairfax County. This approach reflects Planning Division staff’s efforts to craft a Plan-based approach based on its knowledge of green building issues and options and based on issues and concerns raised by Planning Commissioners during related discussions by the Planning Commission’s Environment Committee; it is not, however, presented as a staff recommendation but is instead offered as a “strawman” starting point for discussion by the Environment Committee. Further, it should be recognized that the scope of this document is limited to the consideration of a Comprehensive Plan-based approach to encouraging green building practices, in furtherance of direction from the Board of Supervisors to consider such approaches. There are a range of other incentive approaches, including tax incentives, fee reductions, grants and expedited plan review processes, that would fall outside the scope of the Comprehensive Plan.

It is stressed that this document has been prepared by staff of the Planning Division of the Department of Planning and Zoning (DPZ). It is not, therefore, a staff recommendation but is instead being offered to serve as a point of departure for discussions by the Planning Commission’s Environment Committee. All references to “staff” within this document are intended to refer to Planning Division staff only and should not be interpreted more broadly.

In developing this outline, staff has considered concerns that have been expressed during meetings of the Planning Commission’s Environment Committee and has attempted to craft an approach that is sensitive to these concerns.

This document is conceptual in its approach. Specific Comprehensive Plan text has not yet been developed or proposed. Staff intends to prepare specific Comprehensive Plan amendment language, if applicable, upon further consideration by, and direction from, the Planning Commission’s Environment Committee.

Background

The “green building” concept incorporates, both individually and holistically, a series of practices in the design and construction of buildings and their associated landscapes that serve to minimize adverse impacts to the environment and to building occupants. Included within this concept are: environmentally-sensitive site planning; energy efficiency/conservation; water conservation/water resource protection; conservation of materials; and indoor environmental quality.

In January, 2007, staff presented to the Planning Commission’s Environment Committee a draft staff report and Policy Plan amendment that would strengthen Comprehensive Plan guidance regarding air quality issues and incorporate support for green building

practices into the Comprehensive Plan. Subsequent to this presentation, the committee received presentations on green building issues from the U.S. Green Building Council, the U.S. Environmental Protection Agency's ENERGY STAR[®] program, and the National Association of Home Builders (in coordination with the Northern Virginia Building Industry Association). The committee also took a tour of the Wetland Studies and Solutions building in Gainesville, which has received a "Gold" rating under the U.S. Green Building Council's Leadership in Energy and Environmental Design[®] (LEED[®]) rating system for Commercial Interiors. A number of revisions to the draft Plan amendment were made based on the tour and presentations and subsequent discussions, and the committee reached a consensus on June 27, 2007 that it would be appropriate for staff to proceed to seek authorization of advertisement of public hearings for the proposed amendment, recognizing that the advertisements should afford flexibility to allow for further analysis and related revisions.

The draft Plan amendment as revised would provide broad policy support for green building practices and would support a case-by-case consideration of these practices during the zoning process. The amendment would not, however, establish any incentives for the implementation of such practices; rather, it would support the negotiation of commitments to green building efforts on a case-by-case basis during the zoning process and set the stage for a consideration of whether density/intensity-based incentives for green building practices should be incorporated within future Area Plan amendments.

The Board of Supervisors has expressed an interest in green building incentives that are applied in Arlington County and has asked staff to monitor these initiatives. In that context, on June 27, 2007, the County Executive transmitted a memorandum to the Chairman of the Board of Supervisors responding to a request for investigation of the potential for Fairfax County to use green building incentives that are applied in Arlington County and, in particular, the use of density/intensity bonuses and a "green building fund." The memorandum provided an overview of Arlington County's incentive program and identified a series of options that could be considered to apply these concepts in Fairfax County. The June 27 memorandum is provided as an attachment to this outline and provides detailed guidance regarding Arlington County's Green Building Incentive Program and related options for Fairfax County.

On July 9, 2007, the Board of Supervisors considered a matter presented by the Chairman in regard to the draft Plan amendment and the June 27 memorandum addressing green building incentives for the private sector. The Board took the following actions:

- The Board authorized consideration of a Policy Plan amendment addressing air quality and green building issues, generally consistent with the proposal that has been under review by the Environment Committee.
- The Board directed staff to refer the June 27 memorandum to the Planning Commission Environment Committee.
- The Board requested the Environment Committee's review and recommendations regarding green building incentive options in a time frame that will allow for the Board's consideration before the end of 2007.

- The Board requested that, as part of the Environment Committee's review, consideration be given to possible ways to promote and encourage green building practices through the Comprehensive Plan and that the proposed Plan Amendment be crafted accordingly, in order that the Board may consider comprehensive green building incentives before the end of the year.
- The Board asked that copies of an interim report on green buildings that has been prepared by the Metropolitan Washington Council of Governments be provided to the Planning Commission. (Note—the report is available at the following Web site: http://www.mwcog.org/store/item.asp?PUBLICATION_ID=304.)
- The Board directed that cost data on green building implementation be provided within the context of this review.
- The Board directed that industry groups be consulted during the course of this review.

Arlington County's Green Building Incentive Program

Arlington County's Green Building Incentive Program is discussed in detail in the attached June 27, 2007 memorandum. Highlights include the following:

- A pilot program was established in 1999; this program was expanded in 2003.
- The incentive program applies only to projects that go through Arlington County's special exception/site plan process and to some projects that require "use permits" (e.g., schools). The site plan process allows for consideration of flexibility in development form, use and density compared with what is permitted by-right; the process is only available in certain zoning districts, generally within Metro station corridors. (Note—an attendee at one of the Environment Committee meetings has clarified that there have been projects with LEED commitments approved in Arlington County outside of these corridors and that LEED is becoming (if it hasn't become) a component of the Form Based Code approval package for development along Columbia Pike.)
- A sliding scale of potential bonus development intensities has been established based on the level of LEED certification to be attained: A bonus of up to 0.15 additional floor area ratio (FAR) can be approved for projects with LEED certification, and FAR bonuses of up to 0.25 and up to 0.35 can be considered for the silver and gold/platinum levels of certification, respectively.
- Up to three stories of additional building height can be granted.
- Approval of bonus intensities and building heights is discretionary on the part of the Arlington County Board. Public hearings are required for all such projects.
- Enforcement of LEED commitments occurs through the posting of additional bonds based on the value of the bonus intensity. There have not yet been any LEED-related defaults.
- A \$0.03 per square foot contribution to the County's Green Building Fund is required, through site plan conditions, for all site plan projects. This contribution is refunded for any such project that attains LEED certification within one year of occupancy.

- All site plan projects, including those for which no bonus intensities are being sought, must have a LEED-accredited professional on the development team.
- LEED checklists and reports must be submitted at various stages of the development process for all site plan projects, including those for which no bonus intensities are being sought.
- Site plan conditions are typically imposed that mandate a minimum number of LEED credits, the provision of construction waste management plans, and the provision of ENERGY STAR appliances and equipment for multifamily residential projects.
- Arlington County also has a “Green Home Choice” program that supports voluntary efforts to incorporate green building practices into single family home construction.
- Arlington County has a green building program with dedicated staff (one planner who dedicates 60% of her 30-hour per week position to this program and a half-time position dedicated to the Green Home Choice program).

Potential Application of Development Density/Intensity/Plan-related Incentives/Encouragement of Green Building Practices Through the Comprehensive Plan in Fairfax County

The June 27, 2007 memorandum noted that the Plan amendment as drafted would not establish green building incentives but would instead set the stage for a consideration of incorporation of density/intensity incentives through Area Plan amendments. The memorandum identified the following options if there would be a desire to establish a more comprehensive approach to offering green building incentives or to otherwise encourage the application of green building practices through the Comprehensive Plan:

- (1) General linkage in the Policy Plan to Area Plan options
 - Amendment of the Policy Plan to establish a broad linkage between commitments to green building design and/or energy conservation and eligibility for high density/intensity Comprehensive Plan options/options above the base level.
 - No “bonus” densities; attainment of certain Plan options would be linked to green building commitments.
 - This option could be applied countywide or be limited to transit station areas and mixed use centers.
- (2) Establishment of bonus densities/intensities through Policy Plan guidance
 - The Policy Plan would establish a maximum possible density/intensity bonus, beyond existing planned densities/intensities, that could be considered.
 - The Plan text would need to establish the maximum bonuses that could be considered as well as the circumstances that may warrant consideration of granting of such bonuses.
- (3) Establishment of a new Special Exception procedure

- The Zoning Ordinance would be amended to establish, within certain zoning districts, a procedure that would allow the Board of Supervisors to grant additional density/intensity through Special Exception approval.

All of these options would be implemented through the zoning process; the memo does not suggest that density/intensity bonuses should be granted by right.

The June 27 memorandum identifies a series of considerations for each of the options outlined above. In short, the following are decisions that would need to be made in conjunction with any of the density/intensity approaches:

- Should the opportunity be provided countywide or should it be limited geographically (i.e., limited to transit station areas and other growth centers)?
- Should the option be applied for all development or limited to nonresidential (and high rise multifamily residential) development?
- What level(s) of green building performance should be referenced, and what green building rating system, if any, should be used?
- If bonus densities/intensities are to be applied, what would be the appropriate level(s) of such bonuses?
- What mechanism(s) for enforcement would be applied?

Other considerations identified in the memorandum included:

- Implications of density/intensity bonuses on land use compatibility, traffic congestion, utilities, public facilities (including schools), housing, park/recreation and environmental systems, including cumulative implications associated with other density/intensity bonuses (e.g., affordable housing).
- The ability to accommodate possible bonus densities within existing zoning districts.
- The extent to which approach #1 may dissuade developers from pursuing the high density/intensity Plan options.
- The possibility that expectations may develop for the case-by-case awarding of “bonus” density/intensity during the zoning process.
- The extent to which verification of green building practices may be needed.
- The extent to which approach #3 may increase zoning case loads of staff, the Planning Commission, and the Board of Supervisors.

Green Building Fund

The June 27, 2007 memorandum also addressed the potential application of a green building fund in Fairfax County. As noted above, Arlington County has established a \$0.03 per square foot contribution requirement for its site plan projects and refunds this contribution if LEED certification is attained within one year of occupancy. Funds are used to support green building education, outreach and training efforts; they do not support staff positions as the fund is not considered to be a reliable enough source of revenue for this purpose.

A consideration associated with the establishment of a green building fund contribution effort in Fairfax County would be disposition of funds. Arlington County has a dedicated green building program; Fairfax County does not. As such, it is not clear who would administer revenues from a green building fund and how such revenues would be spent. An alternate approach may be to seek proffered contributions to support Environmental Improvement Program (EIP) projects (projects supporting the Board of Supervisors' Environmental Agenda), allowing for a refund for a certain level of green building performance. There is an established fund for EIP projects; to date, allocations to this fund have been limited to funds provided by the Board of Supervisors through budget decisions. While further evaluation would be needed to address the logistics of establishing refundable contributions to the EIP fund through proffers, this idea would seem to have potential for application.

The July 27, 2007 memorandum identified a number of considerations associated with the fund idea, including the following:

- Priorities and limitations associated with expenditures of funds and related implications to staff resources.
- Establishment of the level of contribution to be requested. Is \$0.03 per square foot appropriate?
- The threshold of green building design and/or energy conservation performance that would be linked to a refund of the contribution and associated timing issues.
- Should the fund idea be applied countywide or should it be limited geographically (i.e., limited to transit station areas and mixed use centers)?
- Should there be minimum square footage thresholds below which contributions would not be sought?
- Should the application of this concept be limited to nonresidential and certain multifamily residential applications?

Outline of a “Strawman” Concept

ISSUE 1: ESTABLISHMENT OF BONUS DENSITY/INTENSITY PROVISIONS

Two of the density/intensity-based options identified above would provide some level of “bonus” density/intensity that would be tied to commitments to some level of green building performance. The other concept would not establish any bonus densities/intensities but would instead tie green building performance to the existing structure of Comprehensive Plan options; this concept could also be applied to Plan density/intensity ranges where there are no options.

During the Planning Commission Environment Committee’s discussions of options for encouraging green building practices, concerns were raised regarding the ability to arrive at a rational basis for identifying the appropriate magnitude of density/intensity bonuses and limitations on how much the county can use bonus density/intensity as an incentive tool. Further, while staff has not developed a position on approaches to encouraging green building practices, it is staff’s view that recommended Comprehensive Plan

densities and intensities within the Area Plans have been developed carefully and with considerable forethought as to implications to a variety of systems, including transportation, schools, other public facilities, housing, parks/recreation, etc., already factoring in potential density bonuses for affordable housing. Staff is concerned that a broad, countywide density/intensity bonus approach could have the potential to upset the balance that has been considered in the development of Area Plan recommendations. There is also uncertainty regarding what would be the magnitude of a reasonable density/intensity bonus to encourage green building practices. Staff therefore suggests that, as a starting point for this discussion, bonus densities/intensities not be considered within the broad context of the Policy Plan or a Special Exception process; it may be more appropriate to consider such ideas during Area Plan review studies and to tailor any green building-based “bonus” densities/intensities to the particular conditions of the area(s) being studied.

With respect to the Policy Plan, staff suggests consideration of an approach through which green building performance would be tied to the existing structure of the Area Plans. The Policy Plan could be amended such that it would establish an expectation for a certain level of green building performance for the attainment of high density/intensity (or alternate use) Plan options and/or development above a certain threshold of Plan density/intensity ranges. Staff has suggestions later within this section of the document as to how these concepts could be applied specifically within the “strawman” approach.

Strawman proposal #1: Do not pursue density/intensity “bonuses” at this time but instead consider application of bonus density/intensity opportunities through Area Plan reviews. At this time, pursue a Policy Plan amendment that would establish linkages between Area Plan density/intensity/use options, as well as Plan density/intensity ranges, for certain levels of green building performance.

ISSUE 2: ESTABLISHMENT OF GREEN BUILDING PERFORMANCE LEVELS

ISSUE 3: GEOGRAPHIC APPLICATION OF GREEN BUILDING POLICY

ISSUE 4: RESIDENTIAL VS. NONRESIDENTIAL APPLICATION

For any of the approaches, the following decisions need to be made:

- What level(s) of green building performance should be tied to the approach(es)?
- To what extent, if any, should specific green building rating systems be referenced?
- Should the approach(es) be applied countywide or should they be limited geographically in some way?
- Should the approaches be developed for all development, or should the focus be on nonresidential and mixed use development (and higher multifamily residential structures)?

Staff views these questions as being interrelated, and so they are being considered together in this outline.

Based on discussions at Planning Commission Environment Committee meetings, staff perceives there to be a range of viewpoints on the above questions among committee members. With respect to green building rating systems, some comments have suggested that green building performance, rather than certification, should be the focus and that attainment of incentives and/or threshold levels of development should be tied to a demonstration of performance rather than certification. Another concern has been raised about the need to ensure that, if green building-based incentives or Plan linkages are pursued, there be an objective method through which green building performance can be verified. There has also been a concern raised about the need to ensure that green building commitments made at the time of zoning approval will be enforceable. At this time, there is insufficient staff capacity (both in terms of resources and expertise) to judge independently whether or not the requirements of any particular green building rating system have been satisfied. Therefore, if there is to be some level of verification of green building commitments, the verification will need to come from a third party.

Staff sees two possible approaches to third party verification of green building commitments: (1) provision of a statement from a qualified third party that a requisite level of green building performance has been satisfied, and (2) attainment of certification under an established green building certification program. There may be others that staff has not considered, and staff is interested in hearing from others as to whether there may be other viable approaches.

The first approach identified above would require that there be a determination of who would be qualified to provide third party verification of green building performance (e.g., a statement that he or she has determined that a project would be “certifiable” under a particular rating system or that the specific green building commitments had been satisfied). There would need to be assurance that the third party entity would be (1) qualified to make these determinations and (2) impartial or at least not under any undue influence to reach conclusions regarding compliance with the applicable commitment(s).

The second approach identified above would require that there be some consideration of which certification program or programs would be acceptable. In that, under all of the options identified, implementation would occur through the zoning process, flexibility could be retained to allow for a consideration of approaches suggested by applicants during the zoning process and to recognize that certification programs continue to evolve over time. However, it is staff’s view that the Comprehensive Plan would need to establish some level of expectation through which approaches suggested by applicants could be evaluated and that it would be appropriate to reference one or more certification programs, at least as points of reference.

In staff’s view, either or both of the above approaches could be pursued, although attainment of certification under a recognized program would perhaps provide greater assurance of green building performance than third party verification outside the certification process. For purposes of discussion, staff is therefore incorporating the second approach (certification through a recognized program) as a preferred approach

within this strawman outline. However, because implementation will occur through the zoning process, staff feels that flexibility should be retained to consider a variety of approaches that may be offered by zoning case applicants.

Strawman Proposal #2: Incorporate the concept of certification under an established green building program, where applicable, as a preferred means of third party verification of green building performance. However, recognize that other viable approaches may be suggested by applicants during the course of the zoning process and remain open to the pursuit of such approaches.

With respect to the identification of green building certification programs, it is staff's view that the U.S. Green Building Council's LEED rating systems have effectively become a standard mechanism through which "green building" design for nonresidential development (and multifamily residential development of four or more stories in height) in the United States is certified. The U.S. General Services Administration has determined that LEED "continues to be the most appropriate and credible sustainable building rating system available for evaluation of GSA projects." As noted above, Arlington County has adopted LEED within its Green Building Incentive program. The District of Columbia has adopted LEED in its establishment of green building requirements for nonresidential projects of 50,000 square feet or more. Montgomery County, Maryland will be requiring LEED certification or its equivalent for nonresidential projects and multifamily residential projects (taller than four stories) that have at least 10,000 square feet of gross floor area. An interim report from the Metropolitan Washington Council of Governments' (MWCOC) Intergovernmental Green Building Group recommends the application of LEED for both public buildings and private commercial and high-rise residential development.

With respect to single family residential development, the aforementioned interim report from MWCOC states the following: "Certification of green building in the residential sector is in a fluid and dynamic state. There are many options for green homes and small-scale residential development. Although the underlying principles for green building performance are generally agreed upon, approaches to evaluating and certifying performance vary widely. No one rating system dominates." While the interim COG report recommends that jurisdictions in the region develop green building programs for single family and small scale multi-family residential projects, it also concludes that "no one green building rating system for small-scale residential projects stands out as most effective" and recommends that COG "evaluate green building rating systems for residential development, including affordable housing, and make recommendations for regional adoption."

During its discussions of green building issues, the Planning Commission's Environment Committee received presentations from both the U.S. Green Building Council and the National Association of Home Builders. The U.S. Green Building Council is developing a LEED for Homes rating system, which will establish a certification system for single family detached residential development. This system is currently in a pilot program stage; the U.S. Green Building Council hopes to launch the system broadly in the fall of

this year. The National Association of Home Builders has established Model Green Home Building Guidelines and is partnering with the International Code Council to develop a residential green building standard that will be recognized by the American National Standards Institute (ANSI). NAHB indicated during its presentation that ANSI approval of this standard is anticipated by the end of the year. It is not clear to what extent, if any, the NAHB guidelines will be revised in the course of development and approval of this standard.

Staff suggests for consideration in the “strawman” outline that, where attainment of Comprehensive Plan options and/or high ends of density/intensity ranges will be linked to green building performance for nonresidential, mixed use, and certain multifamily residential development (four or more stories), LEED be recognized explicitly as an acceptable green building rating system. However, staff does not feel at this time that it would be appropriate to restrict consideration to LEED, as there may be other approaches brought forward during the zoning process that could merit consideration and as green building rating systems are evolving over time. It is also the sense of staff, based on discussions by the Planning Commission’s Environment Committee, that at least a number of committee members would support the incorporation of flexibility in approach. Staff therefore suggests that related Policy Plan text should be crafted to recognize LEED as an acceptable rating system but to recognize that other, equivalent approaches or systems could also be considered. In light of uncertainties at this time regarding residential rating systems and an anticipated review of these rating systems by COG’s Intergovernmental Green Building Committee, staff is not proposing in its “strawman” outline that single family residential development (and lower rise multifamily development) be subject to LEED-based (or equivalent) linkages at this time.

While staff would support the recognition of LEED as an acceptable green building rating system for application in Fairfax County, it should be recognized that there are likely to be up-front costs associated with both the preparation of documentation under the LEED program and implementation of green building practices (it should also be recognized that many green building practices can result in long-term savings, e.g., reduced energy and water use, as well as other benefits, such as improved indoor environmental quality). Informal discussions with representatives of the National Association of Industrial and Office Parks suggest a rough estimate of \$100,000 in consulting costs for a typical LEED application; this is generally consistent with the Wetland Studies and Solutions case study. A conversation with a representative with the U.S. Green Building Council suggests that there is a learning curve and that documentation costs are likely to go down as builders gain knowledge with experience. There may also be hard cost premiums associated with green building practices--staff has seen reports and presentations that suggest that there is no significant difference in costs for green buildings (compared with non-green buildings) as well as reports and presentations identifying cost premiums of up to 10% of total construction costs for a LEED gold-level project—the Wetland Studies and Solutions case study attained its LEED gold rating with a 10% construction cost premium, in part due to the specific green building techniques that were pursued (e.g., a vegetated roof added considerably to the cost).

As the LEED for Homes rating system is still in a pilot stage, it is not clear what the up-front cost premiums will be for certification under this system. Representatives of the National Association of Home Builders and Northern Virginia Building Industry Association have expressed concern to staff that these costs will be substantial.

Strawman Proposal #3: Identify LEED as an acceptable green building rating system that can be linked to Comprehensive Plan options and density/intensity ranges, but recognize the ability to pursue alternative equivalent systems or approaches. Evaluate alternative systems and approaches as they are proposed by developers during the zoning process.

Strawman Proposal #4: Limit the application of LEED-based (or equivalent) linkages to Plan options/density/intensity ranges to nonresidential development, mixed use development and multifamily residential development of four or more stories.

Because much of the future nonresidential development in the county will occur within the county's transit station areas and other growth centers (Community Business Centers, Suburban Centers, and Tysons Corner Urban Center, as identified on the Concept Map for Future Development), staff is suggesting within the "strawman" outline that the application of the LEED-based (or equivalent) approach be limited initially to these areas and that broader application only be considered after a certain period of time has elapsed and experiences with this program can be evaluated. In staff's view, there would be merit in considering any approach through a pilot stage that would be concentrated on certain areas, and, in light of the developed character of the county, staff sees the greatest potential for impact occurring within transit station areas and other growth centers.

Staff would recommend that, under any approach, there be a set period of time after which the program would be reevaluated and adjusted to account for successes, failures, and changes in the broader green building environment (e.g., revised rating systems, building codes, market changes).

Strawman Proposal #5: Limit the linkage of green building performance and Comprehensive Plan options and density/intensity ranges to transit station areas and other growth centers, at least initially until experience with these linkages can be gained. Evaluate the effectiveness and limitations of this approach after a certain period of time and modify the program as needed.

With respect to the level of green building performance that should be linked to Plan options and density/intensity ranges for nonresidential, mixed use, and certain multifamily residential development in transit station areas and other growth centers, green building programs in our neighboring jurisdictions and recommendations from the COG/Intergovernmental Green Building Committee report are particularly informative.

Arlington County's Green Building Incentive program establishes a sliding scale of "bonus" intensities based on the level of LEED certification that is attained. A LEED Certified building is eligible for additional intensity of up to 0.15 FAR, while LEED silver and gold/platinum buildings are eligible for bonuses of up to 0.25 and 0.35 FAR, respectively. Arlington County typically imposes conditions on Site Plan projects that do not pursue the bonus intensity incentive for the attainment of a specified number of LEED credits; this number is typically close to, but slightly lower than, the threshold for LEED certification.

Both the District of Columbia and Montgomery County, Maryland have enacted laws that will mandate green building performance at the LEED certified level for nonresidential (and in the case of Montgomery County, multifamily residential above four stories) projects at or above certain square footage thresholds (50,000 square feet in Washington, D.C. and 10,000 in Montgomery County).

The COG/Intergovernmental Green Building interim report recommends a "COG Regional LEED Certified" level of performance for private commercial and high-rise residential development, with a recommendation to review and revise this recommendation no later than 2012 with the goal of achieving LEED Silver performance. "COG Regional LEED Certified" references the LEED certified level with at least two credits obtained from the "Optimize Energy Performance" category (recently established as a requirement by the U.S. Green Building Council) and four credits from a list of seven items (Additional Optimize Energy Performance credits; Heat Island, Roof; On-site Renewable Energy; Green Power; 75% Construction Waste Management; Stormwater Design-Quantity Control; and Stormwater Design-Quality Control).

In light of the application of the LEED certified level of development elsewhere in the region and in the interim COG/Intergovernmental Green Building Report, it may be appropriate to reference this level of performance when establishing linkages to Plan options and density ranges. However, attainment of the Silver or higher level of LEED (or equivalent) performance should be encouraged, as should be commitments to attainment of LEED (or equivalent) credits that may be of particular local/regional importance.

Strawman Proposal #6: Establish the LEED Certified level (or equivalent) of green building performance as the expected level of performance, where applicable, linked to Plan options and densities. Seek additional commitments to the Silver or higher level of LEED (or equivalent) performance and encourage commitments to attainment of LEED credits that may be of particular local/regional importance.

A remaining question concerns the Plan option and density/intensity thresholds that would trigger a linkage to the green building performance expectation. Comprehensive Plan recommendations in transit station areas and other growth centers are typically structured such that a range of densities or intensities (or maximum intensities) of development are identified, optional uses and/or densities/intensities are identified that can be pursued in certain circumstances (e.g., funding of rail) and/or under satisfaction of

certain design specifications, or both. In the Fairfax Center Area, the Plan specifies baseline, intermediate, and overlay levels of development. Where development options are identified, green building performance could be tied to the pursuit of these options. Where plan density/intensity ranges are specified, green building performance could be tied to the planned overlay level of development or high end of the density/intensity range. For residential development, the Plan defines “high end” as the base level (the lowest density in the Plan range) plus 60% of the density range. Where a range is not specified (e.g., residential development up to 30 du/ac), the “high end” is considered to be anything above the upper limit of the next lower Plan range (20 du/ac, in this example). The Plan does not typically establish intensity ranges for nonresidential development, but an approach could be pursued to consider a range consisting of the by-right development potential as the low end and the Plan maximum floor area ratio (FAR) as the high end. For purposes of discussion, the top 40% of this range could be considered for application of the green building expectation. An alternative approach could be to evaluate increases in development intensity from existing to proposed conditions and to establish a linkage between green building performance and a certain percentage threshold of increase in floor area.

Strawman Proposal #7: Consistent with other strawman proposals, apply the green building performance linkage for (a) Comprehensive Plan options in transit station areas and other growth centers; (b) Overlay levels of development where specified; and (c) the “high end” of the density/intensity range, with the top 40% of the nonresidential intensity range (with the by-right potential considered as the base of the range) to be considered for nonresidential development.

The application of linkages to Plan options or density/intensity ranges based on LEED or equivalent green building approaches is not being suggested at this time for single family residential development, low-rise multifamily residential development, nonresidential or multifamily residential development outside of transit station areas and other growth centers, or nonresidential or multifamily residential development outside the context of Plan options and below certain thresholds in density/intensity ranges. However, it should be stressed that nothing in this “strawman” outline should suggest that efforts to pursue green building commitments for such developments would be inappropriate. Staff continues to recommend that Policy Plan text be adopted in general support for application of green building practices and that the application of these practices not be limited to transit station areas, other growth centers, or development proposed under Comprehensive Plan options or high ends of density/intensity ranges.

Strawman Proposal #8: Adopt Policy Plan text providing broad support for the application of green building practices and pursue commitments from developers to green building practices, even outside areas subject to the LEED-based (or equivalent) linkage to Plan options or density/intensity ranges.

In addition to pursuing green building commitments for development that would fall outside of the LEED-based (or equivalent) linkages to Plan options or density/intensity ranges, there are opportunities to achieve energy conservation benefits for such

developments through application of the U.S. Environmental Protection Agency's ENERGY STAR program. For certain nonresidential buildings, the ENERGY STAR rating system uses a 1-100 scale to benchmark the energy performance of the building relative to a standard scale for the building size and location. The lower the energy use, the higher the rating. An ENERGY STAR rating of 75 is sufficient to achieve an "ENERGY STAR" designation for the building. Because the ENERGY STAR rating cannot be determined until there is at least one year of energy use data for the building, it would not be appropriate to seek commitments to ENERGY STAR ratings during the zoning process. However, ENERGY STAR has a "Designed to earn the ENERGY STAR" program through which an energy goal is established for a building based on the building type and climate area and through which a letter of intent to attain this goal is submitted to EPA from an architect who is an ENERGY STAR Partner. This effort does not directly result in energy savings but does set the stage for attainment of energy savings through pursuit of an energy goal through building design. It would be appropriate to pursue commitments to the "Designed to earn the ENERGY STAR" program where applicable.

Strawman Proposal #9: Where applicable, pursue commitments to the "Designed to earn the ENERGY STAR" program.

For residential development of three stories or less, ENERGY STAR has an "ENERGY STAR Qualified Homes" program that recognizes homes that are at least 15% more energy efficient than homes built to the 2004 International Residential Code. Residential builders can either demonstrate this level of energy efficiency through a simulation of energy performance undertaken by a certified "Home Energy Rating System" (HERS) rater or through the incorporation of equipment and systems that comply with prescriptive levels of performance. For both options, the energy performance of the home must be verified through on-site inspections and testing performed by a HERS rater. Inspections and testing can occur prior to building occupancy, so there is the potential to seek proffered commitments to the construction of ENERGY STAR Qualified Homes. EPA staff have informed county staff that the costs to the builder of attaining the ENERGY STAR qualification are minimal.

Strawman Proposal #10: Establish an expectation that, for residential development within the high end of the Plan density range (the upper 40% of the Plan density range), eligible homes will qualify for the "ENERGY STAR Qualified Homes" designation.

ISSUE 5: ENFORCEMENT

All of the approaches identified within this document would be implemented through the zoning process and would not apply to by-right development. Therefore, in staff's view, enforcement considerations are similar among the options and are generally not dependent upon the option that would be pursued.

Any approach to encouragement of green building design through Comprehensive Plan policy, whether involving density/intensity bonuses or not, would need to be implemented through commitments obtained through proffers or development conditions associated with zoning cases. There is a fundamental challenge associated with enforcement of proffered/conditioned green building commitments, in that one generally does not know if green building commitments will have been satisfied until construction of the building is complete, and therefore the process of evaluating proffer/condition compliance at the time of site plan review, or even building plan review, is not available for such commitments. However, this mechanism of implementation does afford an opportunity to consider a variety of enforcement approaches, and enforcement approaches identified in proffers/conditions can be tailored through negotiations with applicants. Staff is aware of at least three possible approaches to ensuring that commitments obtained through proffers or development conditions will be implemented, and it is staff's view that one specific approach should not be stressed over others. Staff feels that, as long as commitments from applicants are structured in a way that ensures compliance, flexibility ought to be retained. The three approaches that staff suggests for consideration are:

- Incorporation into proffers/development conditions of commitments to demonstrate compliance with the green building performance commitment prior to issuance of the occupancy permit(s) for the building.
- Incorporation into proffers/development conditions of commitments to demonstrate compliance with the green building performance commitment prior to release of the bond for the project.
- Incorporation into proffers/development conditions of commitments to the posting of a green building bond/escrow/surety (hereinafter referred to as a "green building bond") that would be provided above and beyond the standard bond for the project. The green building bond would only be refunded upon demonstration by the applicant that the green building commitment has been satisfied. If the project failed to satisfy the green building commitment, the bond would be forfeited. With respect to bond forfeiture, one option would be to allow for a partial refund of the bond if the green building performance came close, but did not quite achieve, the committed level of performance.

Other enforcement approaches may be available on a case-by-case basis. For example, if a project with multiple phases is proposed, a green building commitment could be structured in manner that would tie the achievement of green building commitments in earlier phases of the development to attainment of certain density/intensity expectations (whether "bonus" densities or not) in later phases. There may be other enforcement approaches that staff has not identified, and staff suggests that the scope of alternatives not be limited in order to allow for incorporation of better ideas that may be presented by applicants.

Of the three alternatives identified above, the first two are fairly straightforward. However, there may be reluctance by some developers to link green building performance to occupancy permits or overall bond releases.

The pursuit of a green building bond approach raises a number of questions, including:

- What would be an appropriate amount of money for the bond?
- If a bond is defaulted, what would the county do with the funds?

With respect to the amount of a green building bond, staff is aware of two approaches that are being pursued in the Washington, D.C. area. Arlington County's approach links the amount of the bond to the value of the bonus development intensity; the amount of the bond is based on a rental value per square foot as determined by the county's Department of Real Estate Assessment. At this time, the rate varies from \$24 per square foot to \$40 per square foot within Metrorail corridors. The approach that will be applied in Washington, D.C. (as it relates to the green building requirement) would link the amount of the bond to the total cost of the building. The bond would range from 2% of the total cost of the building to 4% of the total cost depending on the size of the project, with a maximum bond amount of \$3 million.

If the green building program is structured as suggested above (with no true "bonus" densities/intensities but instead linkages to Plan options and density/intensity ranges), there may be some difficulty in establishing an appropriate "value" that would be linked to the bond. One approach may be to consider the value associated with the Plan option or density/intensity range that is being linked to the green building performance and base the bond value on at least a portion of that value. A simpler approach would be to establish a suggested bond rate based on total square footage of the building. Staff does not suggest that this be linked to the cost of the building in order to avoid the need for cost determinations. Staff is partial to an approach that would link the bond amount to the value of Plan options and Plan density/intensity ranges but recognizes that this approach may be considered to be too complex. Further, additional analysis would be needed to identify an approach through which the value of the Plan options and Plan density/intensity ranges can be identified and perhaps simplified. For purposes of discussion, staff suggests the consideration of this approach as a starting point, recognizing that additional analysis will be needed.

With respect to disposition of funds that may be defaulted through the green building bond idea, staff again notes that the county does not have a dedicated green building program. Therefore, if a green building fund was to be established for the collection of defaulted bond money (and perhaps contributions obtained through proffered commitments), it would not be clear who would administer the fund and how these funds would be spent. In staff's view, one approach may be to convey defaulted bond money to the fund that is used to support projects identified within the county's Environmental Improvement Program (EIP) and to incorporate decisions on expenditures into the annual budget process. Staff has not reviewed legal issues associated with this idea and would recommend review by the County Attorney's Office and Department of Management and Budget if there is a desire to explore this further.

Strawman Proposal #11: Retain flexibility to consider enforcement approaches that may be identified by applicants during the zoning process. Recognize the following

as acceptable approaches: (1) linkage to issuance of occupancy permits; (2) linkage to refunds of project bonds; and (3) establishment of a green building bond linked to green building performance and to the value of the Plan option or density/intensity range (subject to further analysis and legal review).

ISSUE 6: GREEN BUILDING FUND

As noted earlier, Arlington County has established a green building fund that is funded by contributions obtained through site plan conditions. Specifically, the site plan conditions establish a \$0.03 per square foot contribution that is refundable if the project attains LEED certification within one year of building occupancy. The \$0.03 per square foot figure was established as a rough equivalent of registration and certification costs associated with the LEED certification process (note: this does not include consultant/documentation costs or hard costs associated with the green building practices).

Washington, D.C. has established a green building fee requirement of \$0.002 per square foot for new construction (with alterations and repairs subject to a fee based on a percentage of the construction value).

The concept behind Arlington County's green building fund requirement is that it ensures that all site plan projects contribute to green building efforts, either directly through LEED certification or indirectly through the county's green building program. The contribution effectively removes the cost difference associated with LEED registration and certification fees, as all site plan projects effectively need to pay these fees. However, it is not clear to staff to what extent the green building fund contribution alone provides an incentive for green building design, as the overall contribution requirement does not appear to be substantial (a 500,000 square foot project, for example, would need to contribute \$15,000).

Staff again notes that, if such an approach was to be applied in Fairfax County, a consideration would be disposition of funds, in that Fairfax County does not have a dedicated green building program. Staff would recommend that, if this idea is to be considered further, consideration be given to whether the funds could be conveyed to the EIP fund referenced earlier.

Strawman Proposal #12: Staff does not have a recommendation regarding a green building fund contribution concept at this time.

Summary of Strawman Proposals

- 1. Do not pursue density/intensity “bonuses” at this time but instead consider application of bonus density/intensity opportunities through Area Plan reviews. At this time, pursue a Policy Plan amendment that would establish**

- linkages between Area Plan density/intensity/use options, as well as Plan density/intensity ranges, for certain levels of green building performance.
2. Incorporate the concept of certification under an established green building program, where applicable, as a preferred means of third party verification of green building performance. However, recognize that other viable approaches may be suggested by applicants during the course of the zoning process and remain open to the pursuit of such approaches.
 3. Identify LEED as an acceptable green building rating system that can be linked to Comprehensive Plan options and density/intensity ranges, but recognize the ability to pursue alternative equivalent systems or approaches. Evaluate alternative systems and approaches as they are proposed by developers during the zoning process.
 4. Limit the application of LEED-based (or equivalent) linkages to Plan options/density/intensity ranges to nonresidential development, mixed use development and multifamily residential development of four or more stories.
 5. Limit the linkage of green building performance and Comprehensive Plan options and density/intensity ranges to transit station areas and other growth centers, at least initially until experience with these linkages can be gained. Evaluate the effectiveness and limitations of this approach after a certain period of time and modify the program as needed.
 6. Establish the LEED Certified level (or equivalent) of green building performance as the expected level of performance, where applicable, linked to Plan options and densities. Seek additional commitments to the Silver or higher level of LEED (or equivalent) performance and encourage commitments to attainment of LEED credits that may be of particular local/regional importance.
 7. Consistent with other strawman proposals, apply the green building performance linkage for (a) Comprehensive Plan options in transit station areas and other growth centers; (b) Overlay levels of development where specified; and (c) the “high end” of the density/intensity range, with the top 40% of the nonresidential intensity range (with the by-right potential considered as the base of the range) to be considered for nonresidential development.
 8. Adopt Policy Plan text providing broad support for the application of green building practices and pursue commitments from developers to green building practices, even outside areas subject to the LEED-based (or equivalent) linkage to Plan options or density/intensity ranges.
 9. Where applicable, pursue commitments to the “Designed to earn the ENERGY STAR” program.
 10. Establish an expectation that, for residential development within the high end of the Plan density range (the upper 40% of the Plan density range), eligible homes will qualify for the “ENERGY STAR Qualified Homes” designation.
 11. Retain flexibility to consider enforcement approaches that may be identified by applicants during the zoning process. Recognize the following as

acceptable approaches: (1) linkage to issuance of occupancy permits; (2) linkage to refunds of project bonds; and (3) establishment of a green building bond linked to green building performance and to the value of the Plan option or density/intensity range (subject to further analysis and legal review).

- 12. Staff does not have a recommendation regarding a green building fund contribution concept at this time.**

DRAFT