



ARLINGTON COUNTY, VIRGINIA

**County Board Agenda Item
Meeting of March 14, 2009**

DATE: February 27, 2009

SUBJECT: Green Building Density Incentive Policy for Site Plan Projects

C. M. RECOMMENDATION:

Formalize and amend the County's Green Building Density Incentive for Site Plan Projects Policy (see attached) to evaluate special exception site plan requests for bonus density consistent with Section 36.H.5.a.(1) of the Zoning Ordinance.

ISSUES: This report provides an update to the voluntary Green Building Density Incentive Policy presented to the County Board on December 6, 2003. Changes to the bonus density incentive amounts are proposed based on the success of the policy to date and green building market transformations in the construction industry over the past five years. No issues are identified.

SUMMARY: Arlington County is strengthening its commitment to sustainable communities and green buildings through the update and revision of its green building policy and green building bonus density program for site plan construction in the County. These programs rely on the Leadership in Energy and Environmental Design (LEED) rating system, originally developed by the U.S. Green Building Council (USGBC), as a means of evaluating proposed site plan projects and encouraging the construction of energy efficient and environmentally sustainable buildings. The proposed revisions to the County's program include the following:

- The green building bonus density incentives are modified so that office projects may receive up to 0.05 Floor Area Ratio (FAR) bonus for the baseline LEED certification (previously up to 0.15 FAR was available), up to 0.15 FAR bonus for LEED Silver certification (previously up to 0.25 FAR was available), up to 0.35 FAR bonus for LEED Gold certification, and up to 0.45 FAR bonus for LEED Platinum certification (previously up to 0.35 FAR was available for Gold and Platinum). Developers post a bond or letter of credit to ensure compliance.
- Projects that incorporate a multi-family residential component may request up to an additional 0.05 FAR bonus density on the residential portion of the project in addition to the densities outlined above.

County Manager: _____

County Attorney: _____

Staff: Joan Kelsch, DES

- The Green Building Fund contribution guideline is increased to \$0.045 per square foot gross floor area (GFA) (previously \$0.03 per square foot GFA). The contribution will be refunded or waived if a developer applies for and receives formal certification of the project from the US Green Building Council within 18 months after the last Certificate of Occupancy (CO) is issued. The fund will continue to provide resources for additional education, outreach, and support on green building issues.

BACKGROUND: This report proposes enhancing and upgrading the current green building submission requirements and the green building density incentive program for site plan projects. Originally adopted in 1999 and updated in 2003, the green building program has been an effective tool for reducing the environmental impacts of buildings on the community.

Since the early 1960s, Arlington has made a commitment to smart growth, primarily through Metro-oriented development planning and the General Land Use Plan. For nearly a decade Arlington has used the LEED green building rating system to guide the design and construction of new public facilities in the County. Arlington Public Schools (APS) also uses LEED to guide new school construction. Although new and untested at first, LEED is now the principal green building rating system used nationwide. With the recent rapid growth of the green building industry in the region and the development of specific LEED rating systems for different building types, fully integrating sustainability into the design, construction, operation, maintenance, and demolition of projects is now understood and easily achieved.

Arlington's original Pilot Green Building Incentive Program (adopted in October 1999) applied only to commercial office space and offered up to 0.25 FAR bonus density in exchange for obtaining a LEED Silver certification from the USGBC. One project, the Navy League, was granted additional density in exchange for committing to achieve a Silver LEED award under this program. The program was nationally recognized as being an innovative approach to encouraging green building. However, County staff found that the original program excluded developers who were interested in incorporating green building components but who were not prepared to achieve the LEED Silver rating.

In 2003, the County's green building program for site plans was updated and strengthened. The original program did not apply to multi-family residential projects, rehabilitation of existing buildings or other types of site plan development, even though the LEED rating system can be used to enhance and measure the "greenness" of these types of projects. The 2003 revision encouraged all site plan projects to participate in the incentive program. In addition, all projects (even those not seeking official LEED certification from the USGBC) that sought approval for density, height or other modifications from by-right zoning requirements were expected to include a LEED Accredited Professional on the project team and were expected to incorporate a specific number of LEED components in each project so that the project is able to achieve the equivalent of LEED baseline certification. Reporting and compliance were linked to specific permit approvals that are granted throughout the demolition and construction process. All projects were reviewed by County staff for compliance. Projects approved with bonus density in exchange for LEED certification were required to register with USGBC and receive official LEED certification.

Also in 2003, the density incentive program was expanded to include the full range of LEED awards (including Certified, Silver, Gold and Platinum). It awarded density to the project in an amount commensurate with the applicant's level of commitment to sustainable building (ranging from a maximum of 0.15 FAR for baseline LEED Certified projects to a maximum of 0.35 FAR for a LEED Gold or Platinum project). All types of site plan projects (not just commercial office) were made eligible for the green building density incentive program.

In 2003, the County's Green Building Fund was also established. Developers who did not commit to achieving a LEED rating from the U.S. Green Building Council (USGBC) were requested to contribute to the Fund at a rate of \$0.03 per square foot. This contribution calculation was based on the fees assessed by the USGBC for registration and certification of a formal LEED application. The Green Building Fund is available for education and outreach to developers and the community on green building issues.

The current balance is \$130,600. To date, \$24,300 from the Green Building Fund has been used for:

- Publication and subsequent reprinting of Arlington's green building brochure.
- Official LEED Training of approximately 35 Arlington County employees including plan reviewers, zoning officials, building inspectors, and planners.
- Filming of green building lectures and events in Arlington for use by AVN and staff.
- Production of a Fresh AIRE video focusing on Arlington's climate and green building programs.
- Outreach materials for residents and businesses on green building activities and events.
- Educational materials and programs for use in the new Inspection Services Division office which incorporates many green features and will apply for certification under the LEED for Commercial Interiors (LEED-CI) program.

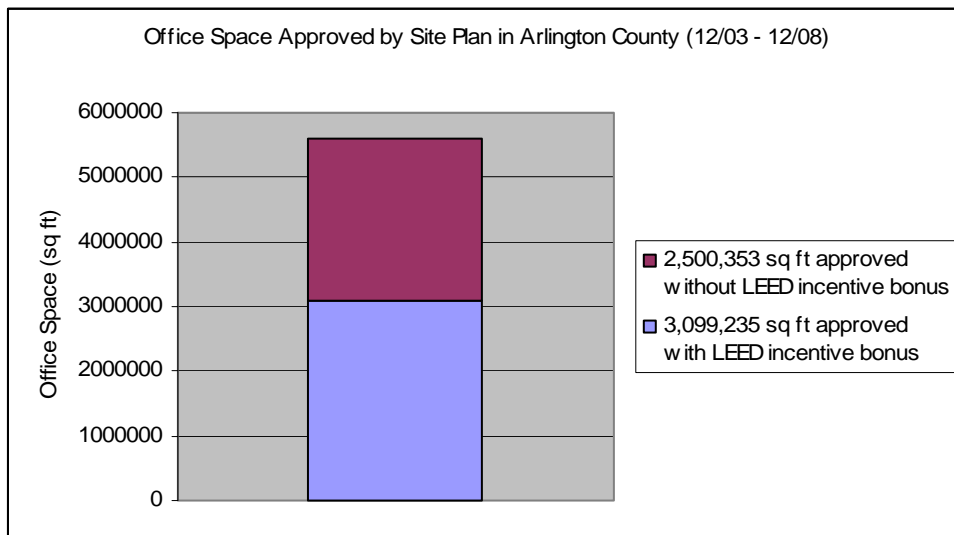
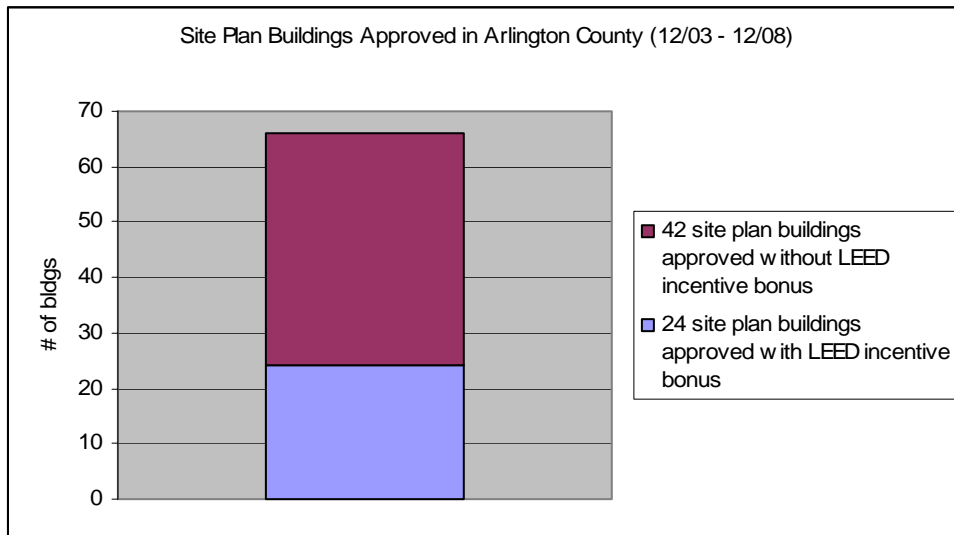
In July 2007, the USGBC enhanced the LEED green building rating system by requiring all LEED buildings to meet minimum energy efficiency goals. For new construction, this means that all buildings must be at least 14 percent more efficient than the established baseline. This requirement was developed to ensure that all LEED buildings make at least a minimum effort to reduce energy use.

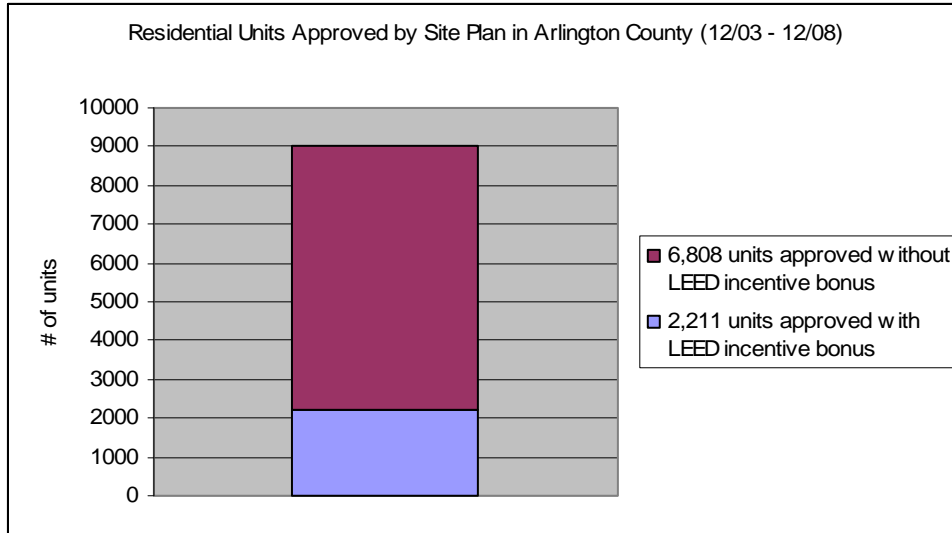
In December 2007, the Metropolitan Washington Council of Governments (MWCOC) issued a report entitled "Greening the Metropolitan Washington Region's Built Environment." The report recommends that local governments use LEED as the preferred green building rating system in the region and that green building programs be developed for public and private projects that emphasize specific environmental issues of concern to the region, including energy efficiency and renewable energy, heat islands, stormwater management, and construction waste management. The report also recommends that local governments establish LEED silver as the standard for public projects.

The County's green building density incentive program has been successful in encouraging developers to build to the LEED standard and helps reduce the environmental impacts from large development. To date, the Navy League Building and the National Rural Electric Cooperative Association Building (NRECA) have successfully achieved their LEED commitment and

complied with the green building site plan conditions. Approximately 36 percent of site plan buildings approved since December 2003 have site plan conditions and enforcement mechanisms that require LEED certification.

The following charts summarize the site plan projects that have been approved with bonus density in exchange for LEED certification. A summary table is included as Attachment 1.





Since the expansion and revision to the program in December 2003, 54 site plans (incorporating 66 specific buildings) have been approved by the County Board. Of these 66 buildings, 24 were awarded additional density in exchange for agreement to achieve LEED certification (It is important to note that the 24 buildings that incorporate the LEED bonus have been *approved* but have not necessarily started construction.)

In the past 5 years (Dec 2003 – Dec 2008), approximately 55 percent of the office space approved by site plan is slated to be LEED certified. This includes three Certified, six Silver, one Gold, and one Platinum rated building that are participating in the green building bonus program.

Approximately 24 percent of the residential units approved under site plan between December 2003 and December 2008 are slated to be certified using the LEED green building rating system (or another green home rating system). This includes eight Certified and two Silver LEED buildings along with one building that will use the EarthCraft green home system (the AHC building on the Peck site) and two that will use Arlington’s Green Home Choice program (the AHC townhouses on the Peck site and the townhouses at Rosslyn Common).

There are additional site plan projects that are slated to achieve LEED certification without the green building bonus density incentive. Pentagon Centre is committed by site plan condition (without bonus density) to achieve LEED Silver certification. Others are working toward certification without a formal commitment to the County (e.g., Randolph Square, Turnberry Tower, Parc Rosslyn, and the two Marriott hotels at Potomac Yard B).

In total, 240,263 square feet of space potentially will be added in the County as a result of the green building bonus density program (both office and residential). This amounts to an increase of approximately 4 percent of the total site plan GFA approved since December 2003.

The USGBC reports that approximately three percent of commercial building stock nationwide is currently LEED certified at one of the four LEED levels. There are no reliable statistics yet available to determine how much of multi-family residential construction is “green.” No specific

data on potential LEED buildings are available from neighboring jurisdictions. However, USGBC provides the following information on the number of existing LEED certified buildings in selected Washington area jurisdictions:

<u>Jurisdiction</u>	<u>Completed LEED Certified Projects</u>
Washington, D.C.	40
Arlington, VA	14
Montgomery County, MD	10
Fairfax County, VA	8
Alexandria, VA	3

Staff will continue to evaluate national and regional green building trends and participation in the density incentive program, and will conduct a formal analysis in three years.

DISCUSSION:

Site Plan Projects

The site plan program for projects not seeking official LEED certification continues to work very well. Discussions on green building components begin early in the site plan process to maximize the full integration of these components into the project. All site plan projects that increase density or height or modify other zoning regulations are expected to have a LEED Accredited Professional on the development team and are expected to fully evaluate all LEED components and incorporate an appropriate number of LEED components to minimize the environmental impact of the project on the site and the community. A specific number of LEED credits are identified and included in a site plan condition with reporting and compliance linked to specific permit applications throughout the demolition and construction process. County staff reviews the LEED components to ensure compliance, but official certification by USGBC is not required. Compliance with this program has been good and no changes to this program are proposed.

In the future, all site plan projects will be encouraged to follow MWCOG's recommendations and incorporate at least four LEED credits that address environmental issues of particular concern to the region (energy efficiency, renewable energy, heat islands, stormwater management, and construction waste management) (*Greening the Metropolitan Washington Region's Built Environment*, A Report to the Metropolitan Washington Council of Governments Board of Directors, December 12, 2007).

Green Building Bonus Density Program

Staff recommends that the green building density program be continued with several updates to address current market conditions and green building trends. In addition to final approval and certification by the USGBC, the LEED components of these site plan projects will continue to be reviewed and approved by County staff.

Since it is becoming more common for developers to design and construct buildings that meet the standards of the basic LEED Certified level, staff recommends reducing the bonus density offered for baseline LEED certification for office buildings from 0.15 FAR to 0.05 FAR. Similarly bonus density offered for LEED Silver certification would be reduced from 0.25 FAR to 0.15 FAR. Bonus density for LEED Gold will be available at 0.35 FAR, in hopes of

encouraging developers to seek the higher Gold certification. Finally, LEED Platinum office projects may apply for up to 0.45 FAR bonus density.

The data indicate that multi-family residential projects are not seeking LEED certification at the same rate as office buildings. This is because it is still more difficult for residential projects to achieve some of the LEED credits, as compared to office buildings. Thus, for projects that include a residential component, staff recommends offering an additional 0.05 FAR bonus for the residential portion of the building.

The proposed Green Building Density Incentive Policy for Site Plans is attached (Attachment 2). The proposed changes are summarized in the Table 1 below:

Table 1
Summary of Proposed Changes to the
Green Building Bonus Density Incentive Policy

LEED Level	Existing Bonus	Proposed Bonus	
		Office	Residential
Certified	0.15 FAR	0.05 FAR	0.10 FAR
Silver	0.25	0.15	0.20
Gold	0.35	0.35	0.40
Platinum	0.35	0.45	0.50

The Green Building Program will be reviewed (and updated if appropriate) at least every three years to ensure that the program remains current with emerging green building technologies and national trends.

Enforcement

Enforcement of the green building density incentive program requires the developer to post a bond or letter of credit prior to issuance of the first Certificate of Occupancy. In general, the bond or credit amount is calculated based on the size of the bonus density approved multiplied by the average rental rate for space in the specific area of the County (as calculated by Arlington’s Real Estate Section). If a project fails to achieve the promised LEED certification after receiving the bonus density, the bond or credit amount defaults to the County. To date, two buildings have posted bonds and both have met their LEED obligation so the bonds were released; no projects have defaulted on their LEED green building bonus density commitments.

Energy Efficiency

Energy efficiency is one of the most critical components of a “green” building. In 2007, the USGBC recognized that projects were receiving LEED certification without significant reductions in energy usage. Thus, in July 2007, the USGBC required the incorporation of two LEED Energy Optimization credits in every project. This would result in buildings that are at least 14 percent more energy efficient than the baseline standard established by the LEED standard.

Optimizing energy efficiency is a complex process involving many building components including building orientation, building size, envelope, exterior color, roof type and color, insulation type and thickness, the amount of glazing, window type, daylighting, interior and exterior lighting systems, HVAC systems, and building automation systems. These factors must all be carefully evaluated and there is no one specific method or set of components that will guarantee good energy efficiency in every building. Depending on the building's design and engineering, either a central or distributed heating/cooling system may be most efficient. LEED requires all projects to run an energy model and use these data as a tool to help optimize the unique energy and cost efficiencies in the proposed building.

Green Building Fund

The Green Building Fund has been successful. The Fund is used to further the goals of reducing the environmental impacts of construction, operating, and decommissioning buildings. The fund contribution of \$0.03 per square foot was originally established to match the amount it would cost to register and certify a project with the USGBC. Recently, the USGBC increased these fees to be the equivalent of \$.045 per square foot and staff recommends a commensurate increase in the requested contribution to the Green Building Fund. The proposed increase to the Green Building Fund contribution is intended to make the contribution equivalent to the increased registration and certification fees currently assessed by the USGBC and allows the County to continue providing green building outreach and education to the development community.

The Fund will continue to be used for outreach and education on green building topics for the development community. If a project receives LEED certification and has paid into the Green Building Fund, the contribution will be refunded upon receipt of the LEED certification documentation. Staff recommends that a contribution to the Green Building Fund no longer be requested if a project participates in the green building bonus density program. This will reduce some paperwork and eliminates the need to refund the contribution once the project achieves its promised LEED certification. The bond should still be provided and will ensure completion.

Existing Buildings

Given the current concern about climate change and Arlington's commitment to the Fresh AIRE program initiated in 2007, the natural next phase is to focus on the environmental impacts of Arlington's existing building stock. As such, Arlington's Fresh AIRE program is working with building management companies and building owners to use the USEPA's Energy Star program to benchmark existing buildings. These data can then be used to identify specific energy efficiency improvements for the building. To date, 25 buildings have qualified for the Energy Star program in Arlington.

Single Family Home Construction

Arlington's Green Home choice program is a voluntary certification program that applies to single family homes and some townhouse projects. It can be used for new construction and major renovations and additions. The program provides technical assistance, recognition, and assistance during the permitting and building inspections process to single family builders and homeowners who build green. The program is working well, but will be reviewed and updated in the upcoming year to ensure that it continues to provide cutting edge support and incentives to

encourage green residential homebuilding in Arlington. There are approximately 60 Green Home Choice projects certified or under construction in Arlington.

LEED for Homes is a new rating system available for use in Arlington, developed by the USGBC. There are already a few projects working on LEED for Homes certification in Arlington, but none is complete to date. EarthCraft Virginia is another green home rating system gaining popularity in Virginia. It is managed by a non-profit organization in Richmond. Several projects in Arlington are using the program as a guide in greening low-rise residential projects.

Affordable Housing

The Virginia Housing Development Authority awards points for EarthCraft or LEED certification. Many projects use the EarthCraft green home rating system for low-rise residential construction to ensure energy efficiency and environmentally responsible construction. The points help the projects' rankings when qualifying for VHDA tax credit awards. The County has acknowledged this commitment to green affordable housing and supports these projects' efforts to achieve the EarthCraft certification.

By-right development

Currently there are no requirements for greening by-right development. Staff will continue to educate developers, encourage the use of LEED, Green Home Choice, EarthCraft, and other appropriate green building standards. Workshops, green building tours, coordination with the National Capital Region Chapter of the USGBC, and specific educational materials will be provided to encourage the use of green building components and techniques in by-right development.

Community Process

Over the past six months, staff presented the proposed changes to the green building bonus density program to the Planning Commission, the Environment and Energy Conservation Commission (E2C2), developer groups (Northern Virginia Building Industries Association (NVBIA) and the National Association of Industrial and Office Parks (NAIOP)), and land use attorneys who do business in Arlington. Comments from these groups were considered and the final proposal reflects their input. NAIOP sent a letter to the County Board (dated February 19, 2009) stating, "We are in support of the changes to the Green Building Policy as proposed."

The Planning Commission provided comments at an information session on January 12, 2009, and heard the final proposal on February 11, 2009. The Commission sent a letter to the County Board on February 18, 2009, indicating Commissioners' support for the proposal. Staff discussed the bonus density issue with E2C2 several times during the fall 2008 and formally presented the proposed changes to E2C2 on January 26, 2009. E2C2 supported the green building density proposal in a letter to the Board dated February 3, 2009.

FISCAL IMPACT: There is no fiscal impact.

Attachment 1
Summary of Approved Site Plan Projects in Arlington
(December 2003 – December 2008)

<p>Total number of site plan buildings:</p> <p>66 buildings</p>	<p>Represents 54 site plan projects (several site plans have multiple buildings)</p>
<p>Buildings with LEED green building commitment due to incentive bonus:</p> <p>24 buildings</p>	<p>36% of total site plan buildings participate in LEED incentive program</p>
<p>Office</p> <p style="padding-left: 40px;">Total GFA approved 5,599,570 ft²</p> <p style="padding-left: 40px;">LEED with bonus 3,099,235 ft²</p>	<p>55% of site plan office space participates in LEED incentive program</p> <p>Office projects include: 3 Certified (792,610 ft²) 7 Silver (1,453,897 ft²) 1 Gold (282,989 ft²) 1 Platinum (569,739 ft²)</p>
<p>Residential</p> <p style="padding-left: 40px;">Total units approved 9,019 units</p> <p style="padding-left: 40px;">LEED with bonus 2,211 units</p>	<p>24% of site plan residential units participate in LEED incentive program</p> <p>Residential projects include: 8 Certified (1706 units) 2 Silver (362 units) 1 EarthCraft (90 Units) 2 Green Home Choice (53 units)</p>
<p>Additional space added as result of green building density policy:</p> <p>240,263 ft²</p>	<p>4% additional space added to site plan projects as a result of the green building bonus density incentive policy</p>

Attachment 2
Green Building Bonus Density Incentive Policy for Site Plans
Arlington County, Virginia
February 2009

Arlington County’s Green Building Bonus Density Incentive Policy is a voluntary program to evaluate special exception site plan requests for bonus density consistent with Section 36.H.5.a.(1) of Arlington County’s Zoning Ordinance. All site plan project developers are encouraged to include specific green building components in site plan projects and to commit to becoming certified under the U.S. Green Building Council’s (USGBC) Leadership in Energy and Environmental Design (LEED™) program.

In addition, Arlington offers potential levels of bonus density (as measured in Floor Area Ratio (FAR)) when the developer commits to green building components and LEED certification, as follows:

<u>LEED Level</u>	<u>Bonus Available</u>	
	Office	Residential
Certified	0.05 FAR	0.10 FAR
Silver	0.15	0.20
Gold	0.35	0.40
Platinum	0.45	0.50

All site plan projects that increase density or height in exchange for LEED certification are expected to have a LEED Accredited Professional on the development team. Projects are also expected to fully evaluate all LEED components and incorporate at least enough LEED credits to achieve baseline LEED Certification in order to minimize the environmental impact of the project on the site and the community. A specific number of LEED credits is identified and included in a site plan condition. County staff reviews LEED compliance at specific permit applications throughout the demolition and construction process. The applicant’s development team submits the project’s LEED documentation to the USGBC for review and official LEED certification within a specific time frame identified in the site plan condition.

All site plan projects are encouraged to follow the Metropolitan Washington Council of Government’s (MWCOC) recommendations and incorporate at least four LEED credits that address environmental issues of particular concern to the region (energy efficiency, renewable energy, heat islands, stormwater management, and construction waste management) (see *Greening the Metropolitan Washington Region’s Built Environment*, A Report to the Metropolitan Washington Council of Governments Board of Directors, December 12, 2007).

Because some green components are not complete until a building is operational, enforcement of the green building density incentive policy requires the developer to post a bond or letter of credit prior to issuance of the first Certificate of Occupancy. In general, the bond or credit amount is calculated based on the size of the bonus density approved multiplied by the average rental rate for space in the specific area of the County (as calculated by Arlington’s Real Estate Section). If a project fails to achieve the promised LEED certification after receiving the bonus density, the bond or credit amount defaults to the County as follows:

- Miss up to three LEED points but still achieves LEED certification, the developer forfeits 50 percent of the bond
- Miss four or more LEED points but still achieves LEED certification, the developer forfeits 100 percent of the bond. Missing four or more points is a significant deviation from the site plan condition and results in a building with significantly fewer environmental benefits.
- If the project falls below the 26 points required for minimum LEED certification, the developer forfeits 100 percent of bond.