Condensed Title:

An Ordinance establishing definitions, standards, procedures and incentives providing for property owner voluntary participation, and City mandatory participation, in the LEED Certification Program as established by the U.S. Green Building Council.

Key Intended Outcome Supported:

Enhance the Environmental Sustainability of the Community.

Supporting Data (Surveys, Environmental Scan, etc.): N/A

Issue:

Shall the Mayor and City Commission approve the Ordinance?

Item Summary/Recommendation:

SECOND READING/PUBLIC HEARING

The attached Ordinance proposes a Leadership in Energy and Environment Design (LEED) system for buildings in the City of Miami Beach. LEED is a building rating system which recognizes and encourages sustainable/green building and development practices. The LEED rating and certification system is intended to enhance energy conservation, encourage reuse and use of recycled materials and encourage operating practices that are environmentally friendly.

The LEED building rating system was developed by the United States Green Building Council (USGBC) in 1998.

The Ordinance would establish a voluntary LEED Building Rating System for private development.

The Ordinance language mirrors an existing requirement in Section 255.2575, Florida Statutes (2008) for City buildings that all new municipal buildings for which design began after July 1, 2008 be LEED certified.

The Ordinance provides for incentives both in terms of the time associated with processing an application for green buildings in the City's permitting review and approval process, and also potentially financial incentives.

The LEED certification process for construction is a recognized and objective tool to assess a project's compliance with established enhanced environmental practices. Buildings that are LEED certified are ultimately more friendly to the environment and in the long-term will benefit the overall environmental health of the community through energy waste, and water consumption reduction. As there is typically a reduction in operating expenses associated with LEED certified buildings, the investment in a building to have an achieved LEED certification is also recovered. Through the provision of both time and possibly monetary incentives, the recommended model for the City of a voluntary program is a good starting point for City engagement in environmentally enhanced buildings.

Advisory Board Recommendation:

N/A

Financial Information:

OBPI	Total		

Fiscal Impact: Limited to the appropriation, if any, in a fiscal year per the City Commission approval in the budget process.

City Clerk's Office Legislative Tracking:

Robert C. Middaugh, Assistant City Manager

Sign-Offs:

Department Director	Assistant City Manager	City Manager

T:\AGENDA\2009\April 22\Regular\LeedOrdSum4-22-09.doc

MIAMIBEACH

AGENDA ITEM R5B
DATE 4-22-09

MIAMIBEACH

City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

COMMISSION MEMORANDUM

TO: Mayor Matti Herrera Bower and Members of the City Commission

FROM: Jorge M. Gonzalez, City Manager

DATE: April 22, 2009

SECOND READING PUBLIC HEARING

SUBJECT: **AN ORDINANCE OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA AMENDING THE CITY CODE OF THE CITY OF MIAMI BEACH, BY CREATING NEW CHAPTER 100, ENTITLED "SUSTAINABILITY," BY CREATING NEW ARTICLE I, "GREEN BUILDING ORDINANCE," ESTABLISHING DEFINITIONS, STANDARDS, PROCEDURES AND INCENTIVES PROVIDING FOR PROPERTY OWNER VOLUNTARY PARTICIPATION, AND CITY MANDATORY PARTICIPATION, IN THE LEED CERTIFICATION PROGRAM AS ESTABLISHED BY THE U.S. GREEN BUILDING COUNCIL OR OTHER RECOGNIZED RATING SYSTEM, FOR NEW CONSTRUCTION OR SUBSTANTIAL RENOVATIONS AS PROVIDED IN THE ORDINANCE, PROVIDING FOR A BOND TO GUARANTEE PARTICIPATION IN THE PROGRAM IF A PROPERTY OWNER RECEIVES INCENTIVES, AND PROCEDURES FOR USE OF THE BOND FOR FAILURE TO SO PARTICIPATE; PROVIDING FOR REPEALER; SEVERABILITY; CODIFICATION; AND AN EFFECTIVE DATE.**

ADMINISTRATION RECOMMENDATION

Approve the Ordinance.

BACKGROUND

The attached Ordinance proposes adopting a Leadership in Energy and Environment Design (LEED) system for buildings in the City of Miami Beach. LEED is a building rating system which recognizes and encourages sustainable/green building development, construction and management practices. The LEED rating and certification system is intended to enhance energy conservation, encourage use of recycled materials and encourage operating practices that are environmentally friendly.

The LEED building rating system was developed by the United States Green Building Council (USGBC) in 1998 and has systematically evolved and improved to an internationally recognized standard to encourage and assess the actual performance of green building development.

The USGBC is a national organization of volunteers founded to represent the building industry on environmental building matters. Information about the USGBC is found in Exhibit 1.

In order to participate in the LEED Building Rating System, a building owner must make an application to the USGBC for participation. The applicant pays a registration and review fee of approximately $3,000.00 to the USGBC for the assessment of the building project and the certification completed at the end of the project. The LEED Building Rating System is organized around six different areas for which a building can achieve points toward a certification. LEED certification comes in basic certification, silver, gold and platinum levels.

The six project areas are found in the project checklist, Exhibit 2. This exhibit depicts the points associated with the rating areas of: sustainable site, water efficiency, energy and the atmosphere, material and resources, indoor environmental quality, and innovation and design processes. In the ranking process, a total of 69 points is the maximum that can be achieved and the minimum to achieve the silver level is 33 points.

Each project is reviewed by the USGBC to determine which of the credits or project points are appropriate and achievable for the specific building. These agreed upon credit and point areas are then pursued by the builder/developer in the design, construction and management phases. At the conclusion of the building process and the actual commencement of operation of the building, the building is reassessed by the USGBC (or a certified reviewer on its behalf) to determine if the points and credit areas have actually been accomplished.

As the project checklist indicates, there are a number of different possible credits within the general rating areas of the LEED certification. For example: in the area of sustainable sites there are fourteen (14) possible points that can be achieved by a building/development. Generally, each specific credit area within the more general rating area provides a builder/developer several different methods to achieve the credit and earn the appropriate point. Exhibit 3 indicates one (1) typical credit area, storm water design, that illustrates two (2) different options for a building/developer to achieve the credit associated within this specific area. The credit criteria are very specific as to how the credit is calculated and the nature of the documentation that is required in order for the builder/developer to achieve compliance for this particular credit.

Achieving compliance with LEED standards typically costs a builder/developer more than ordinary design and construction. While there is no precise measurement, industry estimates are that 5% to 7% in additional costs may be experienced in making a building LEED certified. By the same token, buildings that are LEED certified typically consume less energy and therefore over time are less expensive to operate than conventional construction.

LEED Ordinance Overview

The attached Ordinance would establish a voluntary LEED Building Rating System for private development. While mandatory LEED participation was discussed by the Land Use and Development Committee, it was determined that the initial effort of the City would be more positive and less complicated if a voluntary participation based system was implemented.

As the system is voluntary there is no minimum building size for which the LEED program would be made available. Any building project, residential or commercial, substantial renovation or new construction would be eligible to participate in the LEED certification process. The voluntary approach is more expansive and more inclusive of a range of

buildings in the City than a mandatory program would allow. In a mandatory participation approach typically single family residences and smaller projects are excluded because of the costs of compliance and/or participation. In the voluntary model each building/developer can determine if they wish to participate as their specific project allows.

The Ordinance language mirrors an existing requirement in Section 255.2575, Florida Statutes (2008) for City buildings that all new municipal buildings for which design began after July 1, 2008 be LEED certified. LEED certification for substantial renovations of municipal buildings is not required by statute and thus not part of the Ordinance.

A modification made by the City Commission at 1st Reading was to change the level of LEED certification from the lowest certified level, to the second or silver certification level.

The key to the City's LEED Ordinance and its success on a voluntary basis is found in the different incentives that are built into the Ordinance. The Ordinance provides for incentives both in terms of the time associated with processing an application for green buildings in the City's permitting review and approval process, and also potentially financial incentives. Each of these two incentive areas will be addressed separately.

LEED Time Incentives

The LEED Ordinance anticipates that individuals who elect to participate in the program will be eligible to have prioritized review in the Building development permitting process. This was a change made by the City Commission at 1st Reading of the LEED Ordinance. The original Ordinance created a priority review through the entire Land Use Board approval process. By providing this prioritization during the review process, any particular project may save weeks in processing time as opposed to traditional processing in the queue with other projects and developments.

In order to ensure that this time incentive is not abused, the Ordinance also requires that in order to receive incentives each building/developer post a bond. The bond is intended to ensure that a project does not take advantage of the time incentive or the financial incentive, if appropriate, and then fail to achieve the LEED certification at the end of the process.

The Land Use and Development Committee discussed at some length the appropriate level of bond amount in order to assure that the incentives offered are not abused. Initial drafts of the Ordinance contained a percentage of construction (3% for example). At the 1st Reading, the City Commission agreed that a 1% of construction cost bond would be appropriate, which is reflected now in the Ordinance.

LEED Financial Incentives

The attached Ordinance also makes provisions for a financial incentive associated with achieving the LEED certification. A variety of different options were discussed by the Land Use and Development Committee and the Administration. No consensus was achieved by the Land Use and Development Committee and the Administration was asked to propose a model which could be discussed at the full Commission level.

Original discussions revolved around either providing a rebate of some percent of the building permit fees and/or creating a fund through a surcharge mechanism from which a financial incentive could be provided to a builder/developer. In the Administration's assessment of the use of building fees, it has been deemed that a rebate of those fees is not allowed to achieve an incentive as anticipated in the LEED program. Building fees are specifically earmarked to provide payment to the City for services directly related to the building inspection and review process. LEED, while a worthy and desirable community goal, is not an eligible subject matter for use of building permit fees as it would require one project to subsidize another project.

The idea of imposing a surcharge fee on the building process was also discarded by the Administration as unfeasible, as it would be difficult to document the basis for the fee. The economic disincentive associated with a surcharge was not seen as desirable, particularly in these economic conditions.

The Ordinance proposes a model which is intended to specifically limit the City's exposure for annual expenditures in achieving the goals associated with the LEED Ordinance. The City Commission, by annual resolution in the budget process, would appropriate a precise amount of funds that would be allocated and available for financial incentives for projects that achieve a LEED Certification. As such, the specific financial impact of the Ordinance is established and known by the City Commission in each budget cycle. As the level of annual expenditure is proposed to be reviewed and assessed in the budget cycle, the City Commission also has the opportunity of comparing the priority of a LEED incentive expenditure with other priorities which will be contained in the annual budget.

The financial incentives shown in the ordinance are intended to help offset the cost of application and review for LEED certification and a percentage of added costs incurred in building to LEED standards.

Application and review costs for LEED certification are approximately $3,000 per project. This is inclusive of the registration design and construction review costs that are charged by the USBGC.

Projects that pursue LEED certification typically incur an increase in construction costs of 5-7%. In order to help offset some of this incremental cost increase, a grant of up to 5% of the added cost is suggested. For a project costing $3.5 million, the cost of LEED certification may be approximately $200,000. With the financial incentive of 5%, the project would be eligible to receive $10,000 as a cost offset. When added to the application and review incentive, the project ($3.5 million construction cost example) would be eligible to receive $13,000.

It is also suggested that a maximum incentive of 20% of the total annual appropriation be established for any one project. This limit would ensure that no one project would consume the resources available in a given year.

It is important to note that in the event the City Commission does not choose to allocate the monetary resources in a fiscal year, the LEED certification and incentive process can still function solely on the basis of the time incentive that is provided within the Ordinance. While the financial incentive is also helpful, as indicated earlier, for buildings that do become LEED certified, over the long term operational expenses are typically less than normal buildings and the investment costs associated with accomplishing a LEED certification will be earned back over time.

In this and perhaps several fiscal years, it may be unrealistic to expect to be able to allocate funds to the LEED program financial incentives. As energy and environmental related grant funds become available in the future, that may be the best or a more likely source of funds for the program. The current economic stimulus package anticipates some funding for energy conservation and green related projects. While the initial round of funding is intended to be used quickly, subsequent funding rounds may be available for the City to secure funds for the financial component of the LEED incentives.

Other Implementation Issues

The Administration has reviewed the implementation of this Ordinance, and believes that there are only incremental costs associated with implementation. The building development

review process functions largely the same in a LEED eligible project in terms of the amount of time or attention that is paid to the project by the Administrative staff. The amount of design and plan review and building inspection remains relatively unchanged for a LEED project.

One item, which is a cost of implementation and required in the Ordinance, is to have qualified staff in the Building, Planning and Public Works Departments to assess and to assist with the project developments. This is an incremental and annual cost. To date the Building Department has already has four (4) people in training, one of which has been LEED accredited. The Public Works Department has two (2) persons undergoing the training and the Planning Department is anticipated to have staff trained in the near future.

CONCLUSION

The LEED certification process for construction is a recognized and objective tool to assess a project's compliance with established enhanced environmental practices. Buildings that are LEED certified are ultimately more friendly to the environment and in the long-term will benefit the overall environmental health of the community through energy, waste, and water consumption reductions. As there is typically a reduction in operating expenses associated with LEED certified buildings, the investment in a building to have an achieved LEED certification is also recovered. Through the provision of both time and possibly monetary incentives, the recommended model for the City of a voluntary program is a good starting point for City engagement in environmentally enhanced buildings. At some point in the future, the City Commission may wish to consider making the program mandatory as sustainable development practices become more wide spread and easier to achieve. The Administration recommends approval of the Ordinance.

JMG\RCM\sam
T:\AGENDA\2009\April 22\Regular\LeedOrdCommemo4-22-09.doc

Attachments

GREEN BUILDING ORDINANCE

ORDINANCE NO. _____

AN ORDINANCE OF THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA AMENDING THE CITY CODE OF THE CITY OF MIAMI BEACH, BY CREATING NEW CHAPTER 100, ENTITLED "SUSTAINABILITY," BY CREATING NEW ARTICLE I, "GREEN BUILDING ORDINANCE," ESTABLISHING DEFINITIONS, STANDARDS, PROCEDURES AND INCENTIVES PROVIDING FOR PROPERTY OWNER VOLUNTARY PARTICIPATION, AND CITY MANDATORY PARTICIPATION, IN THE LEED CERTIFICATION PROGRAM AS ESTABLISHED BY THE U.S. GREEN BUILDING COUNCIL OR OTHER RECOGNIZED RATING SYSTEM, FOR NEW CONSTRUCTION OR SUBSTANTIAL RENOVATIONS AS PROVIDED IN THE ORDINANCE, PROVIDING FOR A BOND TO GUARANTEE PARTICIPATION IN THE PROGRAM IF A PROPERTY OWNER RECEIVES INCENTIVES, AND PROCEDURES FOR USE OF THE BOND FOR FAILURE TO SO PARTICIPATE; PROVIDING FOR REPEALER; SEVERABILITY; CODIFICATION; AND AN EFFECTIVE DATE.

WHEREAS, a green building, also known as a sustainable building, is a structure that is designed, built, renovated, operated, or reused in an ecological and resource-efficient manner; and

WHEREAS, the Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council ("USGBC") provides standards for environmentally sustainable construction; and

WHEREAS, since its inception in 1998, LEED has grown to encompass over 14,000 projects in 50 U.S. States and 30 countries covering 1.062 billion square feet (99 km²) of development area; and

WHEREAS, the hallmark of LEED is that it is an open and transparent process where the technical criteria proposed by the LEED committees are publicly reviewed for approval by the more than 10,000 membership organizations that currently constitute the USGBC; and

WHEREAS, the USGBC reports the following benefits of green building construction:

Environmental benefits: enhances and protects ecosystems and biodiversity, improves air and water quality, reduces solid wastes, conserves natural resources; and

Economic benefits: Reduces operating costs, enhances asset value and profits, improves employee productivity and satisfaction, optimizes life-cycle economic performance; and

Health and community benefits: improves air, thermal, and acoustic environments, enhances occupant comfort and health, minimizes strain on local infrastructure, and contributes to overall quality of life; and

WHEREAS, the City Commission has determined that due to the benefits determined by the USGBC above and otherwise documented by that organization, it is in the public health, safety and welfare of the citizens, residents and workers in Miami Beach to provide an incentive program for private new construction and substantial renovations, and a mandatory program for City-owned new construction, as provided below; and

WHEREAS, the Florida Legislature has also imposed a mandatory requirement for LEED or similar certification for municipal buildings the architectural plans for which are commenced after July 1, 2008, in section 255.2575, Florida Statutes; and

WHEREAS, this ordinance is hereby adopted to initiate such LEED program for the reasons herein stated.

NOW THEREFORE, BE IT ORDAINED BY THE MAYOR AND CITY COMMISSION OF THE CITY OF MIAMI BEACH, FLORIDA.

SECTION 1. That City Code Chapter 100, entitled "Sustainability," Article I, "Green Building Ordinance," is hereby created as follows:

Chapter 100
Sustainability

Article I. Green Building Ordinance.

Sec. 100-1. Definitions.

The following words, terms and phrases, when used in this Article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning, or as may be amended from time to time.

Building means any structure having a roof supported by columns or walls for the shelter or enclosure of persons or property and includes the word structure and includes any part thereof.

City means City of Miami Beach.

Construction means any project associated with the creation, development, or erection of any building eligible for the program.

Current means the standard in place at the time a program participant submits a project application form with the City.

Green Building means a building whose design, construction and operation promote the preservation of resources and environmentally sensitive construction practices, systems and materials. In making the determination of whether a structure is a green building, the City shall rely on the review, evaluation and registration, certificate and/or verification of the design by U.S. Green Building Council, or other recognized green building rating system approved by resolution of the City Commission, subject to the requirements of this ordinance.

Green Building Program means the program outlined in this ordinance for obtaining incentives for green buildings and developments.

Green Development means the use of sustainable building and development planning methods utilized in a way that result in minimum impact on natural resources, energy consumption, use of water, use of raw materials and waste generation, thereby affording inhabitants a potentially higher quality of life.

LEED means Leadership in Energy and Environmental Design (LEED) Green Building Rating System, developed by the U.S. Green Building Council, or other recognized green building rating system approved by resolution of the City Commission.

Participant means private property owners.

Private means property not owned by the City or any of its related agencies.

Program means the City's Green Building Program.

Program Certification means the final designation awarded to a program participant for satisfying all requirements associated with the program for a particular project.

Program Participant means any person or entity seeking program certification for a particular project.

Project means any construction associated with the creation, development, or erection of any building eligible for the program.

Project Application Form means the form submitted to the City indicating that a program participant is interested in participating in the program for a particular project.

Structure means anything constructed or erected, the use of which requires permanent location on the ground. Among other things, structures include buildings or any parts thereof, walls, fences, parking garages, parking lots, signs and screen enclosures.

Sub-program means any area of construction covered by the program.

Substantial Renovation means a renovation at a cost exceeding 50 percent of the value of the building as determined by the building official.

Sustainable Construction means the process of environmentally sensitive, resource efficient site selection, preparation, design, construction, and operation of buildings.

Any word not defined herein shall be construed as provided in section 114-1 of this Code, or in the Florida Building Code, if provided therein, and if in conflict, the most restrictive shall apply.

Sec. 100-2. Purpose and intent.

The purpose of this ordinance is to establish and promote programs and procedures that will help the City become a more sustainable community. This program shall define and establish new environmental goals and standards for a LEED certification-based Green Building Program with incentives. This program will promote economic and environmental health in the City, through sustainable and environmentally friendly ~~the~~ design and construction.

Sec. 100-3. Government leadership.

To demonstrate the City's commitment to a Green Building Program, the City shall comply with the Green Building Program established in this Article for all government buildings when new construction as provided for in this ordinance occurs.

Sec. 100-4. Designation of responsibility for administration and implementation.

The program shall be administered by the City Manager or designee, who shall be responsible for:

(a) Funding administration of the City's Green Building Program through annual funds budgeted and appropriated by the City Commission;
(b) Marketing the program to the community by any reasonably effective means, including but not limited to press releases, television advertising, or advertising in electronic or print mailers;
(c) Developing any appropriate or necessary application procedures, including but not limited to, the program application form;
(d) Writing policies and procedures for staff implementation of the Green Building Program;
(e) Providing and implementing an incentive award as herein provided to any program participant who has committed to and/or successfully satisfied the requirements associated with that program; and
(f) Resolving disputes that may arise from implementing the program.

Sec. 100-5. Green building program applicability.

This program shall be voluntary for all private buildings involving new construction or substantial renovation. This program shall be mandatory for City-

owned buildings involving new construction and the architectural plans for which were commenced after July 1, 2008.

Sec 100-6. Green building standards.

In addition to the Florida Building Code's minimum standards, the Program shall be administered using the then current standards developed by the U.S. Green Building Council ("USGBC"). These standards shall apply to each sub-program as follows.

(a) New buildings: The program participant shall satisfy all of the requirements associated with the then current USGBC LEED SILVER certification for New Construction or derived USGBC LEED rating system (e.g., LEED for Schools, LEED for Health Care) program; and

(b) Renovation of existing buildings: The program participant shall satisfy all of the requirements associated with the then current USBGC LEED SILVER certification for Existing Buildings, Maintenance & Operations, or derived USGBC LEED rating system (e.g., LEED for Schools, LEED for Health Care) program.

If there is a conflict between the USGBC standards and the Florida Building Code ("FBC") or Florida Fire Prevention Code ("FFPC"), the FBC and FFPC take precedence.

Sec. 100-7. Incentives and bond requirement.

(a) The program shall consist of the following incentives designed to reward owners for green building.

(i) Building permit applications for a green building project submitted or resubmitted for review shall be given priority review over projects that are not green building projects by the City's departments reviewing such applications

(ii) All building inspections requested for green building projects shall be given priority over projects that are not green building projects; and

(iii) Subject to, and within the limits of funds appropriated annually by resolution of the City Commission for the purposes set forth herein, owners or developers of green buildings shall receive a refund of the actual application and review fees for Green Building Program certification and an amount not greater than five (5) per cent of the incremental cost of making the building compliant with LEED SILVER standards, or alternatively twenty (20) per cent of the annual allocation, whichever is less, within 180 days of proof of certification by USGBC being submitted in writing to the City. The actual amount of financial incentives to which the applicant might qualify for shall be estimated at the time of issuance of the building permit for the qualifying project, and held in reserve. The final financial incentives shall be calculated at the time of LEED certification.

(b) In addition to the foregoing, the City shall provide the following marketing incentives:

(i) Allowing a plaque not to exceed two square feet to be attached to the building designating a project under the program, subject to the review and approval of the City Manager or designee and the Planning Department; such

plaque shall be treated as a governmental information sign exempt from permitting but subject to other regulations, as provided in section 138-4(1), City Code;

(ii) The inclusion of program participants on a city webpage dedicated to the program;

(iii) Press releases; and

(iv) An award called the "Green Building Award" to be awarded annually to one program participant in each sub-program (e.g., new construction and renovation).

(c) Prior to filing an application for building permit, or any award of incentives, the participant shall register their intent with the USGBC for LEED certification and obtain in writing a proposed checklist of certification points that may be attainable for the project. The participant shall then be required to attend a pre-application meeting with the City Manager or designee for the purpose of a review of the proposed certification checklist and detail of proposed credits for certification and incentives. The checklist and certification details shall be confirmed in writing by the applicant to the City Manager or designee, on forms established by the City, and through a covenant, recorded in the public records, form approved by the City Attorney, between the property owner and the City that the proposed manner of compliance with LEED certification as provided by the program guidelines, policies and procedures will be incorporated into the development and maintained unless released by the City as provided for in the covenant. The participant will provide a performance bond or other security, in a form approved by the City Attorney, as follows:

i. The bond or security shall be in an amount equal to one (1) per cent of the value of the proposed construction as determined by the building official;

ii. The bond or security shall be submitted at the time of filing of any application for review of the project by a City board or department, if the applicant seeks any of the incentives provided in subparagraph (a) above;

iii. This bond or security shall be subject to call by the City 180 days from issuance of the certificate of occupancy or certificate of completion, whichever occurs first, if LEED certification has not been achieved by that time. Reasonable extensions of time may be granted by the City Manager or designee;

iv. The applicant may request that up to 75% of the bond or security be released to the applicant for the purpose of completing improvements necessary for LEED certification, if a good faith effort towards completion is shown, and reasonable assurance provided on the success of plans to complete the LEED certification process, and a failure to complete the improvements is proven to the City Manager or designee was no fault of the property owner, or for other good cause shown;

v. If the applicant takes advantage of any of the incentives provided for herein, and fails to complete LEED certification as committed to, then the City Manager or designee, in his or her sole discretion, shall deem such bond or security forfeited to the city as a contribution to the funding of the City's Green Building Program, designated to fund the LEED program objectives as provided for herein, or any other lawful governmental purpose identified by the City Commission; and

vi. If the project receives LEED certification prior to the expiration of the 180 day period provided for above, or extensions of time granted by the Manager or designee, and the bond has not been forfeited as provided above, then the bond may be released following submittal to the City of written proof of LEED certification by the USGBC.

Sec. 100-8. Certification.
The project shall be subject to certification by a qualified independent third party who has been trained and certified as a LEED green building certifier. For the purpose of this section of the program, "third party" means any person or entity authorized according to the requirements of the standards in this Article for a particular project.

Sec. 100-9. Education and training.
(a) The City shall conduct at least one training workshop per year for the purpose of educating potential or current program participants about the program.

(b) The City shall encourage not less than two members each of the building, planning department and public works staff to attend at least 8 hours of green building training a year.

Sec. 100-10. Index and report.
The City Manager shall annually analyze and report to the City Commission on the satisfaction of the Green Building Program's goals and objectives as outlined in this Article.

Sec. 100-11. Program review.
(a) Staff review. The City shall provide for a review of the program to determine the need for changes in the program to increase its effectiveness.
(b) Frequency. The program shall be subject to review one year after the effective date of this ordinance and thereafter at a frequency of not less than once per year.
(c) Purpose. The purpose of reviewing the program includes but is not limited to updating program standards and incentives, recommending program or marketing changes, reviewing suggestions made by program participants, and annually awarding the green building awards of the program.

SECTION 2. Repealer.
All ordinances or parts of ordinances and all section and parts of sections in conflict herewith be and the same are hereby repealed.

SECTION 3. Codification.
It is the intention of the City Commission, and it is hereby ordained that the provisions of this ordinance shall become and be made part of the Code of the City of Miami Beach as amended; that the sections of this ordinance may be

renumbered or relettered to accomplish such intention; and that the word "ordinance" may be changed to "section" or other appropriate word.

SECTION 4. Severability.
If any section, subsection, clause or provision of this Ordinance is held invalid, the remainder shall not be affected by such invalidity.

SECTION 5. Effective Date.
This Ordinance shall take effect ten days following adoption.

PASSED and **ADOPTED** this _____ day of _____, 2009.

_____

MAYOR

ATTEST:

_____
CITY CLERK

First Reading:
Second Reading:

APPROVED AS TO
FORM AND LANGUAGE
& FOR EXECUTION

_____ City Attorney

4/14/09
Date

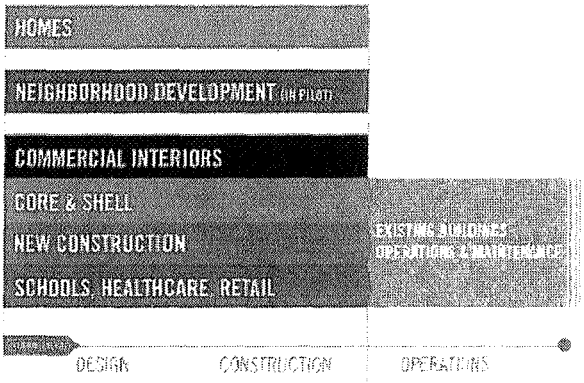
Underscore denotes new language
~~Strikethrough~~ denotes deleted language

F:\atto\HELG\Ordinances\Green\2009\Green Building ordinance 04102009.doc

LEED Rating Systems

What is LEED®?

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.



LEED is a third-party certification program and the nationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

Who uses LEED?

Architects, real estate professionals, facility managers, engineers, interior designers, landscape architects, construction managers, lenders and government officials all use LEED to help transform the built environment to sustainability. State and local governments across the country are adopting LEED for public-owned and public-funded buildings; there are LEED initiatives in federal agencies, including the Departments of Defense, Agriculture, Energy, and State; and LEED projects are in progress in 41 different countries, including Canada, Brazil, Mexico and India.

How is LEED Developed?

LEED Rating Systems are developed through an open, consensus-based process led by LEED committees. Each volunteer committee is composed of a diverse group of practitioners and experts representing a cross-section of the building and construction industry. The key elements of USGBC's consensus process include a balanced and transparent committee structure, technical advisory groups that ensure scientific consistency and rigor, opportunities for stakeholder comment and review, member ballot of new rating systems, and a fair and open appeals process.

LEED Rating Systems

New Construction
LEED for New Construction and Major Renovations is designed to guide and distinguish high-performance commercial and institutional projects.

Existing Buildings: Operations & Maintenance
LEED for Existing Buildings: Operations & Maintenance provides a benchmark for building owners and operators to measure operations, improvements and maintenance.

Commercial Interiors
LEED for Commercial Interiors is a benchmark for the tenant improvement market that gives the power to make sustainable choices to tenants and designers.

Core & Shell
LEED for Core & Shell aids designers, builders, developers and new building owners in implementing sustainable design for new core and shell construction.

Schools
LEED for Schools recognizes the unique nature of the design and construction of K-12 schools and addresses the specific needs of school spaces.

Retail
LEED for Retail recognizes the unique nature of retail design and construction projects and addresses the specific needs of retail spaces.

Healthcare
LEED for Healthcare promotes sustainable planning, design and construction for high-performance healthcare facilities.

Homes
LEED for Homes promotes the design and construction of high-performance green homes.

Neighborhood Development
LEED for Neighborhood Development integrates the principles of smart growth, urbanism and green building into the first national program for neighborhood design.

LEED Rating System Drafts
Review and comment on proposed final drafts of new and updated LEED Rating Systems.

LEED Frequently Asked Questions
This is a great resource for first time LEED users and experienced project team members alike.

EXHIBIT 1

The U.S. Green Building Council (USGBC) is a 501(c)(3) nonprofit membership organization with a vision of a sustainable built environment within a generation. Its membership includes corporations, builders, universities, government agencies, and other nonprofit organizations. USGBC is dedicated to expanding green building practices and education, and its LEED® (Leadership in Energy and Environmental Design) Green Building Rating System™.

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a voluntary, consensus-based national rating system for developing high-performance, sustainable buildings. LEED addresses all building types and emphasizes state-of-the-art strategies in five areas: sustainable site development, water savings, energy efficiency, materials and resources selection, and indoor environmental quality.

LEED Accredited Professionals (LEED APs) have demonstrated a thorough understanding of green building techniques, the LEED Green Building Rating System, and the certification process. The LEED AP program is administered by the Green Building Certification Institute (GBCI), which was established with the support of USGBC to allow for objective, balanced management of the credentialing program.

Introduction

I. Why Make Your Building Green?

The environmental impact of the building design, construction and operation industry is significant. Buildings annually consume more than 30% of the total energy and more than 60% of the electricity used in the U.S. Each day five billion gallons of potable water is used soley to flush toilets. A typical North American commercial construction project generates up to 2.5 pounds of solid waste per square foot of completed floor space. Development shifts land usage away from natural, biologically-diverse habitats to hardscape that is impervious and devoid of biodiversity. The far reaching influence of the built environment necessitates action to reduce its impact.

Green building practices can substantially reduce or eliminate negative environmental impacts and improve existing unsustainable design, construction and operational practices. As an added benefit, green design measures reduce operating costs, enhance building marketability, increase worker productivity, and reduce potential liability resulting from indoor air quality problems. For example, energy efficiency measures have reduced operating expenses of the Denver Dry Goods building by approximately $75,000 per year. Students in day-lit schools in North Carolina consistently score higher on tests than students in schools using conventional lighting fixtures. Studies of workers in green buildings reported productivity gains of up to 16%, including reductions in absenteeism and improved work quality, based on "people-friendly" green design. At a grocery store in Spokane, Washington, waste management costs were reduced by 56% and 48 tons of waste was recycled during construction. In other words, green design has environmental, economic and social elements that benefit all building stakeholders, including owners, occupants and the general public.

II. LEED® Green Building Rating System

A. History of LEED®

The first LEED (Leadership in Energy and Environmental Design) Pilot Project Program following the formation of the U.S. Green Building Council (USGBC) in 1993, the membership quickly realized that a priority for the sustainable building industry was to have a system to define and measure "green buildings." The USGBC began to research existing green building metrics and rating systems. Less than a year after formation, the membership followed up on the initial findings with the establishment of a committee to focus solely on this topic. The diverse initial composition of the committee included architects, realtors, a building owner, a lawyer, an environmentalist and industry representatives. This cross section of people and professions added a richness and depth both to the process and to the ultimate product.

The first LEED Pilot Project Program, also referred to as LEED Version 1.0, was launched at the USGBC Membership Summit in August 1998. After extensive modifications, the LEED Green Building Rating System Version 2.0 was released in March 2000. This rating system is now called the LEED Green Building Rating System for New Commercial Construction and Major Renovations, or LEED for New Construction.

As LEED has evolved and matured, the program has undertaken new initiatives. In addition to a rating system specifically devoted to building operational and

LEED for New Construction is part of the growing portfolio of rating system products serving specific market sectors.

B. Features of LEED®

The LEED Green Building Rating System is a voluntary, consensus-based, market-driven building rating system based on existing proven technology. It evaluates environmental performance from a whole building perspective over a building's life cycle, providing a definitive standard for what constitutes a "green building." The development of the LEED Green Building Rating System was initiated by the USGBC Membership, representing all segments of the building industry and has been open to public scrutiny.

The rating system is organized into five environmental categories: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, and Indoor Environmental Quality. An additional category, Innovation & Design Process, addresses sustainable building expertise as well as design measures not covered under the five environmental categories.

LEED is a measurement system designed for rating new and existing commercial, institutional and residential buildings. It is based on accepted energy and environmental principles and strikes a balance between known established practices and emerging concepts.

It is a performance-oriented system where credits are earned for satisfying criterion designed to address specific environmental impacts inherent in the design, construction and operations and maintenance of buildings. Different levels of green building certification are awarded based on the total credits earned. The system is designed to be comprehensive in scope, yet simple in operation.

C. The Future of LEED

The green design field is growing and changing daily. New technologies and products are coming into the marketplace and innovative designs are proving their effectiveness. Therefore, the Rating System and the Reference Guide will evolve as well. Teams wishing to certify with LEED should note that they will need to comply with the version of the rating system that is current at the time of their registration.

USGBC will highlight new developments on its Web site on a continuous basis at www.usgbc.org.

III. LEED for New Construction Overview and Process

The LEED Green Building Rating System for New Construction and Major Renovation (formerly referred to as LEED-NC) provides a set of performance standards for certifying the design and construction phases of commercial, institutional buildings, and high-rise residential buildings. The specific credits in the rating system provide guidelines for the design and construction of buildings of all sizes in both the public and private sectors. The intent of LEED for New Construction is to assist in the creation of high performance, healthful, durable, affordable and environmentally sound commercial and institutional buildings.

LEED for New Construction addresses:

- ❑ Sustainable Sites
- ❑ Water Efficiency
- ❑ Energy & Atmosphere
- ❑ Materials & Resources
- ❑ Indoor Environmental Quality
- ❑ Innovation in Design

A. When to Use LEED for New Construction

LEED for New Construction was designed primarily for new commercial office buildings, but it has been applied to many other building types by LEED

practitioners. All commercial buildings, as defined by standard building codes, are eligible for certification as a LEED for New Construction building. Commercial occupancies include (but are not limited to) offices, retail and service establishments, institutional buildings (libraries, schools, museums, churches, etc.), hotels and residential buildings of four or more habitable stories.

LEED for New Construction addresses design and construction activities for both new buildings and major renovations of existing buildings. The LEED Green Building Rating System for Existing Buildings is designed to address operational and maintenance issues of working buildings. Therefore, if you are performing a major renovation on an existing building, LEED for New Construction is the most appropriate rating system for your project. If however, your project scope does not involve significant design and construction activities and focuses more on O&M activities, LEED for Existing Buildings is the most appropriate tool for your project. As a general rule of thumb, a major renovation involves elements of major HVAC renovation, significant envelope modifications and major interior rehabilitation.

Many projects will cleanly and clearly fit the defined scope of only one LEED Rating System product. For other projects, two or more LEED Rating System products may be applicable. USGBC encourages the project team to tally a potential point total using the Rating System checklists for all possibilities. The project is a viable candidate for LEED certification if it can meet all prerequisites and achieve the minimum points required in a given Rating System. If more than one Rating System applies, then it is up to the project team to decide which one to pursue. For assistance in choosing the most appropriate LEED Rating System, please e-mail leedinfo@usgbc.org.

B. LEED for New Construction Registration

Project teams interested in obtaining LEED Certification for their project must first register this intent with USGBC. Projects can be registered on the USGBC Web site (www.usgbc.org) in the LEED section, under Register Your Project. The Web site includes information on registration costs for USGBC member companies as well as non-members. Registration is an important step that establishes contact with USGBC and provides access to LEED-Online software tool, errata, critical communications and other essential information.

About LEED-Online

As of January 2006, project teams pursuing LEED for New Construction certification under Version 2.2 are required to use LEED-Online, which enables teams to submit 100% of their documentation online in an easy-to-use format. LEED-Online stores all LEED information, resources, and support in one centralized location. LEED-Online enables team members to upload credit templates, track Credit Interpretation Requests (CIRs), manage key project details, contact customer service, and communicate with reviewers throughout the design and construction reviews.

C. Credit Interpretation Rulings

In some cases, the design team may encounter challenges in applying a LEED for New Construction prerequisite or credit to their particular project. These difficulties arise from instances where the Reference Guide does not sufficiently address a specific issue or there is a special conflict that requires resolution. To address such issues, the USGBC has established the LEED for New Construction Version 2.2 Credit Interpretation Ruling (CIR) process (separate from the CIR page for version 2.0 and 2.1 CIRs). See the LEED for New Construction section of the USGBC Web site for more information

at www.usgbc.org. Credit rulings posted after the registration date may be applied by the project team at their choosing (exception: the project's own CIRs must always be adhered to).

The Credit Interpretation process is summarized as follows:

1. Project teams should review the CIR webpage to read previously posted credit interpretation requests and USGBC responses. Many questions can be resolved by reviewing existing CIRs and the Reference Guide. Note that CIRs for other rating systems (LEED for Existing Buildings, LEED for Commercial Interiors and past versions of LEED for New Construction) are not necessarily applicable.
2. If no existing Credit Interpretation Rulings are relevant to the project, the LEED project team should submit an on-line credit interpretation request. The description of the challenge encountered by the project team should be brief but explicit; should be based on prerequisite or credit information found in the Rating System and Reference Guide; and should place a special emphasis on the Intent of the prerequisite or credit. If possible, the project team should offer potential solutions to the problem and solicit approval or rejection of their proposed interpretation. Follow the detailed instructions in the "CIR Guidelines" document available on the CIR Web page in the LEED section of the USGBC Web site.
3. USGBC will rule on your request electronically according to the posted schedule, either through a posting on the CIR Page or via e-mail correspondence.

D. LEED for New Construction Application

Once a project is registered, the project design team begins to collect information and perform calculations to satisfy the prerequisite and credit submittal requirements. Since submittal documentation should be gathered throughout design and construction, it is helpful to designate a LEED team leader who is responsible for managing the compilation of this information by the project team. Use the LEED-Online Submittal Templates that are provided through the LEED project resources Web page located in the LEED section of the USGBC Web site. These templates contain embedded calculators, and are instrumental in documenting fulfillment of credit requirements and prompting for correct and complete supporting information.

Two-Phase Application

A new feature of LEED for New Construction v2.2 is the option of splitting a certification application into two phases. Rather than submitting all documentation for a project at the end of the construction phase, project teams will be able to submit designated "design phase credits" at the end of the design phase for review by USGBC. Design phase credits are those credits that USGBC can reasonably adjudicate based on design phase documentation. For example, if a project site meets the LEED for New Construction Sustainable Sites Credit 3: Brownfield Redevelopment Requirements, USGBC can assess the likelihood of the project achieving this credit prior to the completion of construction. It is important to remember that LEED credit is not awarded at the design review stage. Project teams are notified of the likelihood that their project will achieve a LEED credit if construction is executed in accordance with design phase plans. Projects must submit verification that design elements were implemented as planned after completion of construction. A list of the potential design phase credits can be found in the LEED section of the USGBC Web site. Project teams are allotted one design phase review. At the completion of construction, the balance of attempted credits, verification of design

phase credits, and additional documentation for any design phase credits that has changed since the design phase review are documented and submitted for USGBC review. See below for more details regarding the two-phase review.

E. Review and Certification

To earn LEED for New Construction certification, the applicant project must satisfy all of the prerequisites and a minimum number of points to attain the established LEED for New Construction project ratings as listed below. Having satisfied the basic prerequisites of the program, applicant projects are then rated according to their degree of compliance within the rating system. All projects will need to comply with the version of LEED for New Construction that is current at the time of project registration.

Design Phase Review

Once USGBC has received your complete design phase application and the design phase fee (which is a portion of the total certification fee), the USGBC will formally rule on your application by designating each attempted credit as either Anticipated or Denied. No certification award will be given at this time, nor will any credits be awarded. This process serves to allow project teams the opportunity to assess the likelihood of credit achievement, and requires follow through to ensure the design is executed in the construction phase according to design specifications.

Construction Phase Review

At the completion of construction, the project team will submit all attempted credits for review. If the project team had elected to have a design phase review and any of the design phase Anticipated credits have changed, additional documentation must be submitted to substantiate continued compliance with credit requirements. For design phase Anticipated credits that have not substantively changed, the project team must submit a verification that the design has been executed per requirements in the construction phase. Once USGBC has received the complete application and fee (the remainder of the total certification fee, if a design review has been conducted), the USGBC will formally rule on your full application. All applicant-verified design phase credits that were designated as Anticipated and have not changed since the design phase review will be declared as Achieved. All other credits will be designated as either Achieved or Denied.

Appeals

Appeals may be filed either after the design phase review or the final review. Please see the LEED Certification Process section (http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1497) of the USGBC Web site for more information on appeals.

Fees

Certification fee information can be found at the LEED Register your project page of the web site: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=65&. USGBC will acknowledge receipt of your application and proceed with application review when all project documentation has been submitted.

The LEED for New Construction ratings are awarded according to the following scale—

- ❑ Certified 26-32 points
- ❑ Silver 33-38 points
- ❑ Gold 39-51 points
- ❑ Platinum 52-69 points

USGBC will recognize buildings that achieve one of these rating levels with a formal letter of certification and a mountable plaque.

F. Updates & Errata

This is the second edition of the LEED for New Construction Version 2.2 Reference Guide, dated September 2006. As LEED for New Construction continues

to improve and evolve, updates and errata will be made available to substitute and augment the current material. USGBC cannot be held liable for any criteria set forth herein, which may not be applicable to later versions of LEED for New Construction. Updates and addenda will be accumulated between revisions and will be formally incorporated in major revisions. In the interim between major revisions, USGBC may use its consensus process to clarify criteria.

When a project registers for certification, the prerequisites, credits, errata, and credit rulings current at the time of project registration will continue to guide the project throughout its certification process.

IV. LEED for New Construction Version 2.2 Reference Guide

The LEED for New Construction v2.2 Reference Guide is a supporting document to the LEED Green Building Rating System. The Guide is intended to assist project teams in understanding LEED for New Construction criteria and the benefits of complying with each criterion. The Guide includes examples of strategies that can be used in each category, case studies of buildings that have implemented these strategies successfully, and additional resources that will provide more information. The guide does not provide an exhaustive list of strategies for meeting the criteria as subsequent strategies will be developed and employed by designers that satisfy the Intent of each credit. Nor does it provide all of the information that design teams need to determine the applicability of a credit to their project.

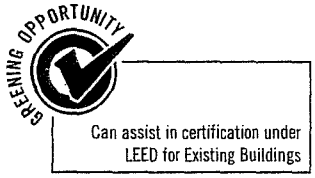
Prerequisite and Credit Format

Each prerequisite and credit is organized in a standardized format for simplicity and quick reference. The first section summarizes the key points regarding the measure and includes the Intent, Requirements, and some Potential Technologies & Strategies for achieving the credit. The subsequent sections provide supportive information to help interpret the measure, examples, and links to various resources.

If your project team encounters an out-of-date web link in the Reference Guide, please go to the root Web site, which should take the form of www.organization.com with no additional text following. Then you may be able to navigate through the Web site to find the referenced document. Please contact the USGBC at (202) 828-7422 if you are unable to locate a resource.

Greening Opportunity Icon

Throughout this Reference Guide, you will see this icon:



This icon will assist projects that are proceeding with the intention of certifying with LEED for Existing Buildings, following their LEED for New Construction certification. It identifies credits that involve measures that are significantly more cost-effective and convenient to implement during design and construction than they are during the operation of the building. These credits are—

SSc 2:	Development Density & Community Connectivity
SSc 4.1:	Alternative Transportation: Public Transportation Access
EAc 1:	Optimize Energy Performance
EAc 3:	Enhanced Commissioning
EAc 5:	Measurement & Verification
MRc 4:	Recycled Content
MRc 5:	Regional Materials
MRc 6:	Rapidly Renewable Materials

MRc 7: Certified Wood

EQc 1: Outdoor Air Delivery Monitoring

EQc 6.2: Controllability of Systems: Thermal Comfort

EQc 7: Thermal Comfort

EQc 8: Daylight and Views

Project Checklist

Sustainable Sites — 14 Possible Points

Prereq 1	**Construction Activity Pollution Prevention**	Required
Credit 1	**Site Selection**	1
Credit 2	**Development Density & Community Connectivity**	1
Credit 3	**Brownfield Redevelopment**	1
Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
Credit 4.3	**Alternative Transportation**, Low Emitting & Fuel Efficient Vehicles	1
Credit 4.4	**Alternative Transportation**, Parking Capacity	1
Credit 5.1	**Site Development**, Protect or Restore Habitat	1
Credit 5.2	**Site Development**, Maximize Open Space	1
Credit 6.1	**Stormwater Design**, Quantity Control	1
Credit 6.2	**Stormwater Design**, Quality Control	1
Credit 7.1	**Heat Island Effect**, Non-Roof	1
Credit 7.2	**Heat Island Effect**, Roof	1
Credit 8	**Light Pollution Reduction**	1

Water Efficiency — 5 Possible Points

Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1
Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1
Credit 2	**Innovative Wastewater Technologies**	1
Credit 3.1	**Water Use Reduction**, 20% Reduction	1
Credit 3.2	**Water Use Reduction**, 30% Reduction	1

Energy & Atmosphere — 17 Possible Points

Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Prereq 2	**Minimum Energy Performance**	Required
Prereq 3	**Fundamental Refrigerant Management**	Required
Credit 1	**Optimize Energy Performance**	1–10
Credit 2	**On-Site Renewable Energy**	1–3
Credit 3	**Enhanced Commissioning**	1
Credit 4	**Enhanced Refrigerant Management**	1
Credit 5	**Measurement & Verification**	1
Credit 6	**Green Power**	1

Materials & Resources — 13 Possible Points

Prereq 1	**Storage & Collection of Recyclables**	Required
Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
Credit 1.2	**Building Reuse**, Maintain 95% of Existing Walls, Floors & Roof	1
Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1

EXHIBIT 2

(2)

Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
Credit 3.1	**Materials Reuse**, 5%	1
Credit 3.2	**Materials Reuse**, 10%	1
Credit 4.1	**Recycled Content**, 10% (post-consumer + 1/2 pre-consumer)	1
Credit 4.2	**Recycled Content**, 20% (post-consumer + 1/2 pre-consumer)	1
Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regionally	1
Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regionally	1
Credit 6	**Rapidly Renewable Materials**	1
Credit 7	**Certified Wood**	1

Indoor Environmental Quality — 15 Possible Points

Prereq 1	**Minimum IAQ Performance**	Required
Prereq 2	**Environmental Tobacco Smoke (ETS) Control**	Required
Credit 1	**Outdoor Air Delivery Monitoring**	1
Credit 2	**Increased Ventilation**	1
Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
Credit 5	**Indoor Chemical & Pollutant Source Control**	1
Credit 6.1	**Controllability of Systems**, Lighting	1
Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
Credit 7.1	**Thermal Comfort**, Design	1
Credit 7.2	**Thermal Comfort**, Verification	1
Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Innovation & Design Process — 5 Possible Points

Credit 1.1	**Innovation in Design**	1
Credit 1.2	**Innovation in Design**	1
Credit 1.3	**Innovation in Design**	1
Credit 1.4	**Innovation in Design**	1
Credit 2	**LEED Accredited Professional**	1

Project Totals — 69 Possible Points

Certified 26–32 points ▪ **Silver** 33–38 points ▪ **Gold** 39–51 points ▪ **Platinum** 52–69 points

Stormwater Design

Quantity Control

SS	WE	EA	MR	EQ	ID
Credit 6.1					

1 Point

Intent

Limit disruption of natural hydrology by reducing impervious cover, increasing on-site infiltration, and managing stormwater runoff.

Requirements

OPTION 1 — EXISTING IMPERVIOUSNESS IS LESS THAN OR EQUAL TO 50%

Implement a stormwater management plan that prevents the post-development peak discharge rate and quantity from exceeding the pre-development peak discharge rate and quantity for the one- and two-year, 24-hour design storms.

OR

Implement a stormwater management plan that protects receiving stream channels from excessive erosion by implementing a stream channel protection strategy and quantity control strategies.

OR

OPTION 2 — EXISTING IMPERVIOUSNESS IS GREATER THAN 50%

Implement a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the two-year, 24-hour design storm.

Potential Technologies & Strategies

Design the project site to maintain natural stormwater flows by promoting infiltration. Specify vegetated roofs, pervious paving, and other measures to minimize impervious surfaces. Reuse stormwater volumes generated for non-potable uses such as landscape irrigation, toilet and urinal flushing and custodial uses.

EXHIBIT 3

Summary of Referenced Standard

There is no standard referenced for this credit.

Approach and Implementation

The approach to this credit may vary significantly depending on the condition of the project site at the beginning of the project. If the project is being constructed on a largely undeveloped site, the goal is to preserve stormwater flows and design the project to respond to the natural soil conditions, habitat, and rainfall characteristics. If the project is a redevelopment of a previously developed site, the goal is typically to improve stormwater management in a way that restores the natural functions of the site to the maximum extent practicable.

The approach to this credit also varies dramatically between different regions and climate zones. The strategies employed in an urban environment where water is discharged to concrete channels and then the ocean are different from the strategies employed at an inland site that discharges to a small stream and lake system.

The most effective method to minimize stormwater runoff volume is to reduce the amount of impervious area. By reducing impervious area, stormwater infrastructure can be minimized or deleted from the project. Strategies to minimize or mitigate impervious surfaces may include:

- ❑ Smaller building footprint
- ❑ Pervious paving materials
- ❑ Stormwater harvesting for reuse in irrigation and/or buildings
- ❑ Green roofs
- ❑ Bioswales/vegetated filter strips
- ❑ Retention ponds
- ❑ Clustering development to reduce paved surfaces (roads, sidewalks, etc.)

Guidelines for Capturing and Reusing Stormwater Runoff

Stormwater captured (or harvested) in cisterns, rain barrels, or other devices, is a primary source of water in many parts of the world. Stormwater should not be used for potable needs if there are sources available that pose less risk to public health. However, harvested stormwater may be used to reduce potable water needs for uses such as landscape irrigation, fire suppression, toilet and urinal flushing, and custodial uses.

Storage and reuse techniques range from small-scale systems (e.g., rain barrels) to underground cisterns that may hold large volumes of water. Whether large or small, stormwater harvesting system designs should consider the following:

1. Water need for the intended use—how will the harvested water be used and when will it be needed? For example, if the water is used to irrigate landscaping for four summer months, the amount of water needed and the how often the storage unit will refill must be considered. Usage requirements and the expected volume and frequency of rainfall must be determined.
2. Drawdown—storage system design must provide for the use or release of water between storm events for the design storage volume to be available.
3. Drainage Area—the size and nature (e.g., percent imperviousness) of the area draining to the storage system determines how much runoff will be available for harvesting.
4. Conveyance System—reused stormwater and graywater systems must not be connected to other domestic or commercial potable water systems. Pipes and storage units should be clearly marked (e.g., "Caution: Reclaimed Water, Do Not Drink").
5. Pretreatment—screens or filters may be used to remove debris and sedi-

ment from runoff and to minimize pollutants.

6. Pressurization—uses for harvested rainwater may require pressurization. For example, most irrigation systems require a water pressure of at least 15 psi to function properly. Stored water has a pressure of 0.43 psi per foot of water elevation, and the water pressure at the bottom of a ten-foot vault would be 4.3 psi (10 ft. x 0.43 psi). Pressurization (e.g., a pump, pressure tank and filter) costs more and creates a more useable system.

The amount of runoff reduced by a stormwater harvesting system may be considered equal to its storage volume. However, volume calculations must also consider how often the system is emptied and the interval between storm events.

Example:

Rainwater will be harvested from a 10,000 sq.ft. roof (100% imperviousness). The system will be designed to capture the runoff from 90% of the average annual rainfall (1 inch of rainfall for humid watersheds). The volume of the proposed storage system is the amount of runoff captured (Vr), which is calculated below in **Equation 1**:

Other design considerations – tank must be emptied before subsequent storm events. Use a tank that is 10 ft x 10 ft x 8 ft deep – Total storage volume (V_s) = 800 cu.ft. Using a design storm interval of three days (72 hours), the drawdown rate (Q_r) is calculated below in **Equation 2**:

In this example, the captured rain must be drained within 3 days or at a minimum rate of 1.4 gpm for the tank to be emptied for the next storm.

Different municipalities, state and local governments have various design requirements for capturing and reuse of stormwater runoff. These requirements range from where stormwater may be captured and used to length of time stormwater can be held in a cistern, to the type of water treatment required before reuse. Designers should check with the governing administrative authority to determine parameters which will affect collection, use, and distribution of captured stormwater.

Calculations

There are two compliance paths for this credit—one for largely undeveloped sites and one for largely developed sites.

Option 1—Existing Imperviousness Is Less Than Or Equal To 50% (Largely Undeveloped Sites)

Option 1-a: Discharge Rate and Quantity

Determine the pre-development discharge rate and quantity for the project. These values are typically calculated by the civil engineer using the surface characteristics of the site and data on storm event frequency, intensity and duration. Calculate

Equation 1

$$V_r = \frac{(P)(R_v)(A)}{12'} = \frac{(1')(0.95)(10{,}000\ SF)}{12'} = 791.67\ CF\ (5{,}922\ gal)$$

Where, $R_v = 0.05 + (0.009)(I) = 0.05 + (0.009)(100) = 0.95$
R_v = Volumetric Runoff Coefficient
I = Percent Imperviousness

Equation Source: 2000 Maryland Stormwater Design Manual, Vol. I & II (MDE, 2000)

Equation 2

$$Q_r = 800\ c.f. \Big/ 259{,}200\ sec = 0.003\ cfs\ or\ 1.37\ gpm$$

rate and quantity for the one-year and two-year, 24-hour design storms.

Determine the post-development discharge rate and quantity for the project consistent with the pre-development calculations. The post-development rate AND quantity must be equal to or less than the pre-development values to earn this credit.

Option 1-b: Stream Channel Protection

Describe the project site conditions, the measures taken, and controls implemented as part of the project scope that prevent excessive stream velocities and the associated erosion. Include in the description numerical values for pre-development and post-development conditions to demonstrate that the rate and quantity of stormwater runoff in the post-development condition are below critical values for the relevant receiving waterways.

Option 2—Existing Imperviousness Is Greater Than 50% (Largely Developed Sites)

Determine the pre-development discharge rate and quantity for the project. These values are typically calculated by the civil engineer using the surface characteristics of the site and data on storm event frequency, intensity, and duration. Calculate rate and quantity for the one-year and two-year, 24-hour design storms.

Determine the post-development discharge rate and quantity for the project consistent with the pre-development calculations. The post-development rate AND quantity must be at least 25% less than the pre-development values to earn this credit.

Exemplary Performance

There is no exemplary performance point available for this credit.

Submittal Documentation

This credit is submitted as part of the **Design Submittal**.

The following project data and calculation information is required to document credit compliance using the v2.2 Submittal Templates:

Option 1

- ❑ Provide the pre-development site runoff rate (cfs).
- ❑ Provide the pre-development site runoff quantity (cf).
- ❑ Provide the post-development site runoff rate (cfs).
- ❑ Provide the post-development site runoff quantity (cf).

OR

- ❑ Provide a narrative describing the project site conditions, measures taken, and controls implemented to prevent excessive stream velocities and associated erosion.

Figure 1 (Source Figure 1.4), excerpted from the Maryland Stormwater Design Manual, diagrams the potential increases in critical discharge rate from development.

Option 2

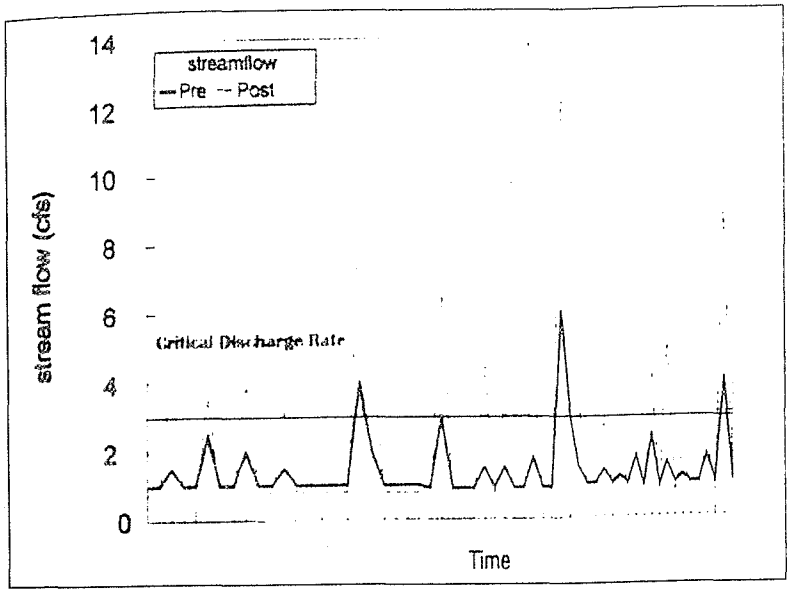
- ❑ Provide the pre-development site runoff rate (cfs).
- ❑ Provide the pre-development site runoff quantity (cf).
- ❑ Provide the post-development site runoff rate (cfs).
- ❑ Provide the post-development site runoff quantity (cf).

Considerations

Environmental Issues

The intent of this credit is to limit the disruption of the natural stormwater flows that results from development. Undevel-

Figure 1: Increased Frequency of Flows Greater than the Critical Discharge Rate in a Stream Channel after Development



oped land has a certain capacity to absorb rainfall in the soils, vegetation and trees. Clearing of vegetation and/or construction of impervious surfaces (i.e., roads, parking lots and buildings) reduce the capacity of the land to absorb rainfall and increase the amount of stormwater runoff.

As areas are constructed and urbanized, surface permeability is reduced, resulting in increased stormwater runoff volumes that are transported via urban infrastructure (e.g., gutters, pipes and sewers) to receiving waters. These stormwater volumes contain sediment and other contaminants that have a negative impact on water quality, navigation and recreation. Furthermore, conveyance and treatment of stormwater volumes requires significant municipal infrastructure and maintenance. Reducing the generation of stormwater volumes helps maintain the natural aquifer recharge cycle and assist in restoring depleted stream base flows. In addition, stormwater volumes do not have to be conveyed to receiving waters by the municipality, and receiving waters are not impacted.

The geometry and health of streams is closely linked to stormwater runoff velocities and volumes. Increases in the frequency and magnitude of stormwater runoff due to development can cause increased bankfull events. As a result, the stream bed and banks are exposed to highly erosive flows more frequently and for longer periods. The resultant impacts may include channel-widening or downcutting or both.

Figures 2 and 3 (Source Figures 1.1 and 1.2), excerpted from the Maryland Stormwater Design Manual show the impact of development of stormwater flows and the increase in the volumetric runoff coefficient as a function of site imperviousness.

Economic Issues

If natural drainage systems are designed and implemented at the beginning of site planning, they can be integrated economically into the overall development. Water detention and retention features require cost for design, installation and maintenance. However, these features can also add significant value as site amenities if planned early in the design. Smaller stormwater collection and treatment systems lessen the burden on municipalities for maintenance and repair, resulting in a more affordable and stable tax base.

Figure 2: Water Balance at a Developed and Undeveloped Site (Source: Schueler, 1987)

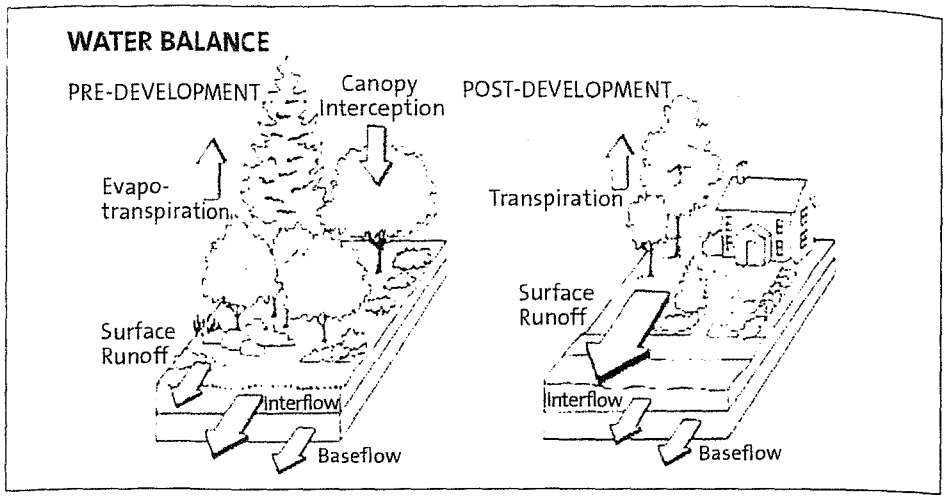
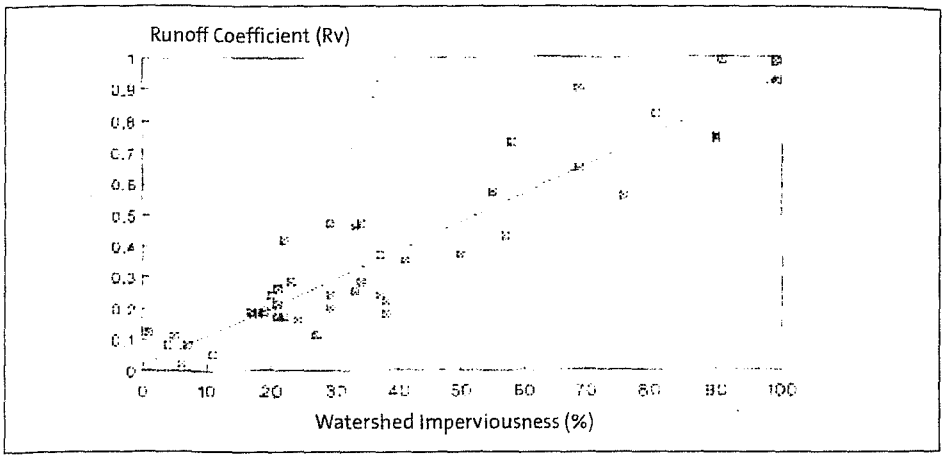


Figure 3: Relationship Between Impervious Cover and the Volumetric Runoff Coefficient (Source: Schueler, 1987)



Synergies and Trade-Offs

Stormwater runoff is affected significantly by site topography, site design, and especially quantity of impervious surface area to support transportation amenity design. It may be possible to reuse stormwater for non-potable water purposes such as flushing urinals and toilets, custodial applications, and building equipment uses. It is helpful to perform a water balance to determine the estimated volumes of water available for reuse. Stormwater runoff volumes can also be reduced by designing the building with underground parking, a strategy that also reduces heat island effects. Pervious paving systems usually have a limit on transportation loads and may pose problems for wheelchair accessibility and stroller mobility. If stormwater volumes are treated on site, additional site area may need to be disturbed to construct treatment ponds or underground facilities. Application of green roofs reduces stormwater volumes that may be intended for collection and reuse for non-potable applications.

Resources

Web Sites

Please see the USGBC Web site at www.usgbc.org/resources for more specific resources on materials sources and other technical information.

Stormwater Best Management Practice Design Guide, EPA/600/R-04/121A, September 2004.

www.epa.gov/ORD/NRMRL/pubs/600r04121/600r04121a.pdf

Maryland Stormwater Design Manual

www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp

Definitions

Impervious Surfaces promote runoff of precipitation volumes instead of infiltration into the subsurface. The imperviousness or degree of runoff potential can be estimated for different surface materials.

Stormwater Runoff consists of water volumes that are created during precipitation events and flow over surfaces into sewer systems or receiving waters. All precipitation waters that leave project site boundaries on the surface are considered to be stormwater runoff volumes.

CITY OF MIAMI BEACH
NOTICE OF PUBLIC HEARINGS

MIAMIBEACH

NOTICE IS HEREBY given that second readings and public hearings will be held by the Mayor and City Commission of the City of Miami Beach, Florida, in the Commission Chambers, 3rd floor, City Hall, 1700 Convention Center Drive, Miami Beach, Florida, on **Wednesday, April 22, 2009,** to consider the following:

10:15 a.m.

An Ordinance Amending Section 2-22, Entitled "General Requirements," Of Division I, Entitled "Generally," Of Article III, Entitled "Agencies, Boards And Committees," Of Chapter 2 Entitled "Administration," Of The Miami Beach City Code To Require An Annual Reporting To The City Commission With Regard To City Agency, Board, And Committee Appointments And City Workforce Diversity Statistics.

Inquiries may be directed to the City Attorney's Office at (305) 673- 7470.

10:20 a.m.

An Ordinance Amending The City Code Of The City Of Miami Beach, By Creating New Chapter 100, Entitled "Sustainability," By Creating New Article I, "Green Building Ordinance," Establishing Definitions, Standards, Procedures And Incentives Providing For Property Owner Voluntary Participation, And City Mandatory Participation, In The LEED Certification Program As Established By The U.S. Green Building Council Or Other Recognized Rating System, For New Construction Or Substantial Renovations As Provided In The Ordinance, Providing For A Bond To Guarantee Participation In The Program If A Property Owner Receives Incentives, And Procedures For Use Of The Bond For Failure To So Participate.

Inquiries may be directed to the City Manager's Office at (305) 673-7010.

11:10 a.m.

An Ordinance Amending Miami Beach City Code Chapter 2, Article VII, Division 2 Entitled "Officers, Employees And Agency Members," Section 2-459 Entitled "Certain Appearances Prohibited," By Amending Subsection (B) Thereof Establishing This Code Section's Exclusion For Lobbyists Who Represent Non-Profit Entities Without Special Compensation By Narrowing This Exclusion To Only Certain Representatives Of Non-Profit Entities.

Inquiries may be directed to the City Attorney's Office at (305) 673-7470.

11:20 a.m.

An Ordinance Relating To The Jurisdiction Of The Special Master; Amending Chapter 30, "Code Enforcement," Article III, "Enforcement Procedure," Section 30-73, "Powers Of The Special Master," By Clarifying That The Special Master Lacks Jurisdiction Over Appeals From Or Challenges To Interpretations Or Actions Of The Building Official, Planning Director And Fire Marshal, Or Claims That An Act Of The City Is Unconstitutional, Which Are By Applicable Law Vested In Other Authorities.

Inquiries may be directed to the City Attorney's Office at (305) 673-7470.

11:30 a.m.

An Ordinance Amending Chapter 70 Of The Miami Beach City Code Entitled "Miscellaneous Offenses"; By Amending Article III Entitled "Graffiti"; By Amending Division I, Entitled "Generally"; By Amending Section 70-121 Entitled "Reserved" To Provide Provisions Declaring Graffiti A Nuisance; By Amending Section 70-122 Entitled "Definitions" To Provide Additional And Amended Definitions Relative To Graffiti; By Amending Section 70-123 Entitled "Prohibitions" By Amending The Acts Prohibited And Amending Enforcement And Penalty Provisions; By Amending Section 70-124 Entitled "Possession Of Spray Paint And Markers" By Amending Enforcement And Penalty Provisions; By Amending And Renumbering Section 70-125 Entitled "Graffiti Declared A Nuisance" By Moving Said Section To Section 70-121; By Amending And Renumbering Section 70-126 Entitled "Responsibility Of Property Owner(s); Graffiti Removal And Notice" By Amending The Responsibilities Of Property Owners With Regard To The Removal Of Graffiti And Amending Enforcement Provisions; By Amending And Renumbering Section 70-127 Entitled "Appeal" By Providing For Penalty And Lien Provisions; By Amending And Renumbering Section 70-128 Entitled "Cost Of Graffiti Removal As Lien On Property, Collection; Foreclosure And Sale" By Amending City Lien Procedures; By Renumbering Section 70-129 Entitled "Interested Persons May Petition To Dispute Assessed Costs"; By Renumbering Sections 70-130 Through 70-145, Entitled "Reserved;" By Amending Division II Entitled "Spray Paint, Broad-Tipped Indelible Markers" By Amending Section 70-146, Entitled "Sale Prohibited," And Section 70-147, Entitled "Signs Required," By Adding Etching Acid To The Items Prohibited For Sale To Minors And Signage Requirements; By Amending Section 70-148, Entitled "Penalties; Procedures For Administration," By Amending The Enforcement And Penalty Provisions.

Inquiries may be directed to the City Manager's Office at (305) 673-7010.

INTERESTED PARTIES are invited to appear at this meeting, or be represented by an agent, or to express their views in writing addressed to the City Commission, c/o the City Clerk, 1700 Convention Center Drive, 1st Floor, City Hall, Miami Beach, Florida 33139. Copies of these ordinances are available for public inspection during normal business hours in the City Clerk's Office, 1700 Convention Center Drive, 1st Floor, City Hall, and Miami Beach, Florida 33139. This meeting may be continued and under such circumstances additional legal notice would not be provided.

Robert E. Parcher, City Clerk
City of Miami Beach

Pursuant to Section 286.0105, Fla. Stat., the City hereby advises the public that: if a person decides to appeal any decision made by the City Commission with respect to any matter considered at its meeting or its hearing, such person must ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. This notice does not constitute consent by the City for the introduction or admission of otherwise inadmissible or irrelevant evidence, nor does it authorize challenges or appeals not otherwise allowed by law.

To request this material in accessible format, sign language interpreters, information on access for persons with disabilities, and/or any accommodation to review any document or participate in any city-sponsored proceeding, please contact (305) 604-2489 (voice), (305) 673-7218 (TTY) five days in advance to initiate your request. TTY users may also call 711 (Florida Relay Service).

Ad #530