

ZONING COMMISSION District of Columbia

CASE NO.

ZONING COMMISSION EXHIBIT NO. District of Columbia **CASE NO.08-06**

EXHIBIT NO.137

ZONING COMMISSION FOR THE DISTRICT OF COLUMBIA NOTICE OF PROPOSED RULEMAKING

Z.C. Case No 08-06

(Comprehensive Zoning Regulations Rewrite: Chapter B-13: Green Area Ratio)

The Zoning Commission for the District of Columbia (the "Commission"), pursuant to its authority under § 1 of the Zoning Act of June 20, 1938 (52 Stat. 797; D.C. Official Code § 6-641.01), hereby gives notice of its intent to amend Title 11 if the District of Columbia Municipal Regulations to adopt a new chapter entitled "Green Area Ratio". If adopted, the proposed chapter will provide general rules for a city-wide requirement for green site design that will vary by zone. This chapter includes explanation of the system, methods of calculation, terms of measurement, and requirements for review. The proposed chapter does not specify which zone district will be made subject to a Green Area Ratio ("GAR") requirement or assign a GAR value to any particular zone.

More detailed information, discussion, and analysis for the proposed text can be found in the following documents, which may be accessed at www.dczoningupdate.org/documentcenter.asp:

<u>Setdown Report for Green Area Ratio</u> – Office of Planning report outlining the proposed general regulations for Green Area Ratio requirements, and a description of how the GAR will work.

<u>Setdown Presentation</u> - Green Area Ratio - OP's presentation of the proposed GAR regulations.

<u>Hearing Report</u> - Green Area Ratio - OP's hearing report on the proposed general rules for the new Green Area Ratio. Attached to the report is an updated version of the proposed text, with underlines denoting new text and strikethroughs denoting deletions. Additional appendices provide further information about the design and approval process.

The text proposed by the Commission includes the revisions attached to the Hearing Report.

This new chapter would be part of a revised Title 11. The Commission has already approved a codification format that would divide the revised Title 11 into ten (10) subtitles. A description of this codification can be found at www.dczoningupdate.org/codereorganization.asp. The proposed chapter that is the subject of this notice would be included within a new Subtitle B entitled "General Regulations."

The public should assume that the text advertised in this notice will only apply to buildings constructed pursuant to building permits issued after the effective date of the revised Title 11.

Italicized terms will be defined. The bracketed citations are to provisions contained in the current Title 11. The provision will be re-codified and, in all likelihood rephrased in the revised Title 11.

Final rulemaking action shall be taken in not less than thirty (30) days from the date of publication of this notice in the *D.C. Register*. The immediate result of such a final action would be the issuance of a final order that states the approved text. However, the Commission is not likely to simultaneously authorize the issuance of a notice of final rulemaking. Rather the Commission will likely wait until it has reviewed all portions of the ten (10) subtitles and issued final orders for all approved text. At that point the Office of Planning, the Office of the Attorney General, and the Office of Zoning will make any editorial changes needed to achieve consistency within the approved text and then present a final consolidated version to the Commission. The Commission will then decide whether to authorize the publication of a notice of final rulemaking that will make the revised Title 11 effective, subject to whatever transitional measures the Commission may adopt.

The following new Chapter 13, GREEN AREA RATIO, is proposed to be included within a proposed Subtitle B, GENERAL REGULATIONS, of a revised Title 11 DCMR:

| 1300 | INTRODUCTION TO GREEN AREA RATIO |
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| 1301 | RELATIONSHIP TO LAND USE SUBTITLES |
| 1302 | APPLICABILITY OF GREEN AREA RATIO STANDARDS |
| 1303 | CALCULATION OF GREEN AREA RATIO |
| 1304 | LANDSCAPE ELEMENT ELIGIBILITY CONDITIONS FOR GREEN |
| | AREA RATIO |
| 1305 | SUBMITTAL REQUIREMENTS FOR GREEN AREA RATIO |
| 1306 | SPECIAL EXCEPTIONS FOR GREEN AREA RATIO |
| 1307 | MAINTENANCE REQUIREMENTS FOR GREEN AREA RATIO |
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CHAPTER 13 GREEN AREA RATIO

1300 INTRODUCTION TO GREEN AREA RATIO

- 1300.1 Green Area Ratio (GAR) is the ratio of the weighted value of landscape elements to land area. The GAR score relates to an increase in the quantity and quality of environmental performance of the urban landscape.
- 1300.2 Green Area Ratio sets integrated environmental requirements for landscape elements and site design that contribute to the reduction of stormwater runoff, the improvement of air quality, and the mitigation of the urban heat island effect.
- 1300.3 The purposes of the GAR regulations are to:
 - (a) Implement a value-based system of requirements for environmental site design that provides flexibility in meeting environmental performance standards; and
 - (b) Promote attractive and environmentally functional landscapes.

The purpose of this chapter is to:

- (a) Provide general guidance about the regulation of GAR requirements;
- (b) Define the applicability of GAR;
- (c) Set forth the formula for calculating the GAR and define its component parts;
- (d) Identify those landscape elements that are included in the GAR, explain how their area is measured, and set forth eligibility requirements;
- (e) Establish multipliers for each eligible landscape element;
- (f) Indicate what plans and certifications must accompany an application submitted to demonstrate proof of GAR compliance; and
- (g) Establish maintenance requirements for the landscape elements that are counted toward a property's GAR requirement.

1301 RELATIONSHIP TO LAND USE SUBTITLES

The GAR regulations of this chapter apply to all zones in all land use subtitles. Each land use subtitle also includes development standards tables containing GAR standards specific to zones within that subtitle.

1302 APPLICABILITY OF GREEN AREA RATIO STANDARDS

- The GAR applies to all new buildings requiring a Certificate of Occupancy and to all existing buildings requiring a Certificate of Occupancy where any additions, alterations, or repairs within any twelve month (12) period exceed one hundred percent (100%) of the assessed value of the building as set forth in the records of the Office of Tax and Revenue as of the date of the building permit application; provided:
 - (a) The cost basis for alterations or additions to an existing building shall be the amount indicated by the applicant on the application for a building permit; and
 - (b) The assessed value of the building shall be the value set forth in records of the Office of Tax and Revenue as of the date of the building permit application.

1303 CALCULATION OF GREEN AREA RATIO

1303.1 The GAR shall be calculated using the following formula:

GAR =
$$\frac{\text{(area of landscape element 1 x multiplier)} + }{\text{Lot Area}}$$

- For the purposes of this formula and the remainder of this section:
 - (a) The term "landscape element" refers to one of the elements listed in the left hand column of the Table in B § 1303.9, and will be hereafter referred to as "landscape element" or "element;"
 - (b) The term "multiplier" refers the number listed in the right hand column of the Table in B § 1303.9 that corresponds to a "landscape element"; and
 - (c) The term "area of landscape element" means the square feet of a landscape element, unless the element is a tree or large shrub, in which case "area of landscape area" refers to the element's equivalent square footage as indicated in B § 1303.7.
- The process for calculating a property's GAR under the formula is as follows:
 - (a) The area of each landscape element is multiplied by its corresponding multiplier;
 - (b) The resulting numbers for all landscape elements are added together;
 - (c) The resulting point total is then divided by the total land area of the lot; and
 - (d) The product of the equation equals the property's GAR.
- The total points for all *permeable paving* and *enhanced tree growth* credits may not count for more than one third (1/3) of the GAR score for a lot.
- 1303.5 If multiple landscape elements occupy the same area, for example groundcover under a tree, the full square footage or equivalent square footage of each element may be counted.
- 1303.6 A landscape element must meet the eligibility requirements of B § 1304.

Equivalent square feet of tree and large shrubs are identified in the table below.

| GREEN AREA RATIO LANDSCAPE ELEMENTS | EQUIVALENT SQUARE FOOTAGE |
|--|------------------------------|
| Plants at least 2 feet tall at maturity | 9 square feet per plant |
| Tree canopy for trees 2.5 inches to 6 inches in diameter | 50 square feet per tree |
| Tree canopy for trees 6 inches to 12 inches in diameter | 250 square feet per tree |
| Tree canopy for trees 12 inches to 18 inches in diameter | 600 square feet per tree |
| Tree canopy for trees 18 inches to 24 inches in diameter | 1300 square feet per tree |
| Tree canopy for trees larger than 24 inches in diameter | 2000 square feet per tree |

- Landscape elements of the GAR shall be measured in the following ways:
 - (a) All trees shall be measured for diameter at a height four feet, six inches (4 ft. 6 in.) above grade when planted. Use the square footage equivalent based on diameter in the table in B § 1303.5;
 - (b) For *vegetated walls*, use the vertical square footage of the portion of the wall covered by vegetation; and
 - (c) For all other elements other than trees, large shrubs, perennials, and vegetated walls, square footage is determined by the area of a horizontal plane that is over the element.

Eligible landscape elements are identified in the table below:

| GREEN AREA RATIO LANDSCAPE ELEMENTS | MULTIPLIER | | |
|---|------------|--|--|
| Landscaped area (select one of the following for each area) | | | |
| Landscaped areas with a soil depth of less than 24 inches | 0.3 | | |
| Landscaped areas with a soil depth of 24 inches or more | 0.6 | | |
| Bioretention facilities | 0.4 | | |
| Plantings | | | |
| Ground covers, or other plants less than 2 feet tall at maturity | 0.2 | | |
| Plants at least 2 feet tall at maturity | 0.3 | | |
| Tree canopy for all trees 2.5 inches to 6 inches in diameter | 0.5 | | |
| Tree canopy for new trees 6 inches in diameter or larger | 0.6 | | |
| Tree canopy for preservation of existing trees 6 inches to 24 inches in | 0.7 | | |

| GREEN AREA RATIO LANDSCAPE ELEMENTS | MULTIPLIER |
|---|-------------|
| diameter | |
| Tree canopy for preservation of existing trees 24 inches diameter or larger | 0.8 |
| Vegetated wall, plantings on a vertical surface | 0.6 |
| Vegetated roofs | |
| Extensive vegetated roof over at least 2 inches but less than 8 inches of growth medium | 0.6 |
| Intensive vegetated roof over at least 8 inches of growth medium | 0.8 |
| Water features (using at least 50% recycled water) | 0.2 |
| Permeable paving | |
| Permeable paving over at least 6 inches and less than 2 feet of soil or gravel | 0.4 |
| Permeable paving over at least 2 feet of soil or gravel | 0.5 |
| Enhanced tree growth systems | 0.4 |
| Renewable energy generation (area of) | 0.5 |
| Bonuses | |
| Native plant species | 0.1 |
| Landscaping in food cultivation | 0.1 |
| Harvested stormwater irrigation | 0.1 |

1304 LANDSCAPE ELEMENT ELIGIBILITY CONDITIONS FOR GREEN AREA RATIO

- No landscape element may be counted towards a property's GAR unless it meets the applicable eligibility condition stated in this section.
- Plantings over the specified soil depths shall meet the required conditions listed in the Table of Landscape Elements and Multipliers in B § 1303.2.
- Bioretention facilities shall be landscaped areas that receive rainwater from surrounding areas and use plants and soils to slow, filter, and infiltrate stormwater runoff. Bioretention facilities include but are not limited to rain or rainwater gardens, bioretention planters, Baysavers, or linear cells or swales. These do not include structures made of cement or concrete alone.

- 1304.4 Trees shall meet the following conditions:
 - (a) All trees shall be at least two and one half (2.5) inches in diameter measured at a height four feet, six inches (4 ft. 6 in.) above grade when planted and shall be replaced if damaged or killed by any cause; and
 - (b) All trees shall meet the American Standard for Nursery stock, as set forth by the American Nursery and Landscape Association.
- 1304.5 *Vegetated walls* shall meet the following conditions:
 - (a) The maximum calculated vertical dimension shall not exceed thirty feet (30 ft.) unless the vegetated wall features a built-in growth medium;
 - (b) The area calculated for the vegetated wall features shall be fully covered within a period of two (2) to five (5) years from planning;
 - (c) The area calculated is the ground coverage area, not the total plant growth area;
 - (d) The walls shall be at least five feet (5 ft.) from a side or rear lot line; and
 - (e) Where stormwater harvesting for irrigation is proposed, vegetated walls shall contain a connection to the proposed irrigation system.
- 1304.6 *Vegetated roofs* shall meet the following conditions:
 - (a) Designs for vegetated roofs must include plans to provide supplemental water for a minimum of two (2) growing seasons;
 - (b) Where stormwater harvesting for irrigation is proposed, vegetated roofs shall contain a connection to the proposed irrigation system; and
 - (c) The vegetation on a vegetated roof is not additionally eligible for groundcover value towards GAR requirements.
- 1304.7 Water features shall meet the following conditions:
 - (a) Water features must use harvested rainwater for at least fifty percent (50%) of the annual flow; and
 - (b) The water features must be under water for at least six (6) months out of twelve (12).

- Enhanced tree growth systems shall meet the following conditions:
 - (a) Be at least twenty-four inches (24 in.) deep, under pavement, and adjacent to planting areas; and
 - (b) Made up of soils that are not considered contaminated or compacted according to federal SUPERFUND legislation.
- Native plant species shall meet the following conditions:
 - (a) The plants are listed in the U.S. Fish and Wildlife Service's Native Plants for Wildlife Conservation Landscaping: Chesapeake Bay Watershed guide; or
 - (b) The Applicant provides two (2) references in current publications showing that the plant is native to the region; and
 - (c) The plant is not listed on the U.S. Fish and Wildlife Service's list of Plant Invaders of Mid-Atlantic Natural Areas.
- Food cultivation shall meet the following conditions:
 - (a) All food cultivation areas must be easily accessible to at least one (1) occupant of the building;
 - (b) All food cultivation areas must have a source of water that can reach all portions of the food cultivation area; and
 - (c) The cultivation of animals for food is not eligible for GAR credits.
- Harvesting stormwater for irrigation shall meet the following conditions:
 - (a) If the irrigation type is spray, applicants shall follow treatment standards set forth in the current District Department of Environment's Stormwater Management Guidebook; and
 - (b) If the irrigation type is drip, no additional treatment of stormwater is required.

1305 SUBMITTAL REQUIREMENTS FOR GREEN AREA RATIO

This section lists the submittal requirements for demonstrating compliance with a GAR requirement.

- For the purposes of this section, the term Certified Landscape Expert means a person who is a:
 - (a) State of Virginia certified landscape architect;
 - (b) State of Maryland certified landscape architect;
 - (c) International Society of Arboriculture Certified Arborist;
 - (d) Maryland's certified Professional Horticulturist;
 - (e) Landscape Contractors Association MD-DC-VA Certified Landscape Technician; or
 - (f) Certified U.S. Green Building Council professional.
- Applicants shall submit a GAR score sheet with the GAR calculated for the given lot at the time of building permit application.
- Applicants shall provide a landscape plan prepared by a Certified Landscape Expert that includes the following information:
 - (a) Green Area Ratio elements called out by category and area, which may be provided as a part of the landscape plan or as a separate document;
 - (b) Lot dimension and size;
 - (c) Location and areas of all landscape elements with dimensions;
 - (d) Location, size, and species of all plants used to meet requirements;
 - (e) Both common and botanical names of all plant material;
 - (f) Identification of all existing trees that are to be preserved, with their location, trunk diameter at four feet, six inches (4 ft. 6 in.) above grade, canopy radius, and species;
 - (g) Plans indicating how preserved trees and other plants will be protected during demolition and construction;
 - (h) Location and dimensions of wheel stops, curbs, or other devices to protect landscaping for landscaped areas adjacent to driveways;

- (i) A schematic irrigation and drainage plan and the size and depth of all plant containers for rooftop or container landscaping or areas to be irrigated with rainwater;
- (j) Location and size of any trees to be removed;
- (k) Specifications for soil improvement; and
- (1) Signature of the certified landscape expert who prepared the plans together as verification that plantings and other landscape elements meet the requirements of the this chapter.
- Applicants shall provide a landscape maintenance plan prepared and signed by a Certified Landscape Expert that describes how the plantings with be cared for and maintained including:
 - (a) Soil preparation;
 - (b) Use of compost;
 - (c) Plant replacement;
 - (d) Irrigation;
 - (e) Weed and pest control;
 - (f) Control of noxious or invasive species, and;
 - (g) Care and maintenance of water and hardscape features.
- The following modifications or substitutions to the landscape elements of an approved landscape plan require a plan revision and approval:
 - (a) Number of trees, shrubs, or groundcovers;
 - (b) Location of required plantings or landscape features;
 - (c) Substitution of species; or
 - (d) Revisions of any feature than could decrease planting area or lower the GAR score.

- Except as provided below, approved landscape elements shall be installed in accordance with the approved plan prior to the issuance of the Certificate of Occupancy.
- Prior to the issuance of the certificate of occupancy, a landscape checklist must be signed by a Certified Landscape Expert, verifying that that landscaping was installed according to the building permit approved by DCRA.
- The Zoning Administrator may grant a temporary certificate of occupancy when installation of the required landscaping is not currently possible due to weather, season or site construction subject to the condition that landscaping must be installed within four (4) months after the date the temporary certificate is issued.
- The temporary certificate of occupancy may be extended up to two (2) times by four (4) month periods by the Zoning Administrator based on the same conditions of B § 1302.2.

1306 SPECIAL EXCEPTIONS FOR GREEN AREA RATIO

- The Board of Zoning Adjustment may grant, by special exception, a full or partial reduction in the GAR required for an renovation to a *historic resource* if, in addition to meeting the general requirements of [§ 3104], the applicant demonstrates that providing the required GAR is impractical as a result of the nature or location of the *historic resource*.
- The Board of Zoning Adjustment may grant, by special exception, a full or partial reduction in the GAR required for new construction or renovation if, in addition to meeting the general requirements of [§ 3104], the applicant demonstrates that providing the GAR is impractical as a result of equivalent sustainability measures already being implemented on the property. The criteria for equivalency should be based on sustainability measures that achieve the intent of the GAR through methods not available through the GAR requirement.

1307 MAINTENANCE REQUIREMENTS FOR GREEN AREA RATIO

All plantings and landscape elements used to calculate a property's GAR must be maintained for the life of the project. If, for any reason, the installed landscape elements fall below the minimum required GAR score, new eligible landscape elements shall be added to compensate and result in the required ratio. These elements are not required to be the same as the submitted plans, so long as the GAR achieved is equivalent.

All persons desiring to comment on the subject matter of this proposed rulemaking action should file comments in writing no later than thirty (30) days after the date of publication of this notice

Z.C. NOTICE OF PROPOSED RULEMAKING Z.G. CASE NO. 08-06 PAGE 12

in the *D.C. Register*. Comments should be filed with Sharon Schellin, Secretary to the Zoning Commission, Office of Zoning, 441 4th Street, N.W., Suite 200-S, Washington, D.C. 20001. Copies of this proposed rulemaking action may be obtained, at cost, by writing to the above address.