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Memorandum

To: Columbia Pike Form Based Code Advisory Working Group
Date: September 5, 2012
From: Matt Mattauszek, Planner
Subject: Amendments to the Form Based Code

The Form Based Code Advisory Working Group will be meeting next Wednesday, September 12, 2012 at 7pm at the Walter Reed Community Center to review several amendments to the Form Based Code.

In an effort to maintain consistency with recently updated County standards, staff has prepared a number of draft changes to the Form Based Code Streetscape and Architectural Standards, to address requirements for street lights and tree caliper sizes. In addition, new language is proposed to address the existing and future consideration of transit stops and bikeshare stations within the Columbia Pike Revitalization District.

Proposed FBC Amendments/Interpretations

Map Amendment _____

Text Amendment  _____

Topic: Street Lighting for the Form Based Code

Issue:

1. DES-Transportation staff recently developed street lighting guidelines that are in compliance with the Illumination Engineering Society of North America (IESNA), American Association of State Highway and Transportation Officials (AASHTO) and the Commonwealth of Virginia's Department of Transportation (VDOT) Lighting Design Standards. As a result, current street lighting requirements within the Form Based Code are inconsistent with these new established standards.

Specifically, the FBC requires a maximum 60-foot interval spacing scheme for street lights. In order to be consistent with the new lighting guidelines mentioned above and achieve appropriate lighting levels along Columbia Pike, a spacing scheme is recommended for Columbia Pike ranging from 50 feet to 100 feet, depending on street classification.

Purpose:

1. FBC does not currently meet the national luminance lighting standards established for roadways by IES and AASHTO and which are required by VDOT.
2. The existing FBC spacing scheme results in a non-uniform distribution of lighting along the roadway since new development occurs sporadically and often times existing lighting structures remain on adjacent properties. The resulting differences in light intensity can potentially impair the drivers' visibility to see other motorists and pedestrians crossing the roadway at night. Thus, street lighting could contribute to an unsafe roadway environment for all users. Recent studies by VDOT have suggested that 40 percent of the auto related crashes that involve pedestrians and which occur at night along Columbia Pike are attributed to inadequate and poor lighting conditions. It is therefore imperative to amend the FBC to conform to the national and state roadway lighting design standards.

The spacing of streetlight poles should be determined by engineering photometric studies/calculations that are consistent with nationally recognized standards. Proper lighting levels and spacing of the poles should be determined by taking into consideration the roadway classification, lighting on abutting properties, pavement type and condition, photometric performance of luminaries and factors affecting such performance, light trespass, sky glow and glare.

3. In summary, the health and safety of transportation users are paramount. The proposed, updated lighting design standards are critical components that contribute

to the welfare of the public by improving visibility, providing adequate lighting and improving the quality of life for all transportation users. Having the flexibility to install street lighting based on lighting photometry and lighting plans ensures that the lighting levels will be properly reached throughout the areas referenced within the Form Based Code.

Summary of existing and proposed FBC requirements:

Existing FBC Requirement:			
Existing Street Classification	Spacing (ft)	Height (ft)	Luminaire Type
All streets	60	16	Single
Proposed FBC Requirement:**			
MTP Street Classification*	Spacing (ft)	Height (ft)	Luminaire Type
Principal Arterial (40' or greater)	50 - 90	16	Double
Minor Arterial (Less than 40')	60 - 100	14	Double or Single
Local (Principal & Minor)	70 - 100	12	Single

* Please refer to the [Arlington County Master Transportation Plan Street Element](#) for the appropriate street classification of specific streets within the Revitalization District. ([Click here](#))

** A photometric lighting plan will be required with submission of civil plans during the permitting phase, if not provided by applicant sooner.

FBC references where changes may be proposed:

Section II. Definitions

STREET LIGHT

A luminaire installed on both sides of STREETS, along the STREET TREE ALIGNMENT LINE, unless otherwise designated on the REGULATING PLAN, at intervals of no more than 60 feet, measured parallel to the STREET. STREET LIGHTS shall be between 9 and 16 feet above ground in height. Lighting standards for STREETS and ALLEYS should be developed to meet the minimum standards of the Illumination Engineering Society (with the design criteria giving equal weight to the lighting of the pedestrian areas and the automobile areas).

Section III. Regulating Plans | B. Rules for the Regulating Plan and New Development Plans:

3. Streetscape

B. STREET LIGHTS shall be installed on both sides of STREETS along the STREET TREE ALIGNMENT LINE and unless otherwise designated on the Regulating Plan, at no more than 60 foot intervals measured parallel to the STREET. At the time of development, the developer is only responsible for the installation of STREET LIGHTS on the side(s) of the STREET being developed.

Section V. Streetscape Standards | B. Minimum Standards

7. General Notes

- All plant material (including trees) shall conform to the standards of the American Association of Nurserymen and shall have passed any inspections required under State regulations.
- Invasive exotic species found anywhere on the Lot shall be removed
- Mechanical and electrical equipment including, but not limited to, air compressors, pumps, exterior water heaters, water softeners, private garbage cans (not including public sidewalk waste bins), and storage tanks may not be stored or located within any Street. (Water pumps not visible are not included in this prohibition.)
- Street Lighting shall be placed along the Street Tree Alignment Line or within the furniture zone as shown in the Master Transportation Plan.

Section VI. Architectural Standards, G. Lighting and Mechanical Equipment, 7. Standards for Lighting and Mechanical Equipment:

Lighting:

- STREET LIGHTS: The single black 16-foot "Carlyle" luminaire, or other STREET LIGHTS as the County specifies, shall be used within the Columbia Pike Special Revitalization District. In order to minimize light pollution, light should be directed downward to the immediate area being lighted and away from any living quarters.
- STREET LIGHTING: Lights shall be located 16 feet above grade with a maximum average spacing (per Block face) of 60 feet on center located on the STREET TREE ALIGNMENT LINE or within the furniture zone on each side of the STREET and travel lanes (unless otherwise indicated on the REGULATING PLAN

Master Transportation Plan reference to lighting:

The Master Transportation Plan – Street Elements (adopted February 12, 2011) page 29, states that "all streets should also have sufficient street lighting to meet County lighting standards"

Proposed FBC Amendments/Interpretations

Map Amendment _____ **Text Amendment** _____

Topic: Street Tree Caliper Size Requirement in Streetscape Standards

Issue:

1. Current regulations for Street Tree caliper sizes in the Form Based Code are inconsistent with County-wide standards used in Site Plans.

Purpose:

1. The Urban Forestry Commission requested that County standards for tree caliper sizes be changed, reducing to a smaller caliper, in order to improve the health and survival rate of trees. The County Board recently adopted a new standard for all Site Plan projects throughout the County, including amending approved conditions for un-built projects to apply the new standard.
2. In response to the above, Form Based Code regulations should also be changed in order to maintain consistency with new County standards. The Site Plan standard does not include minimum heights for trees at planting.
3. Approved, but un-built, FBC projects should be modified to allow for the smaller tree caliper sizes.

Summary of existing and proposed FBC requirements:

Current FBC Regulation	Proposed Change
<i>Section V, B. Minimum Standards</i>	
At planting, trees shall be at least 4 to 4.5 inches in diameter (4 feet above grade) and at least 12 feet in overall height.	At planting, trees shall be 3.5 inches in diameter (4 feet above grade).
On Local and Neighborhood sites only, at least 1 canopy shade tree per 550 square feet of the required open (unpaved) area shall be planted in the rear LOT area and no closer than 5 feet to any Common Lot Line. Such trees shall be at least 4 to 4.5 inches caliper (4 feet above grade) and 10 feet in overall height.	On Local and Neighborhood sites only, at least 1 canopy shade tree per 550 square feet of the required open (unpaved) area shall be planted in the rear LOT area and no closer than 5 feet to any Common Lot Line. Such trees shall be 3.5 inches caliper (4 feet above grade).

FBC references where changes may be proposed:

Section V. Streetscape Standards, B. Minimum Standards

1. THE STREETScape

- Each STREET shall have canopy shade trees (STREET TREES). Wherever the REGULATING PLAN does not show specific STREET TREE placement, STREET TREES shall be planted along the STREET TREE ALIGNMENT LINE at an average spacing not greater than 25 to 30 feet on center (measured per BLOCK face). Required tree planting area widths are specified on

the typical street cross sections in the Master Transportation Plan – Part I. However, open soil surface area shall be not less than 60 square feet per isolated tree, and connected (tree strip) planting areas are encouraged. The planting area’s minimum dimension shall be 5 feet or as indicated in Arlington County Landscape Standards, Section II.B. Tree Pit Size/Planting Strip Size. At planting, trees shall be at least 4 to 4.5 inches in diameter (4 feet above grade) and at least 12 feet in overall height. Species shall be selected from the Columbia Pike Special Revitalization District Street Tree List. Consult the ADMINISTRATIVE REVIEW TEAM for the designated tree species for a particular STREET.

- Any unpaved ground area fronting the LOTS (to the curb) shall be planted with groundcover or flowering vegetation.
- STREET TREES shall be “limbed up” so as to not interfere with pedestrian or auto/truck travel (minimum 7 feet clear over the sidewalk and 14 feet over the travel lanes of the STREET).
- Low metal fencing or railing that is attractive and durable shall be installed around STREET TREE pit areas to prevent pedestrian damage to planting materials. Consistency of fencing design is required within a project and within a BLOCK face. (Tree fencing shall not be required in locations where the clear sidewalk area is less than 6 feet in width.)

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- On LOCAL and NEIGHBORHOOD sites only, at least 1 canopy shade tree per 550 square feet of the required open (unpaved) area shall be planted in the rear LOT area and no closer than 5 feet to any COMMON LOT LINE. (See the Siting Requirement under the BUILDING ENVELOPE STANDARDS). Such trees shall be at least 4 to 4.5 inches caliper (4 feet above grade) and 10 feet in overall height. Species shall be selected from the Columbia Pike Special Revitalization District Street Tree List.

The table below identifies affected (approved but un-built) Form Based Code projects, their address and date of original approval that could be addressed by the new requirements.

Form Based Code Project Name	Project Location	Date of Approval
Axumite Village	Highland St & 11 th St	July 2009
Columbia Place	Walter Reed Dr & 11 th St	July 2009
The Shell	Greenbrier St & Columbia Pike	March 2012
Rosenthal Site	Glebe Rd & Columbia Pike	May 2012

Proposed FBC Amendments/Interpretations

Map Amendment _____ **Text Amendment** _____

Topic: Bike Sharing Stations and Bus Stops

Issue:

1. The Form Based Code does not currently provide enough flexibility within the Streetscape Standards to accommodate future bikeshare stations and transit stops.

Purpose:

1. To introduce ordinance language that allows more flexibility of streetscape elements in the public right-of-way in order to:
 - a. Help facilitate the expansion of the Arlington County Capital Bikeshare Transit Development Plan by accommodating additional bike sharing stations within future redevelopment proposals in the Columbia Pike corridor;
 - b. Improve access and usage of existing bicycle network by providing additional enhanced facilities for bicycles.
 - c. Accommodate existing and already planned transit stops within future development proposals while achieving other required streetscape elements.

Summary of existing and proposed FBC requirements:

Existing FBC Requirement:
n/a
Proposed FBC Requirement:
Minimize conflicts between streetscape elements required by the developer and already planned/existing County bike sharing stations or bus stops
Allow Zoning Administrator to modify streetscape standards in such cases where flexibility is needed to achieve transit stops or bikeshare stations.

FBC References where changes may be proposed:

Section III. Regulating Plans | B. Rules for the Regulating Plan and New Development Plans | 3. Streetscape

C. At the time of development, the developer is required to install sidewalks. Sidewalks shall not be constructed entirely of plain poured concrete. However, a six-foot wide "clear zone" of smooth concrete sidewalk shall be constructed and maintained free of obstruction for pedestrians at all times. A variety of paving materials, textures, and colors are allowed outside of the clear zone. All paving materials shall be compliant with ADA accessibility guidelines and material selection should be sensitive to the needs of mobility impaired persons. In addition, a "shy zone" of at least 2 feet in width shall be included adjacent to the building face. Consistency of paving design is required within a project and within a BLOCK.

Section V. Streetscape Standards | B. Minimum Standards

7. General Notes

- All plant material (including trees) shall conform to the standards of the American Association of Nurserymen and shall have passed any inspections required under State regulations.
- Invasive exotic species found anywhere on the Lot shall be removed
- Mechanical and electrical equipment including, but not limited to, air compressors, pumps, exterior water heaters, water softeners, private garbage cans (not including public sidewalk waste bins), and storage tanks may not be stored or located within any Street. (Water pumps not visible are not included in this prohibition.)
- Street Lighting shall be placed along the Street Tree Alignment Line or within the furniture zone as shown in the Master Transportation Plan.