

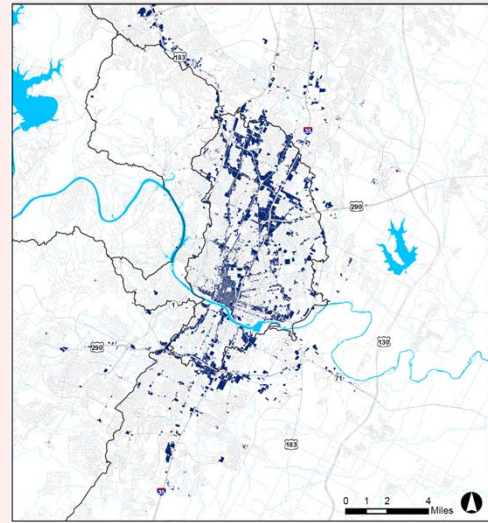
FUNCTIONAL GREEN
A Component of the
Proposed Revised Landscape Code

CODENEXT

1-FEB-17

Functional Green Landscape Code

- ✓ Integrates nature
- ✓ Provides flexibility
- ✓ Is straightforward



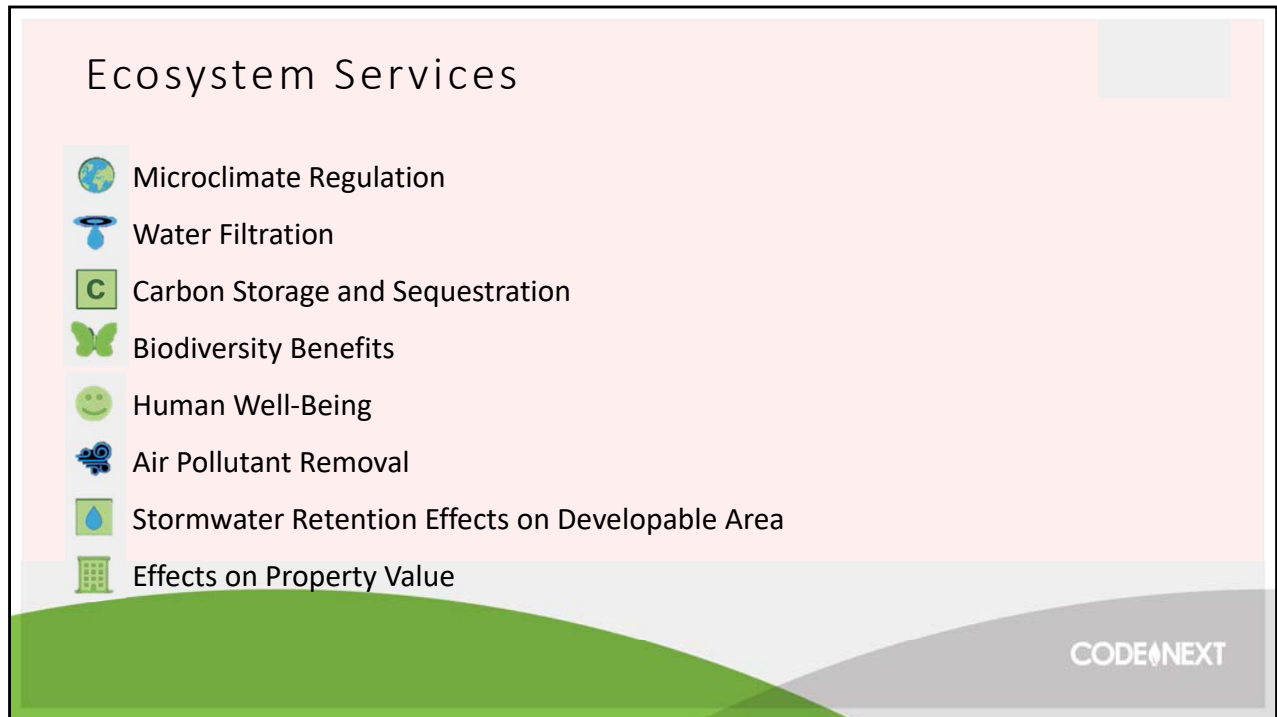
Functional Green is a new tool in the City's landscape code tool chest.

It applies to sites with an IC allowance over 80% and is designed for getting nature into these dense urban sites.

Functional Green integrates nature into parcels where building cover or other impervious surfaces limit what the standard landscape code can accomplish.

It gives developers a planning tool that is flexible and provides ecological benefits comparable to those achieved by the standard landscape code.

And it provides a program that is straightforward and clear to implement and review.



Functional Green is based on the science of “ecosystem services,” the important benefits that people receive from healthy functioning ecosystems.

A consultant team reviewed over 120 scientific, environmental studies, identifying ecological and economic benefits that could be expected from each Landscape Element in Austin’s geography and climate.

We chose 8 Ecosystem Service benefits to base the Functional Green landscape code on:

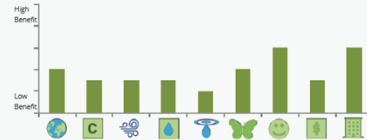
- Microclimate Regulation
- Water Filtration
- Carbon Storage and Sequestration
- Biodiversity Benefits
- Human Well-Being
- Air Pollutant Removal
- Stormwater Retention Effects on Developable Area
- Effects on Property Value

Ecosystem Services of Functional Green Landscape Elements



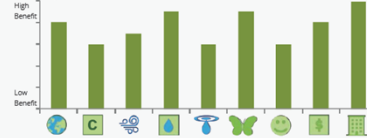
SHRUBS, ORNAMENTAL GRASSES, LARGE PERENNIALS, OR GROUND COVER
 Factor: 0.2 - 0.3
 Cost: \$

Shrubs are woody vegetation over 2 feet in height with a mature width of 9 feet or less. Ornamental grasses and perennials have a mature height of at least 2 feet and must be evergreen or have year round structure. Ground cover is low spreading vegetation less than 24 inches in height.



EXTENSIVE AND INTENSIVE GREEN ROOF
 Factor: 0.5 - 0.6
 Cost: \$\$\$ - \$\$\$\$

Green roofs cover buildings, parking garages, and other elevated surfaces with a vegetated surface and growing media. Projects can use both extensive (media less than 7" deep) and intensive (media 7" deep or greater) green roofs. Additional credit for the plantings in the green roof is counted separately.



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The draft brochure from February of 2018, illustrates the relative benefits provided by each landscape element in a bar-graph format.



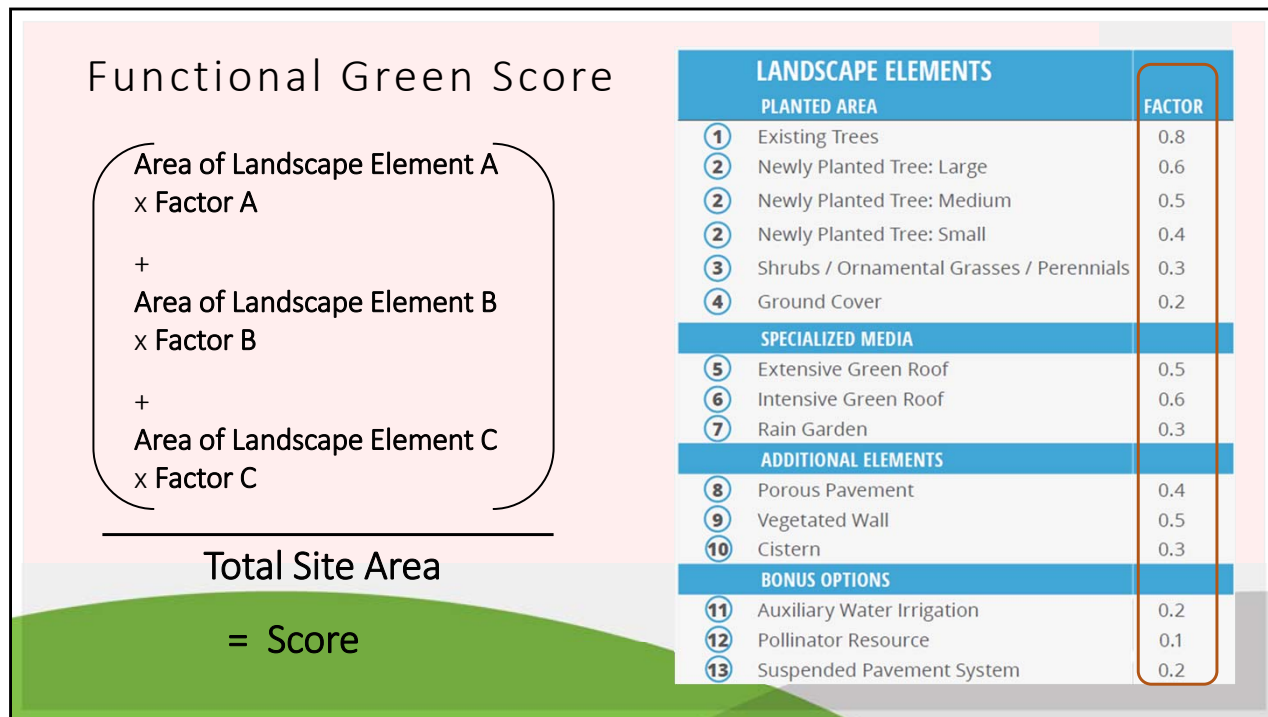
The designer of a development chooses what landscape to provide by selecting from a menu of Functional Green landscape elements.

Menu of Landscape Options



The landscape element menu includes, for example:

- Existing and new trees
- Vegetated (green) walls
- Vegetated (green) roofs
- Porous paving
- Rain gardens
- Irrigation with Auxiliary Water Source

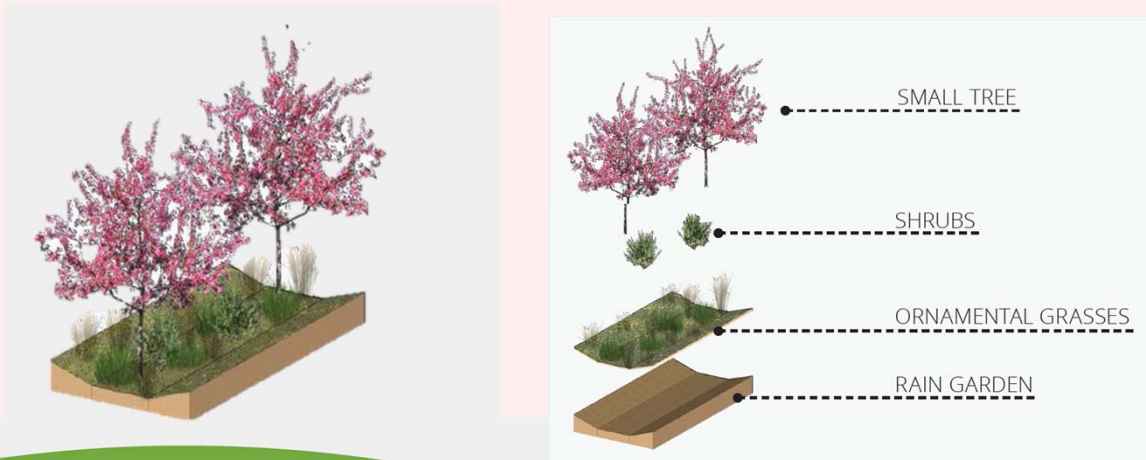


A proposed development must meet the specified Functional Green Target Score. This score represents the ecological function of a site relative to the total site area. Through research and testing, the consultant team and staff settled on a draft target score of 0.3.

Each landscape element has a value, or “factor.” The factor values are based on the set of ecological and economic benefits presented above and are weighted relative to each other.

To calculate a development’s Functional Green score, multiply the area of each landscape element by its factor; add these landscape-element values together; and divide by the total site area. The answer is the proposed development’s Functional Green score.

Layer Landscape Elements



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You can maximize your score by layering landscape elements. For example, if you build a rain garden, you get the points for the area of the rain garden media. Add ornamental grasses, shrubs, and trees, and you get the points for the area of each of those additional landscape elements.



Case Studies done by the consultant team provide examples of how Functional Green would be applied to some existing Austin sites.

South Congress Hotel

Functional Green Score: 0.33

Use: Hotel

Site Area: 0.95 acres

Impervious Cover: 95%



South Congress Hotel

As constructed, this hotel achieves a score greater than the target score of 0.3 using

- Planted trees,
- Shrubs & ornamental plants,
- Ground cover, and
- Vegetated walls.

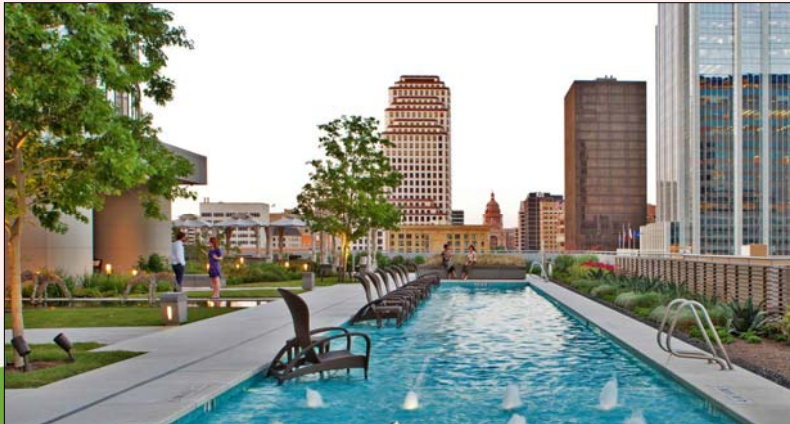
Austonian

Functional Green Score: 0.31

Use: Mixed-use

Site Area: 0.65 acres

Impervious Cover: 100%



TEXT

The Austonian

This residential high-rise achieves a score greater than the target score of 0.3 with:

- Planted trees,
- An extensive and intensive green roof,
- Shrubs,
- Ornamental grasses,
- Ground cover,
- A cistern, and
- Auxiliary water irrigation of the landscape.

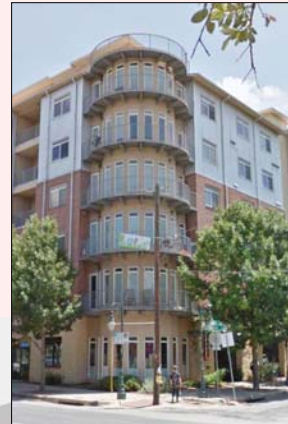
Galileo at 25th

Functional Green Score: 0.22

Use: Residential

Size: 0.33 acres

Impervious Cover: 90%



Galileo at 25th

This residential low-rise achieves a score of 0.22 with

- Planted trees,
- Shrubs, and
- Ground cover.

One way the project could reach the target score of 0.3 is with the addition of:

- + 1000 sq. ft. vegetated wall,
- + 2,710 gallon cistern,
- + Landscape irrigation with auxiliary water, and
- + Suspended pavement system.

5th & Colorado

Functional Green Score: 0.13

Use: Office

Site Area: 0.66 acres

Impervious Cover: 100%



TEXT

5th & Colorado

This downtown office high-rise achieves a score of 0.13 with:

- Planted trees and
- A suspended pavement system.

The project could reach the target score of 0.3 with the additions of:

- + 5000 sq. ft. extensive green roof,
- + 6,177 gallon cistern, and
- + Landscape irrigation with auxiliary water.

Landscape Code: Functional Green
Questions & Comments

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In the backup for this meeting, I provided the 2018 draft brochure and the 2019 proposed code and criteria language for Functional Green. You will see that revisions were made between those two documents.