



## Recommendations to Green Infrastructure Working Group Summary

August 24, 2015

ASLA-CTX supports the results of work sessions by the City of Austin Green Infrastructure Working Group (GIWG) on Land Cover and Natural Function, Integrate Nature into the City, Beneficial Use of Stormwater, and Stormwater Options for Redevelopment and Infill. We strongly advocate for these results to be included in the land development code rewrite and not serve simply as guidelines for greenfield development and infill redevelopment. We support testing of an interim draft code on actual sites to determine effectiveness in achieving green infrastructure goals and intents.

We would like to offer the following specific green infrastructure recommendations to the land development code rewrite:

### Land Cover and Natural Function

- Create incentives for the use of Green Infrastructure in all contexts, including remodels.
- Establish performance benchmarks of ecological function as a basis for evaluating projects seeking green infrastructure incentives.
- Institute a Conceptual Site Plan submittal prior to the Completeness Check that shows a stormwater/green infrastructure and preservation of natural assets approach to site layout. Include the participation of Landscape Architects in the submittal requirement.
- Maintain or increase the existing 5% Private Open Space ordinance in Commercial and Multifamily and extend this requirement into new 'Transition Zones' that are planned for redevelopment or up-zoning. On-site private open space is critical to preserving pervious cover and existing tree canopy and to prevent downstream flooding.
- Require parkland dedication on-site, especially in areas of the city that are identified in the Parks Master Plan as deficient in open space and parks.
- Require the presence of public open space within a ¼ mile radius of proposed higher density districts and corridors. Acquire private land to convert to public open space such as neighborhood parks and pocket parks.
- Ensure that site specific environmental considerations are included in determining impervious cover limits.
- Establish a minimum of 30% pervious area in all required open space. Provide a nuanced code that recognizes the shallower soils in Western Travis County and the deeper soils in Eastern Travis County. Require a minimum soil depth (using existing or existing plus imported soil) in pervious areas to retain on-site stormwater.
- Create an open space network that provides connectivity for pedestrians and wildlife.
- Incentivize the restoration of floodplains, waterways, and urban forests.

### Integrate Nature into the City

- Ensure that sites in all land use zones have a significant percentage of on-site green elements. Integrate Dr. Frances Kuo's research on the health benefits of green elements into the 'intent language' of the new code.
- Institute a similar program to the Green Area Ratio of Washington, D.C. or the Seattle Green Factor landscape approach for all infill and redevelopment sites. Extend into the new 'Transition Zones' with missing middle housing. (A green factor infill landscape approach incentivizes such items as protection of existing trees, increased soil depth, green

## **Integrate Nature into the City (continued)**

- walls and green roofs.) Provide credit for documented on-site life cycle implementation and maintenance plans.
- Provide ecologically functional landscape transitions in the Compatibility Setback. (See ASLA's Green Compatibility proposal.)
- Establish "Green Streets" standards and specifications for all right-of-way (ROW) construction and graphically illustrate these principles in the code update.
- Modify the Sub-chapter E Ordinance to set back buildings from the property line, thereby allowing for green landscape on both sides of a sidewalk and increasing pedestrian comfort.
- Preserve and enhance the Urban Forest. Include Urban Heat Island mitigation and the goal of 40% tree canopy citywide in the 'intent language' of the new code.
- Maintain the Heritage Tree Ordinance & Tree Preservation/Mitigation Rules.
- Change the caliper size of protected trees to 8" or more. Establish a new size of protected 'understory' trees that have a caliper size of 4" or more. Establish tree soil volume requirements. Extend tree ordinances into the new 'Transition Zones' that are up-zoned or planned for redevelopment/infill.
- Prior to paying fee-in-lieu for tree mitigation, incentivize tree transplanting or tree mitigation with attendant automatic irrigation to nearby dedicated open spaces.
- In parking lot medians, require new trees be planted at a minimum of 30' on-center in order to offset heat gain.

## **Beneficial Use of Stormwater**

- Require that post-development hydrology on all new (greenfield) development match pre-development hydrologic conditions through the use of uniformly distributed decentralized micro-scale controls that are associated with Low Impact Development (LID) techniques, such as rainwater harvesting and rain gardens.
- Incentivize permeable pavements for sidewalks, non-vehicular paved areas, and parking bays.
- Require water quality controls for all development in which the total disturbed area exceeds 5,000 square feet rather than the current requirement of controls for development that has 8,000 sq ft. of impervious cover.
- Require or incentivize water quality controls (i.e., green storm water quality infrastructure) that are better at removing nutrients (nitrogen and phosphorus) in comparison to conventional stormwater controls, such as sand filters.
- Require that a Homeowners Association (HOA) be created for all new developments that include micro-scale residential water quality controls (e.g., rain gardens) and require that the HOA assumes responsibility for the maintenance of such controls.
- Reduce the use of potable water for irrigation on commercial projects by 50% by implementing water conservation practices and stormwater capture and reuse. (We suggest the baseline procedure for irrigation reduction described in SITES v2.)
- Work toward goal of potable water budgets. Research and define an appropriate baseline for Central Texas and develop a reasonable time-line for implementation. Coordinate with implementation of reclaimed water lines. Coordinate with new codes that support use of rainwater harvesting, HVAC condensate, and gray water. Include the landscape and irrigation industry as key stakeholders in the process.
- Incentivize efficient irrigation through the use of smart controllers, computer tracking programs, soil moisture sensors, drip irrigation, and mulch.

## **Stormwater Options for Redevelopment and Infill**

- Require that redevelopment projects mitigate their share of downstream flooding.
- Require that any development provide a visual impact watershed creek survey and propose on-site or off-site mitigation commensurate with development impact.
- Require mitigation of any increase in impervious cover from the current land development code.
- Tie any proposed increase in land use density to adequacy of infrastructure capacity. If a watershed has been determined to be at capacity by the Watershed Protection Department, then require that any new development in that watershed detain all stormwater. Do not allow fee in lieu, waivers or variances.



## ASLA Austin | CodeNEXT

Austin needs a visionary, integrated, custom code that recognizes the positive contributions of ecological systems to the qualities of our city's urban form. Frameworks that maintain and improve our ecological resources should be at the forefront of our future plans to allow Austin to accommodate rapid population growth, strain on infrastructure, and a constantly challenged fresh water supply. The sensitive calibration of Compact and Connected and Nature and City needs to be given serious consideration throughout Austin's future Community Character policies.

### Imagine Austin's Promise

Imagine Austin, the city's comprehensive plan completed in 2012, provides a collective strategy for meeting the significant challenges of the 21st century. Implementing the plan will require the coordination of many efforts and among the most important of these is the revision of Austin's land development code. To achieve the aims of the plan, we highlight three policies that will have broad implications for the relationships between Compact and Connected and Nature and City:

"Integrate citywide and regional green infrastructure to include such elements as preserves and parks, stream corridors, green streets, greenways, and agricultural lands and the trail system into the urban environment and the transportation network." LUT P23

"Integrate green infrastructure elements such as the urban forest, gardens, green buildings, stormwater treatment and infiltration facilities and green streets into the urban design of the city through "green" development practices and regulations." LUT P34

"Adopt innovative programs, practices, and technologies to increase environmental quality and sustainability and reduce Austin's carbon footprint through the conservation of natural resources." CE P12

### Austin's Cultural Values

Environment, culture, and design are layered in the ways we shape form and density to create urban fabric. The unique Austin culture, which is renowned internationally, is defined by our close connection with nature in the city. This urban-nature cohesion has historically set Austin apart from its bigger brother and sister cities in Texas. Conserving this connection is one of our cultural values. Emphasizing elements that define the city as natural, such as green infrastructure, a healthy urban tree canopy, air quality, and a sustainable water supply will allow Austin to maintain its vitality and encourage a healthy coexistence of humans, flora, and fauna.

### Austin's Environmental Legacy and Future

The features that have made our city so unique, attractive, and livable are the abundance of natural areas integrated into our urban form through the river and creek system, the predominance of tree cover, the emphasis on green infrastructure, and the creativity of our outdoor urban spaces. Public and private access to nature in the heart of the city has time and again proved to be a significant value for Austinites and supports our healthy quality of life. These unique characteristics and our values have contributed to an economic competitive edge by attracting businesses and the talent who desire our lifestyle. As a relatively young city, Austin has the opportunity to establish a progressive, innovative land development code that protects and enhances the natural beauty and the health, safety, and welfare of our citizens. The CodeNEXT Land Development Code rewrite should place the

same importance on Nature and City as it does on Compact and Connected as described in Imagine Austin.

## Current CodeNEXT Concerns

ASLA Austin is concerned that certain precedent form-based codes from other cities that focus simply on the built environment and walkability will not provide a framework that is appropriate for Austin's values or its specific environmental challenges—including urban heat island effects, drought, periodic flash floods, and air quality. Austin needs a custom code that combines form-related and environmental interests into one holistic document. Landscape urbanism is a term for organizing the form of the city around its natural patterns and attributes. The form-based code's urban transect can be achieved within the ecological framework of an integrated systems approach. There is an opportunity to adopt the principles of landscape urbanism and allow our city and region to mature and urbanize in a gentler, more respectful way, one that will preserve and enhance our city's natural systems while benefitting the associated urban form.

## Need for an Integrated Code Combining Ecological Systems and Urban Form

The code needs to function not only on a policy scale, but also on the detail scale within which design professionals can creatively implement policy intentions.

- The code should be informed by research on "green" codes that integrate nature and the city.
- The code should include performance criteria for ecosystem services that support health, safety and welfare.
- The code should be flexible and allow policy intentions to be met through a balance of environmental concerns and built form.
- The code should work across scales, from zoning regulations to environmental criteria to design guidelines.
- The code should evolve over time by accommodating advances in technology and improvements in technique.

ASLA Austin is ready and willing to help provide an understanding for an ecological systems-based approach to the CodeNEXT process. We propose to provide open forums on specific topics in regional ecology, collaborate with the consultant team and city staff to identify best practices in green codes, support innovative green infrastructure solutions, work with other design and environmental professionals in the development of design guidelines, and provide comments on CodeNEXT documents as they are developed.

We welcome the opportunity to work with our city's code writers to develop the best possible code for Austin's future that honors its environmental legacy.

### For Reference:

ImagineAustin Comprehensive Plan. City Council Adopted, June 15, 2012. (Policies LUT P5, 11, 22, 23, 29,30, 33, 34, 35; CE P3, 4, 5, 6, 11, 12, 14; CFS P4, 5, 14; CFS P44, 47; S P25,29; C P16, 17: Priority Programs 1,2, 4, 8; Action Matrix LUT A5, 8,14, 19, 28, 32, 36,37,39, 45: HNA15; CE A3,6,7,10,15,16,22; CFS A3,7,9,10,12,23,25,36,37,38, 39; C A2.)  
 ImagineAustin 2013 Annual Report. Topic Groups - Compact and Connected, Nature and City, Creativity and Economy, Healthy and Affordable, vii.  
 Nature and Cities Symposium: Urban Ecological Design and Planning. University of Texas Austin, School of Architecture, 2/28-3/01, 2014. <http://www.soa.utexas.edu/calendar/natureandcities/>  
 ASLA'S Becoming Greenest: Recommendations for a More Sustainable Washington D.C. Executive Summary.  
 "Why We Need an Urban Sustainable Development Goal" by Thomas Elmqvist. March 5th, 2014. Sustainable Cities Collective.  
 The Sustainable Sites Initiative. Collaborative Project by ASLA, US Botanic Garden, The University of Texas at Austin Lady Bird Johnson Wildflower Center. <http://www.wildflower.org>.