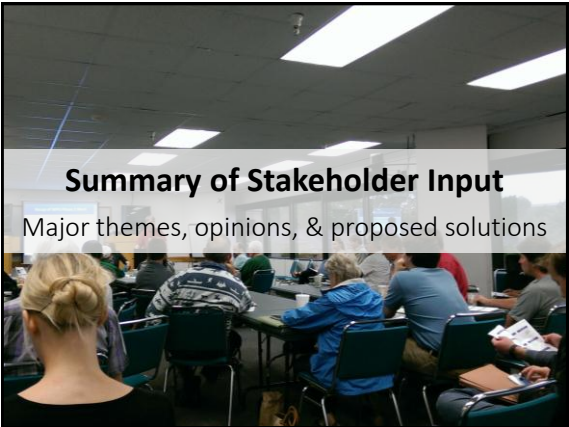




Agenda	
Arrivals & Introductions	11:00
Staff presentation	11:15
Summary of stakeholder input	
Case study: Burnet Marketplace & others	
Dot exercise/break	1:15
Large group summary & recap	1:30



Land Cover & Natural Function

Goals

- Ensure adequate natural function for all sites
 - Protect greenfield sites
 - Restore redevelopment and infill sites
- Promote desirable, purposeful open spaces & connectivity
- Want the design and care of our built environment to take advantage of strengths of both pervious and impervious cover

Land Cover & Natural Function

Challenges

- Low natural function on medium to high impervious sites
- Pervious areas don't necessarily function as intended (e.g., due to soil compaction)
- Impervious cover limits can produce fragmented landscapes of unconnected, private green spaces
- Application to centers & corridors

A diagram showing a green landscape with several white rectangular shapes representing buildings or impervious surfaces. These shapes are scattered across the green area, which is also marked with small green circles representing trees or vegetation. A blue line, possibly representing a water feature or path, winds through the landscape.

Land Cover & Natural Function

Major Themes from Stakeholders

1. Functional pervious areas
2. Publicly-accessible open space

Land Cover & Natural Function

Functional pervious areas

- Preserve/protect open space, key natural assets
- Protect/restore trees, soil, vegetation, natural function
- Prefer flexible & incentive-based systems (FL model)
- Facilitate use of porous pavement
- Use metrics to ensure function, e.g., for infiltration/compaction, soil organic content, etc.
- Protect or restore all pervious areas during construction
- Remove incentives to “scrape” sites during construction

Land Cover & Natural Function

Publicly-accessible open space

- Open space and green connections are vital
 - Colorado model of required public open space & connectivity
- Need for parkland within walking distance to mitigate for higher density in development centers & corridors
- Provide open space onsite wherever possible; use payment-in-lieu offsite as a last resort
- Big pct. of required open space should be pervious
- Use open space/green stormwater infrastructure (GSI) to act as buffers between differing land uses

Integrate Nature into the City

Goals

- Functional landscapes with multiple benefits (e.g., urban heat island, water conservation, habitat, enhanced public realm)
- Urban forest preservation and replenishment
- Climate resilience and adaptation to drought
- Green transitions between different land uses
- Practical to implement and maintain the ordinance

Integrate Nature into the City

Challenges

- Landscaping code does not apply to dense urban areas (e.g. CBD) or parking lots for remodels
- “Street yard” concept does not work in all contexts
- Inadequate provisions for shade trees & existing trees
- Missed opportunities for onsite infiltration of stormwater and use of non-potable water
- Transitions between land uses (e.g., centers & corridors and adjacent residential) need refining

Integrate Nature into the City

Major Themes from Stakeholders

1. Integrate landscaping into all contexts
2. Landscaping in right-of-way & site setbacks
3. Adequate provisions for shade trees

Integrate Nature into the City

Integrate landscaping into all contexts

- All sites should have some form of onsite landscaping
- Incentivize larger offsite areas and smaller, onsite green elements
- Design for multi-purpose landscapes that serve hydrologic, wildlife, and human purposes
- Use green elements to soften increased density
- Allow for flexible site designs to preserve existing natural areas
- Use flexible, menu-based approach (per Green Area Ratio & Green Factor*), esp. in denser areas with fewer onsite options

* Washington, D.C. & Seattle, WA systems used to require and quantify green elements for new development.

Integrate Nature into the City

Integrate landscaping into all contexts (continued)

- Integrate green stormwater controls in landscapes/open spaces
- Green roofs, green walls, awnings, lattices, and other plants in areas where shade trees are infeasible
- Use landscaped green transitions between different land use intensities to address compatibility concerns
- Require landscaping for remodels (not just new/re-development)
- Add green space to subdivision requirements
- Use regenerative designs to restore function
- Include landscape architect/designers early in process

Integrate Nature into the City

Landscaping in right-of-way & site setbacks

- Strong support for Green Street designs, elements
- Provide more trees for walkable, shaded corridors
 - But green elements/trees solely in the ROW not sufficient
- Ensure building setbacks sufficient to provide landscape on both sides of sidewalk (10 - 15 ft)

Integrate Nature into the City

Adequate provisions for shade trees

- Trees & shade are critical to mitigation urban heat island and promote walkability
- Preserve & protect mature, healthy trees: essential to maintaining walkability and natural/Austin character
- Use porous pavement, structural soils, grated pavers, & continuous planting beds to accommodate trees
- Protect smaller caliper trees

Beneficial Use of Stormwater

Goals

- Address drought & climate change impacts on watershed health and water supply
- Incorporate natural systems & rainwater storage in designs to offset water use, preserve quality of life
- Final Report of the Austin Water Resource Planning Task Force recommended “Tapping into the Cityscape as a Water Supply Source”
- Practical methods & models have already been implemented in other cities

Beneficial Use of Stormwater

Challenges

- Current code addresses water quality treatment, but not the on-site beneficial use of stormwater
- How to handle redevelopment and high levels of impervious cover

Heat
Drought
Population
Urbanization

Rainfall
Surface &
Groundwater
Natural Land Cover

Beneficial Use of Stormwater

Major Themes from Stakeholders

1. Onsite infiltration/retention
2. Re-use/conservation
3. Special considerations for redevelopment

Beneficial Use of Stormwater

Onsite infiltration/retention

- Require onsite infiltration/retention per other US models
- Use decentralized green options like rain gardens, porous pavement, rainwater harvesting, disconnected IC
- Provide a menu of re-use alternatives to reach requirements if cannot infiltrate due to site constraints
- Maintain/restore predevelopment hydrology; use to guide design
- Reduce barriers to speed approval of innovative controls & rainwater capture systems
- Work to address maintenance questions

Beneficial Use of Stormwater

Re-use/conservation

- Water conservation essential, must incorporate into designs
- Work towards goal of no potable water for irrigation
 - Others: Still need a potable irrigation system as backup
- Use regionally-appropriate plant list; ensure supply exists
- Require potable water budget; use non-potable to exceed
- Limit use of grass/turf

Beneficial Use of Stormwater

Special considerations for redevelopment

- Some like TN & WV model to reduce (but not eliminate) retention requirements to encourage other redevelopment benefits
- Others: do not support special considerations for redevelopment—should be held to greenfield standards
- Offsite mitigation should occur within same watershed
 - Consider additional offsite mitigation options such as the provision of open space and tree plantings

Stormwater Options for Redevelopment & Infill

Goals

- Address longstanding problems due to development without sufficient flood controls and/or drainage conveyance
- Provide additional flexibility and options to enhance water quality for redevelopment and infill

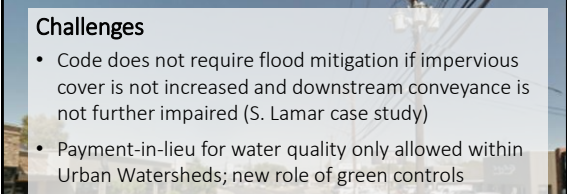


Del Curto Rd and Bluebonnet Ln

Stormwater Options for Redevelopment & Infill

Challenges

- Code does not require flood mitigation if impervious cover is not increased and downstream conveyance is not further impaired (S. Lamar case study)
- Payment-in-lieu for water quality only allowed within Urban Watersheds; new role of green controls



Burnet Road Corridor

Stormwater Options for Redevelopment & Infill

Major Themes from Stakeholders

1. Redevelopment should be required to mitigate a share of downstream flooding problems proportionate to site impacts
2. Stormwater (and other) infrastructure needs to be adequate to keep pace with new growth

Stormwater Options for
Redevelopment & Infill

- Redevelopment should help mitigate flooding
- Manage 2- & 10- year storms onsite; pay-in-lieu for City to mitigate 25- & 100-year storms offsite
- Reverse (degraded) hydrology in incremental fashion
 - Focus on smaller areas with smaller mitigation projects: neighborhood scale
- Offer density bonuses to incentivize onsite detention (where none existed previously)

Big Picture Comments

- Write the code to enable site-specific differences: honor different contexts
- Use watershed/existing infrastructure data to help inform land use planning decisions— “Watershed Growth Plan”
- Continue to benchmark other jurisdictions as well as the Sustainable Sites Initiative/Living Building Challenge
- Account for Austin’s unique climate & geography as we consider solutions from other jurisdictions
- Want performance-based, not prescriptive, requirements
- Build G.I. requirements into Form-Based Code

Big Picture Comments

(continued)

- Consider affordability impacts of new requirements
- Re-establish intent language in new code
- Integrated systems need to have an integrated plan review process
- Don’t want to (too easily) allow variances
- Make innovation and desired outcomes the easy path —not the prohibitive, alternative path
- Consider extending these policies to single-family subdivisions and individual building permits

Case Studies

Burnet Marketplace – All Topics

Land Cover & Natural Function

Integrate Nature into the City

Beneficial Use of Stormwater

Flood Mitigation for Redevelopment

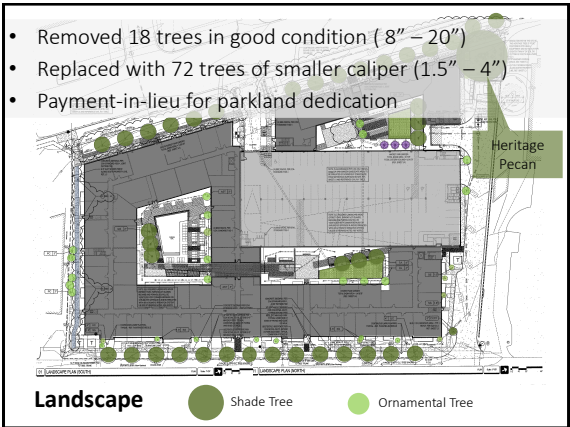
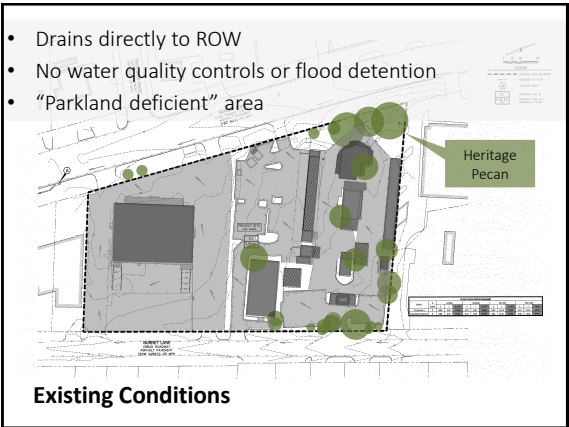
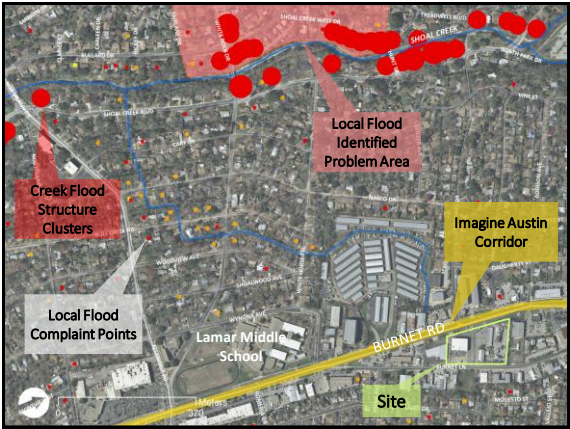
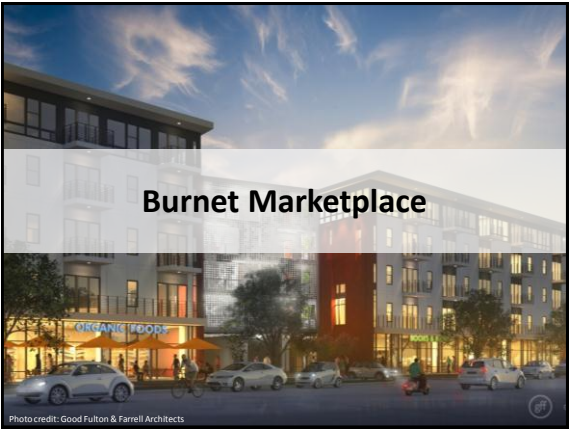
Case Study Locations

A map of Austin, Texas, highlighting several urban development sites. The sites are color-coded and labeled: Burnet Marketplace (white), Corazon (blue), MLK Station Apartments (yellow), Legacy Apartments (blue), Saltillo Station (blue), Golden Corral (green), South Congress Hotel (green), and District at SoCo (red). The map shows the city's layout, including major roads and the Colorado River. A scale bar and north arrow are in the bottom left corner.

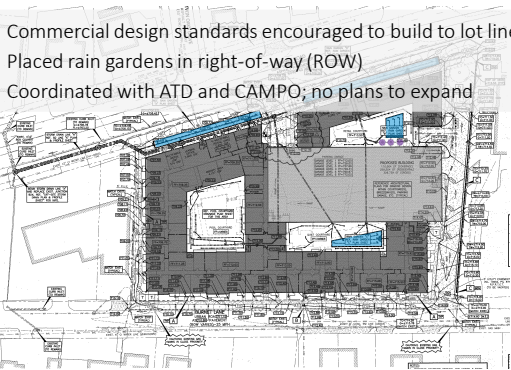
Case Studies

Given the goals, challenges, and potential solutions we’ve discussed as a group:

- How were green elements and practices successfully incorporated into these sites?
- How could these sites integrate additional green elements and practices?
- What are the potential barriers and trade-offs?
- How do we best achieve our goals of green infrastructure & sustainable water management?

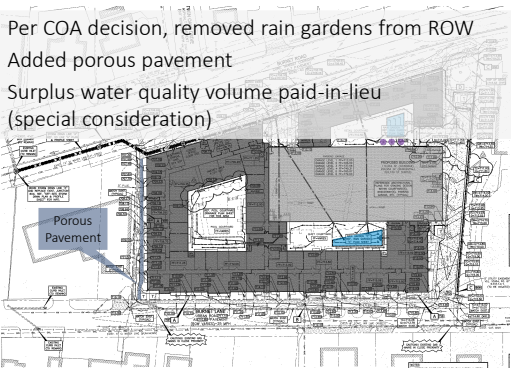


- Commercial design standards encouraged to build to lot line
- Placed rain gardens in right-of-way (ROW)
- Coordinated with ATD and CAMPO; no plans to expand

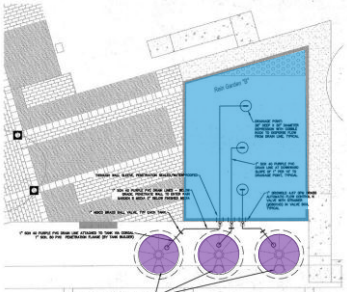
A technical site plan showing a building footprint and surrounding streets. Blue-shaded areas along the right-of-way (ROW) indicate the location of rain gardens. The plan includes various annotations and dimensions.

Original Design – Rain gardens in ROW

- Per COA decision, removed rain gardens from ROW
- Added porous pavement
- Surplus water quality volume paid-in-lieu (special consideration)

A technical site plan similar to the original, but with modifications. A callout box labeled 'Porous Pavement' points to a specific area on the site. The rain gardens previously in the ROW have been removed.

Revised Design

A diagram of a rainwater cistern system. It shows a rectangular cistern with three circular tanks at the bottom. Arrows indicate the flow of rainwater from a roof into the cistern and then into the tanks. Text labels describe the components and flow.

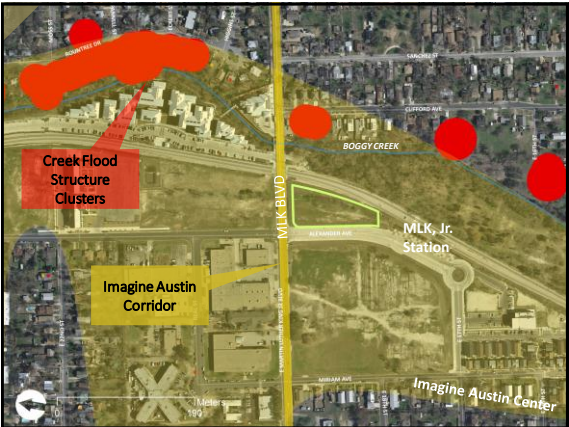
Rainwater Cistern

- 30,000 gallon capacity
- Captures rainwater from adjacent parking garage
- All tanks drain down to rain garden simultaneously in 37 hours

An aerial photograph showing a large, modern apartment complex with a curved facade. The surrounding area includes green spaces and a road.

MLK Station Apartments

Land Cover & Natural Function

An aerial map of the MLK area in Austin. Red circles highlight 'Creek Flood Structure Clusters'. A yellow box labeled 'Imagine Austin Corridor' points to a specific area. Other labels include 'MLK BVD', 'MLK, Jr. Station', and 'Imagine Austin Center'.

Creek Flood Structure Clusters

Imagine Austin Corridor

MLK BVD

MLK, Jr. Station

Imagine Austin Center

An aerial map showing a greenfield development area outlined in green. A blue line represents Boggy Creek. The area is labeled 'Imagine Austin Corridor' and 'Boggy Creek'.

Imagine Austin Corridor

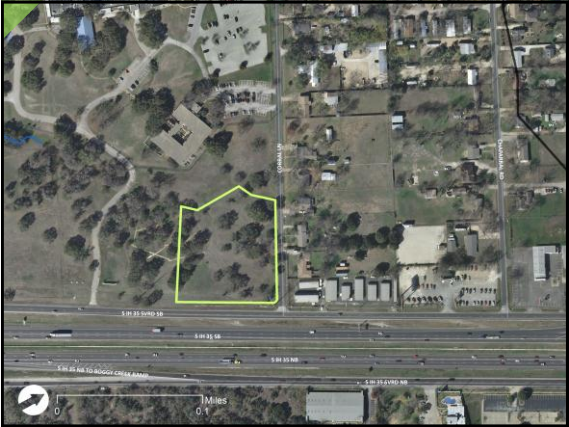
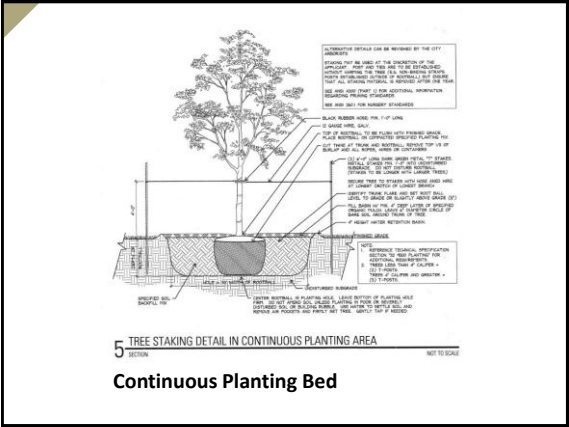
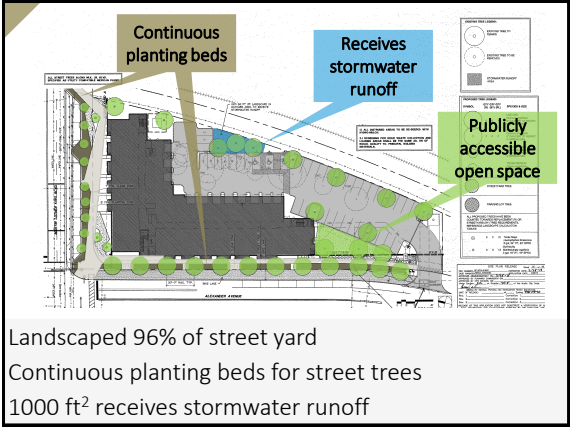
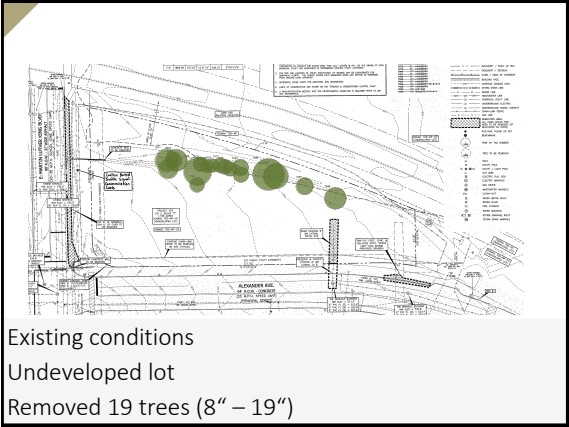
Boggy Creek

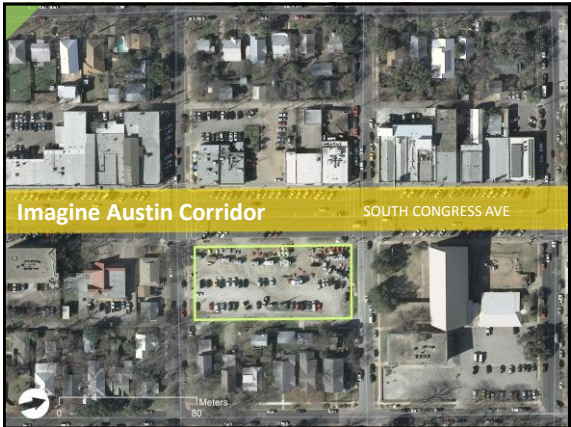
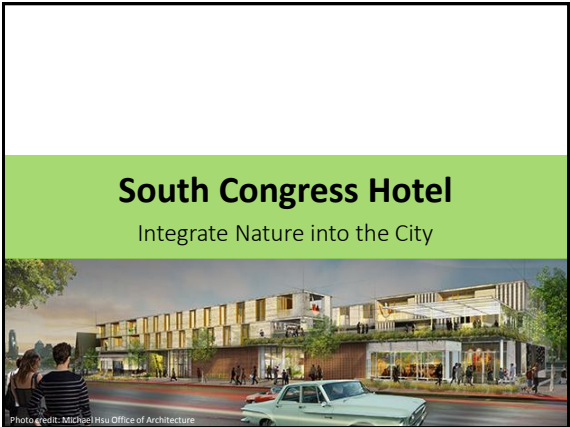
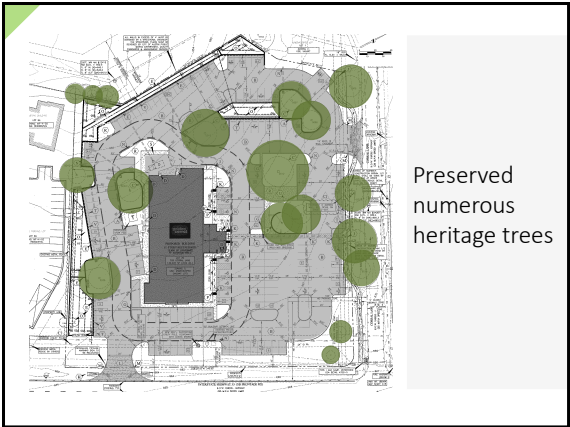
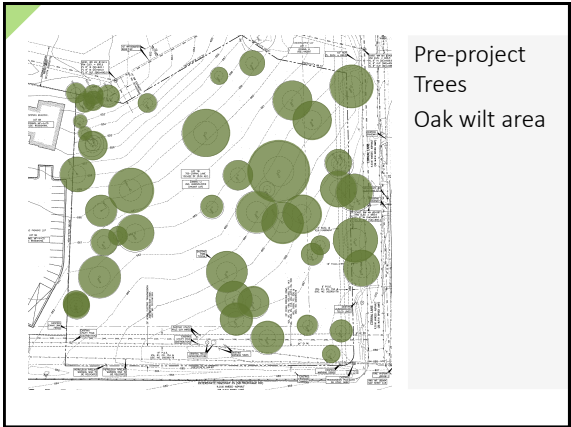
Greenfield development of 1.2 acres

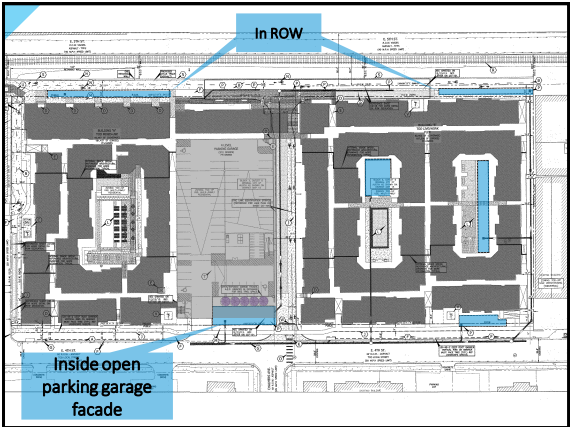
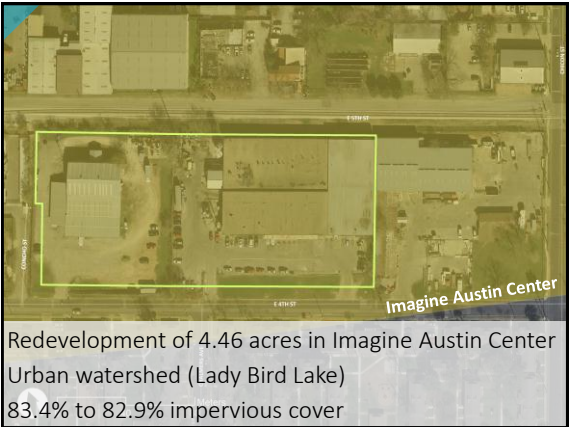
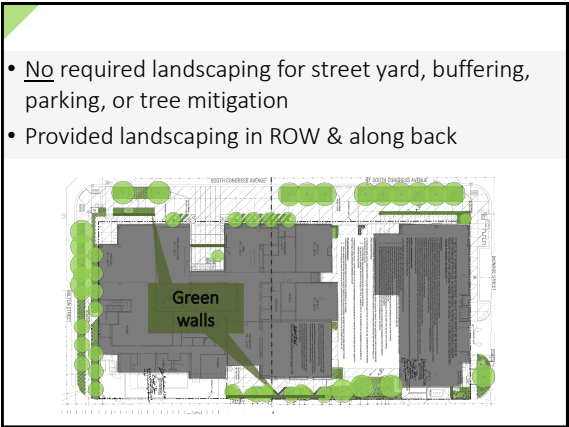
Urban watershed (Boggy) – MLK TOD

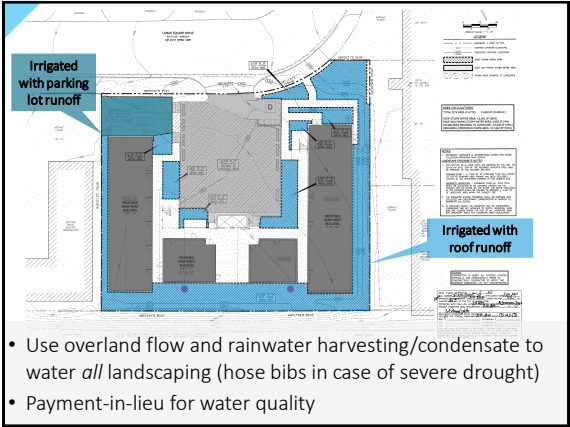
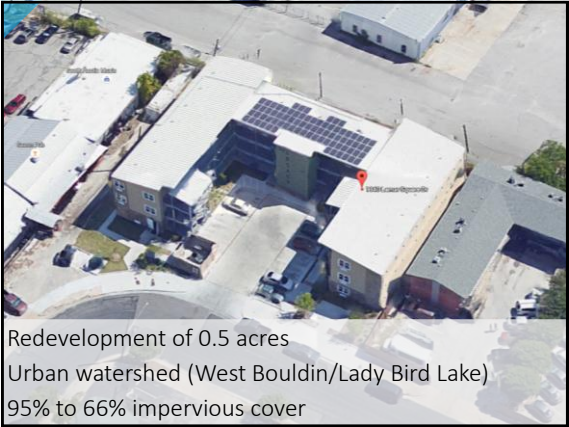
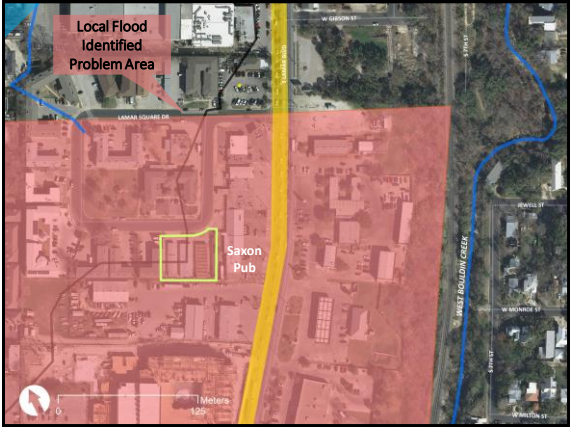
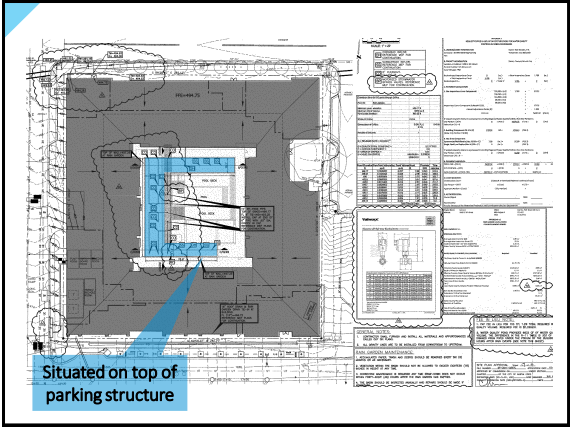
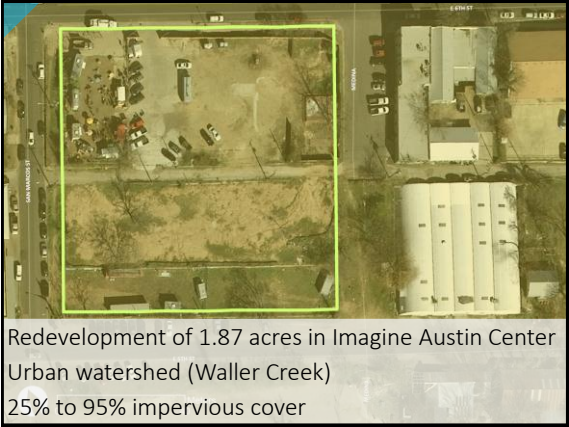
76% impervious cover

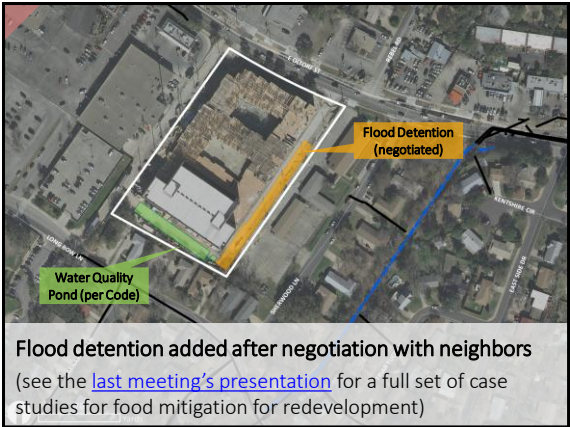
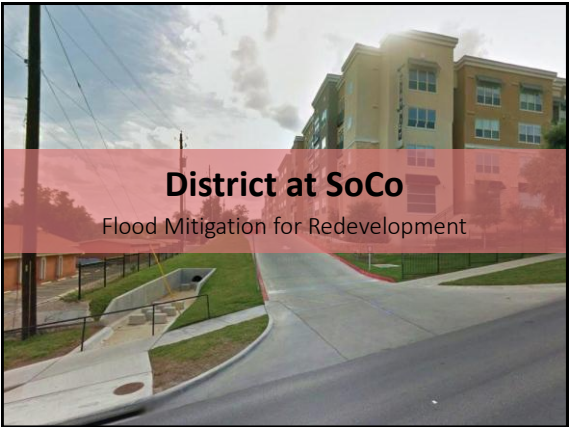
Water quality and detention provided offsite











Exercise

- The posters on the wall represent the four major topics covered by the GIWG
- Each poster contains the key themes (in black) as well as the potential solutions (in green) provided by our stakeholders
- You have 2 green dots to place next to the themes that are your top priorities
- You have 4 blue dots to place next to your favorite solutions

Going Forward

CodeNEXT Process

- Fall 2015: Draft Code Testing
- Summer 2016: Public Review Draft Anticipated
- Fall 2016: Public Review Process

Future GIWG Meetings

- What is being proposed in the draft code?
- Topic-specific meetings as key issues arise

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<http://www.austintexas.gov/page/green-infrastructure-working-group>