I. Guiding Principles – Wendy Anderson

II. Goal Setting

III. Low Impact Development Primer – Katrina Locke

IV. Tree Protection Presentation - Staff
   I. Minimum Standards
   II. Implementing Ordinance

V. Committee Discussion
Guiding Principles
Designated topics by County Council include:

- Updates and revisions to the Tree Preservation standards
- Creation of Low Impact Development standards
- Updates and revisions to the Wetland Protection standards
- Creation of Habitat Protection standards
- Updates and revisions to the Indian River Lagoon Overlay standards
- Creation of standards to adapt to sea level rise and promote resilience
Low Impact Development

Katrina Locke, Sustainability and Resilience Manager
Low Impact Development (LID)

- LID includes a variety of practices that mimic or preserve natural drainage processes to manage stormwater. “LID practices typically retain rainwater and encourage it to soak into the ground rather than allowing it to run off into ditches and storm drains where it would otherwise contribute to flooding and pollution problems.”

- “LID includes site planning and overall design to promote the use of natural systems for infiltration, evapotranspiration, and the harvesting and use of rainwater” as close to its source as possible.

Green Infrastructure

- Green Infrastructure (GI) includes natural or living features (including engineered structures built to mimic natural features in look and functionality) that perform critical natural processes.

- Grey Infrastructure includes human engineered or designed infrastructure, assets and technology that provide one or multiple services required by society.
Examples of LID and GI

- Conserving green spaces on site
- Reducing impervious surfaces
- Clustering homes
- Permeable paving
- Bioswales
- Rain gardens
- Green roofs and vegetated walls
- Rain barrels and cisterns for water capture
- Exfiltration
- Curb alternatives
- Living shorelines
- Tree box filters
Benefits of Green Infrastructure

- Water quality – manages stormwater on site, slows down the speed of the water,
- Water quantity - reduces runoff
- Aquifer recharge – rainwater harvesting and infiltration
- Aesthetics – green spaces, reduced impervious surfaces
- Air quality from planting vegetation
- Resiliency to climate changes
- Small to large scale application
- Habitat for wildlife
- Reduces urban heat island effect
- Economic
LID Projects

- Sandra Stetson Aquatic Center – Stormwater and Green Infrastructure Demonstration
LID Projects

- Spring Hill – Community Resilience through Green Infrastructure
Resources

- University of Florida Program for Resource Efficient Communities
- Stetson Institute for Water and Environmental Resilience
- Vocard
- Environmental advocacy groups
- Marine Resources Council
- 1000 Friends of Florida
- Other stakeholders
LID grant

- Department of Economic Opportunity grant
  - $75,000 – completion June 2023
  - Develop ordinance recommendations for LID
    - Best equitable practices to incorporate LID into land development codes – March 31, 2023
    - Ordinance recommendations for County Council to consider to advance resilient nature-based stormwater solutions – May 31, 2023
- LID Implementation guidebook
  - Aid in implementing LID regionally – May 31, 2023
Tree Protection Standards

Review Chapter 50 minimum standards documents
Review Chapter 72 land development code documents (time permitting)
Minimum tree coverage

1 tree per 2500 square feet of lot area – for example:

A half acre lot = 21,780 sq. feet and needs a minimum of 8.7 trees (rounded up to 9)

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ST. AUGUSTINE "FLORATAM" SOLID SOD (SQ. FT.)

* Each lot will be required to meet the minimum tree coverage standard of one tree per 2,500 square feet of lot area and that street trees may be used to meet this requirement.

DUPLEX LAYOUT (PLANT LIST QUANTITIES FOR 2 LOTS)
15% of the square footage of any development shall be designated for the protection of trees.

Tree Preservation Required = 15% of lot area
113,587 SF/.015 = 17,038 SF area required
Provided = 17,220 SF as shown
Tree replacement

Trees removed must be replaced based on 15% of the total cross-sectional square inches (CSSI) of trees removed.

For example:
A 15” DBH tree:
Radius = 7.5"
3.14 x (7.5)² = 176.625 cssi
176.625 x 15% = 26.49 inches of replacement

$\text{Pi} \times \text{Radius Squared} = \text{Cross Sectional Square Inch Trunk Area}$
Tree and root protection

TYP. TREE PROTECTION DETAIL

TREE BARRICADES ARE REQUIRED AROUND ALL TREES WHICH HAVE BEEN DESIGNATED ON THE SITE PLAN TO BE RETAINED AND PROTECTED PRIOR TO ANY CLEARING OR CONSTRUCTION ACTIVITY OCCURRING ON THE SITE. TREE BARRICADES SHALL BE CONSTRUCTED BY THE CONTRACTOR AND APPROVED BY THE MUNICIPALITY. TREE BARRICADES SHALL BE PLACED AT THE EDGE OF THE DRIPLINE OR A MINIMUM OF 1" OF RADIUS PER INCH OF TREE TRUNK OF THE TREE, WHICH EVER IS GREATER.

FOR THE BARRIER THE CITY RECOMMENDS ORANGE SAFETY BARRICADE FENCING.

NOTE: EXISTING TREES IN LANDSCAPE BUFFER SHALL ALSO BE PROTECTED.