



Improving Water Quality with Green Infrastructure

**A Sustainable Framework for Growth
and Development in the Central Midlands Region**





Improving Water Quality with Green Infrastructure:

**A Sustainable Framework for Growth
and Development in the Central Midlands Region**

Presentation Outline

- **Definition of Green Infrastructure (GI)**
- **GI Toolbox**
 - **Programs and Policies**
 - **Site Specific Best Management Practices (BMPs)**
- **Putting GI to Work in the Central Midlands Region**
- **Concept Plan for an Impaired Watershed**





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Green Infrastructure

What is it?

- **Two Definitions/Two Scales:**
 - **Regional Scale - Open Space Preservation (Hubs and Links)**
 - **Local Scale - Low Impact Development (Stormwater Management)**
- **One Definition/Multiple Scales:**
 - **Green Infrastructure is an interconnected network of open space and engineered systems that use natural processes to better protect and maintain our land, water, and human resources.**





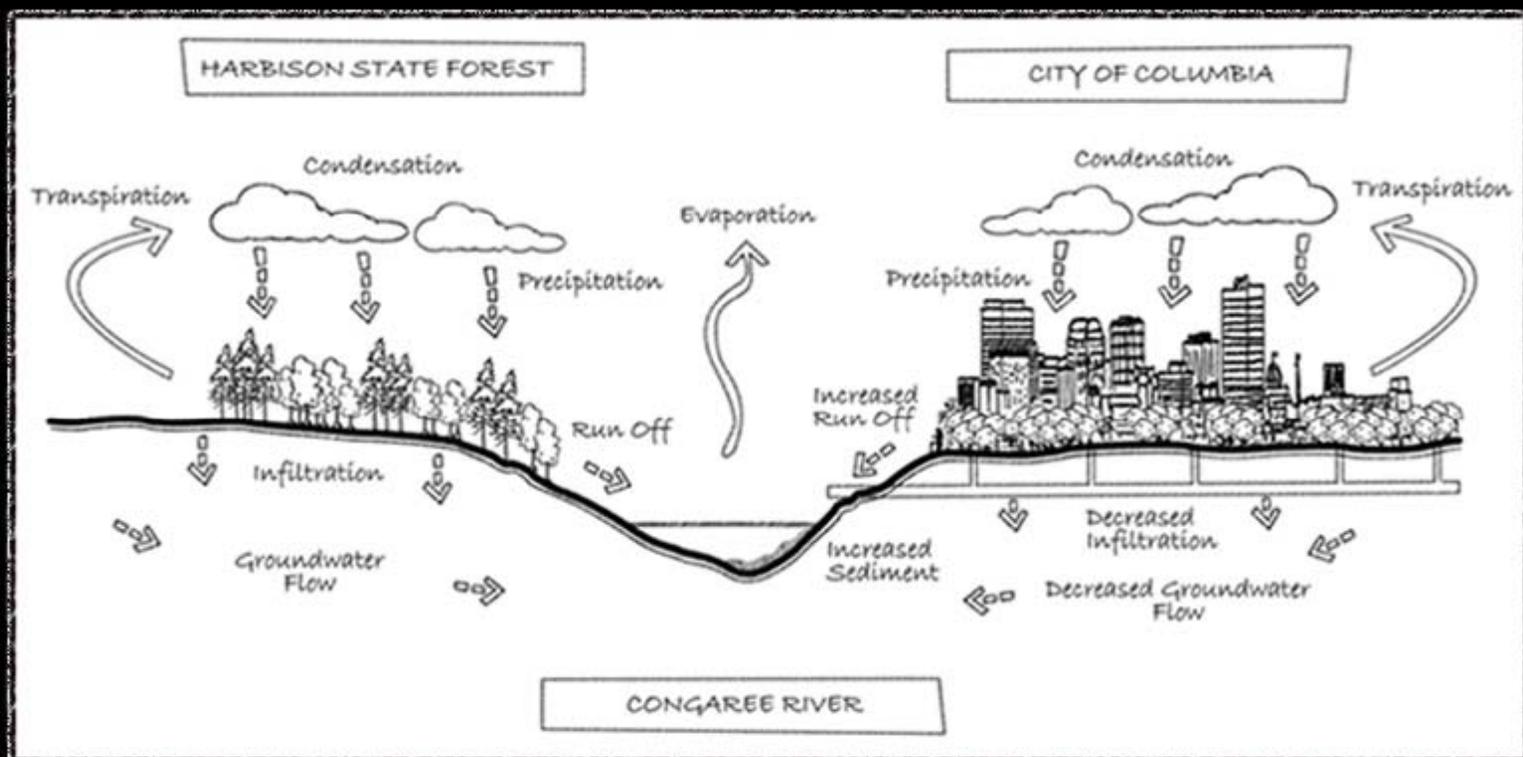
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Green Infrastructure

Why do we need it?

The Impacts of Development on the Hydrologic Cycle

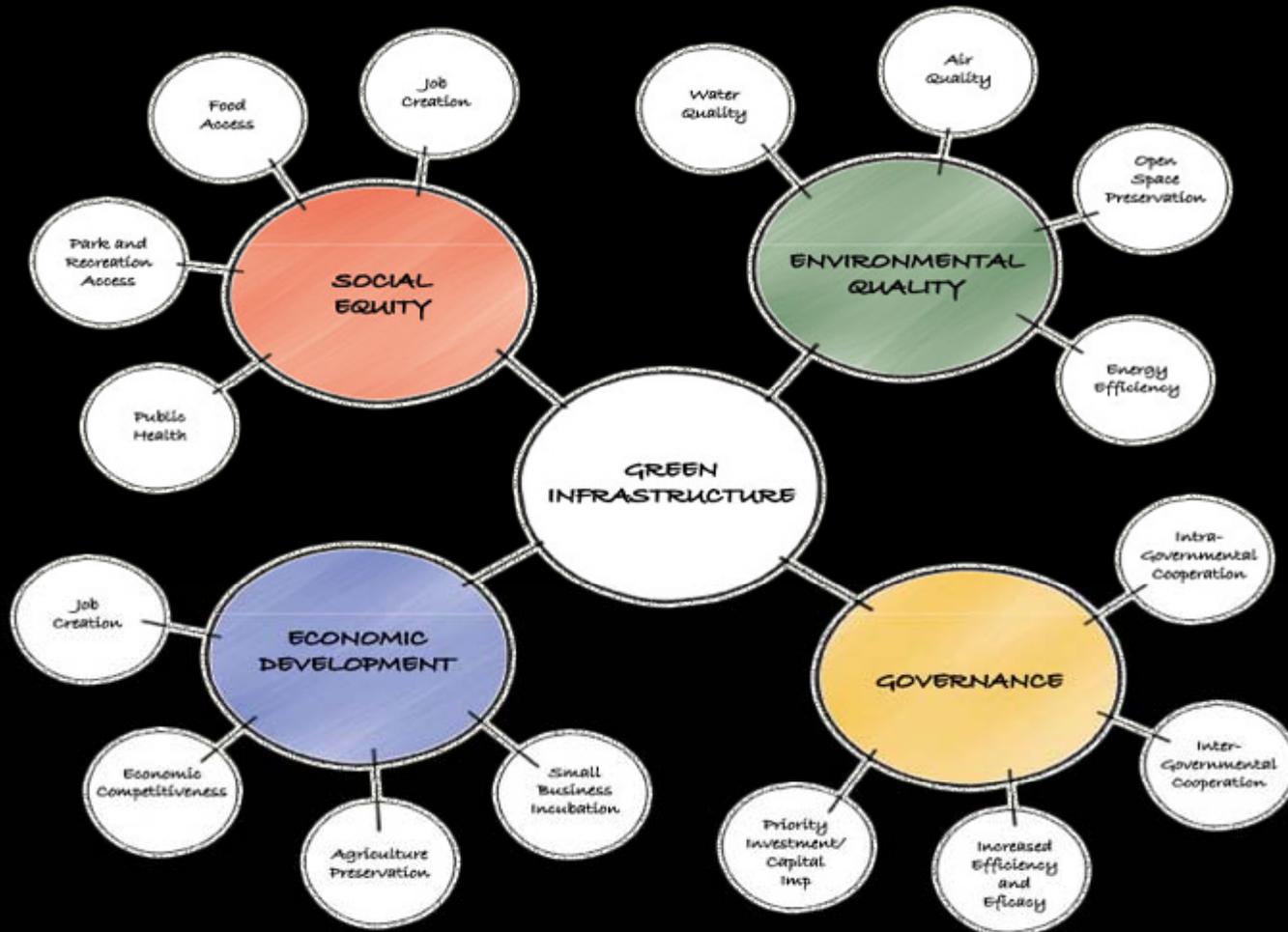




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Green Infrastructure

What are the benefits?





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GI Toolbox

Programs and Policies

- Principles of Smart Growth
- Watershed Based Planning





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GI Toolbox

Programs and Policies

- **Stormwater Regulations** → Utility Fees & Incentives
- **Conservation Landscaping** → Native Plants
- **Riparian Buffers**
- **Urban Forestry** → Canopy Preservation, Tree Planting
- **Open Space Planning**
- **Food Systems Planning** → Agriculture Preservation
Urban Agriculture
Community Gardens
- **Comprehensive Planning**
- **Conservation Subdivision/Cluster Development Provisions**



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GI Toolbox

Site Specific BMPs

- **Bioretention and Infiltration**
- **PerVIOUS Pavement**
- **Rainwater Harvesting**
- **Stormwater Wetlands**
- **Green Roofs, Walls, and Planters**
- **Green Streets and Parking Lots**
- **Greenways, Parks, and Plazas**



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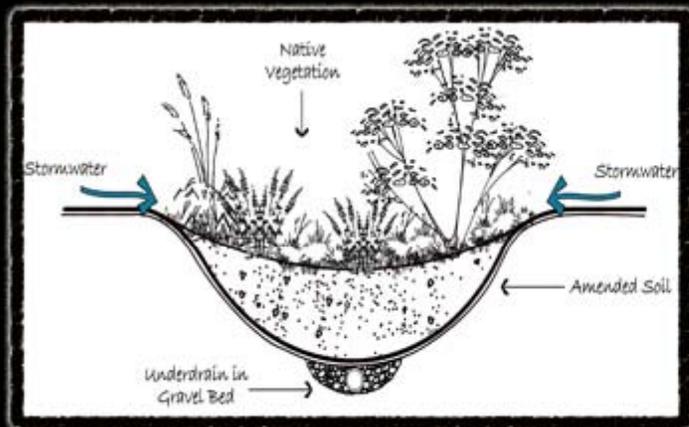
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GI Toolbox

Bioretention and Infiltration

- Bioswales
- Rain Gardens
- Dry Stream Beds

Site Specific BMPs





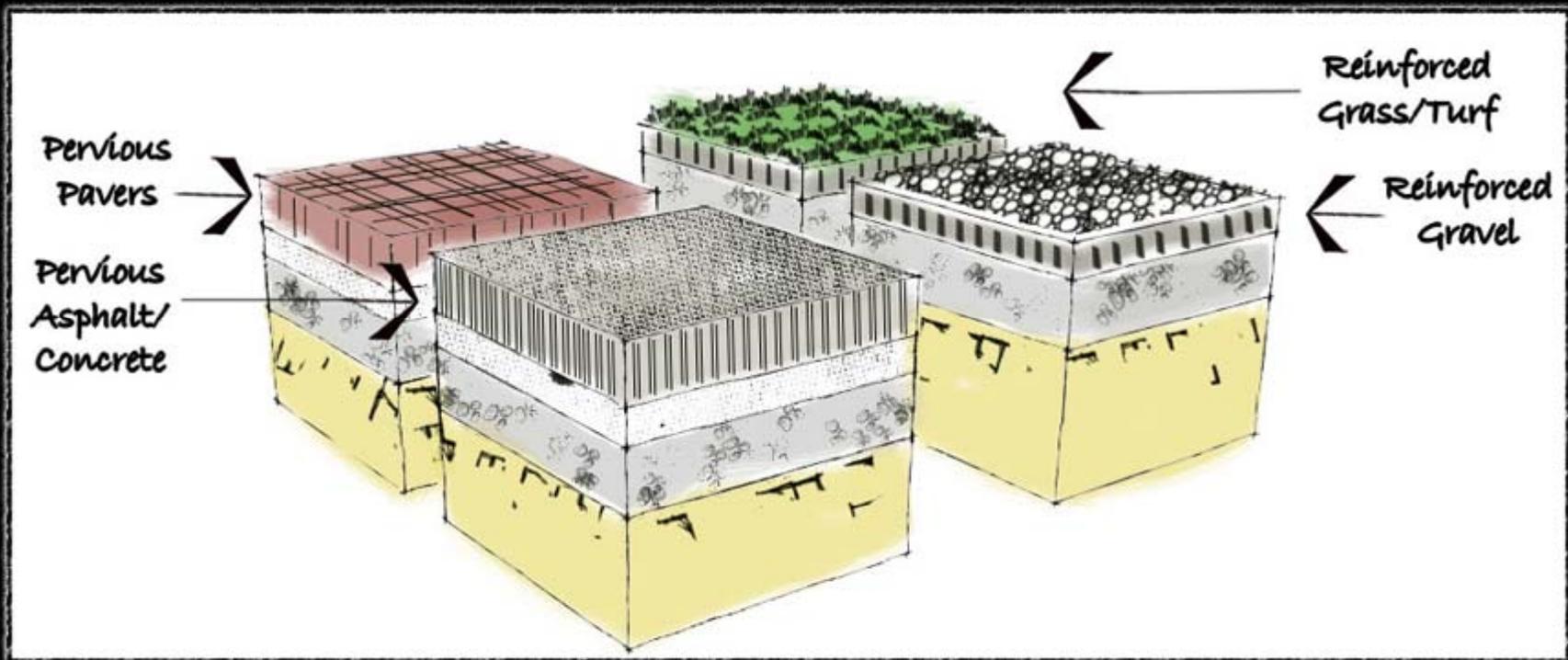
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Site Specific BMPs

Pervious Pavement





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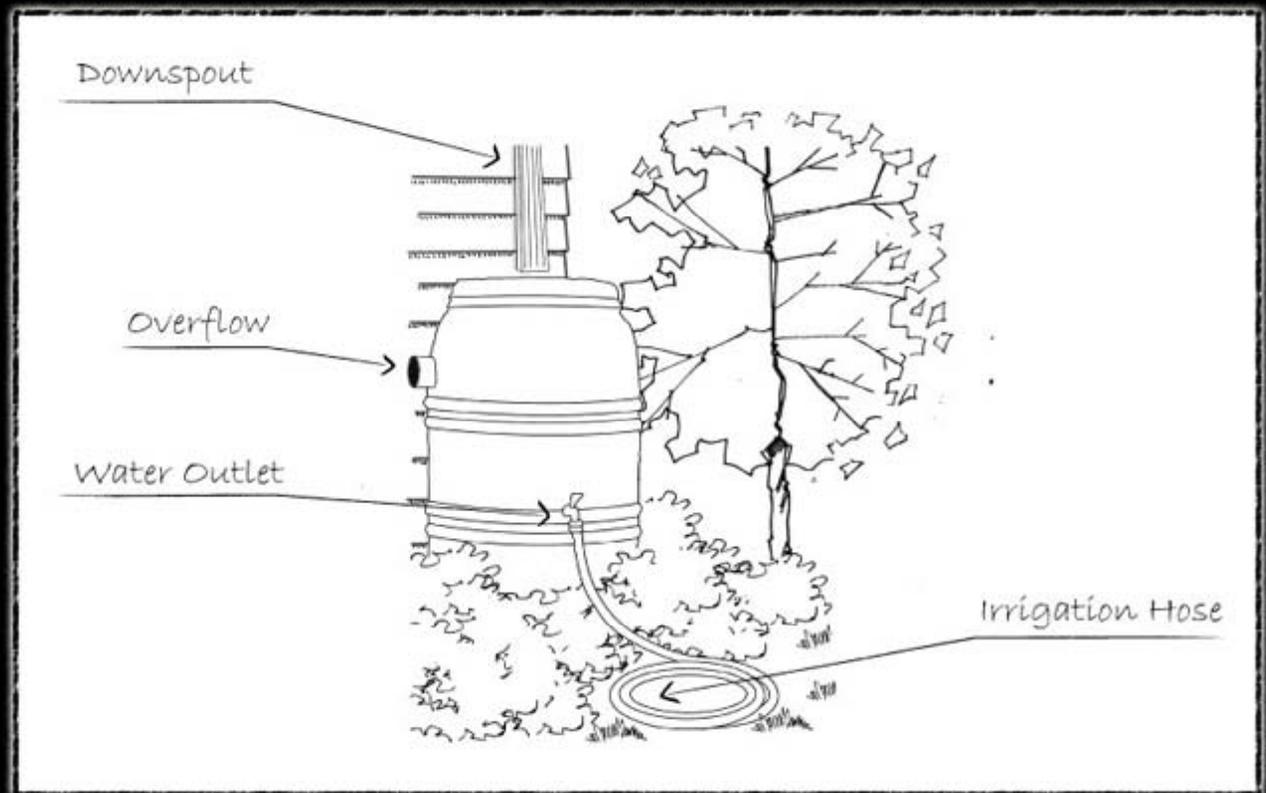
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GI Toolbox

Site Specific BMPs

Rainwater Harvesting

- Rain Barrels
- Cisterns





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Site Specific BMPs

Wetlands

- Stormwater/Constructed Wetlands
- Wetlands Preservation/Restoration
- Wetlands Mitigation





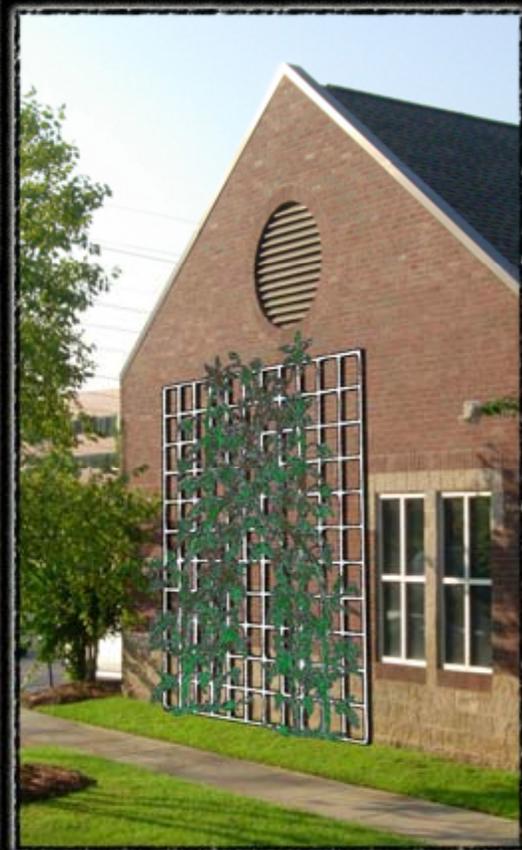
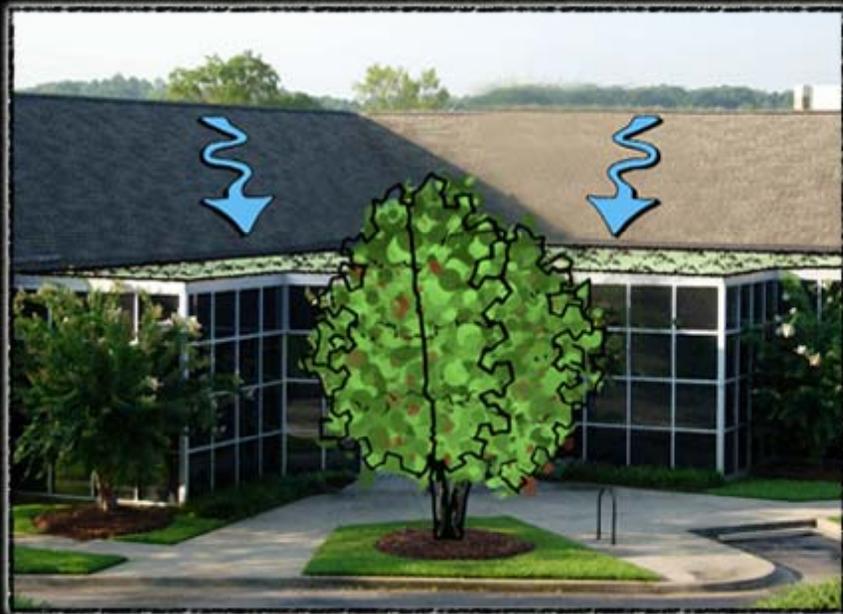
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Site Specific BMPs

Green Roofs, Walls, and Planters





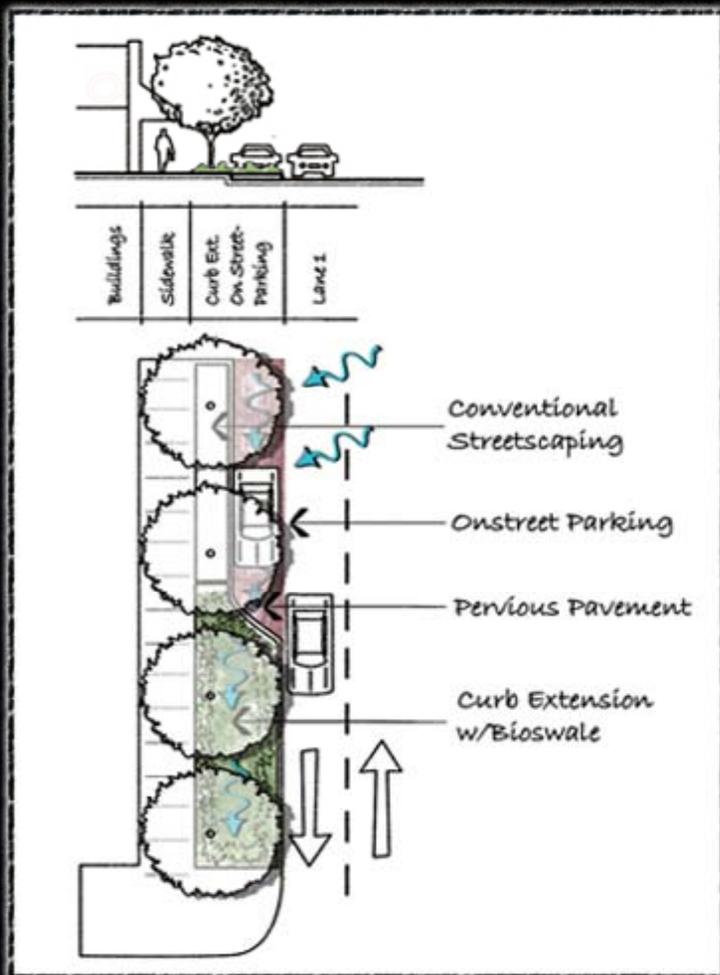
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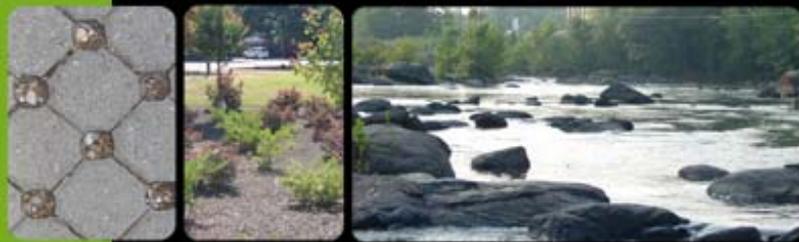
Site Specific BMPs

Green Streets and Parking Lots:



Urban Commercial Corridor





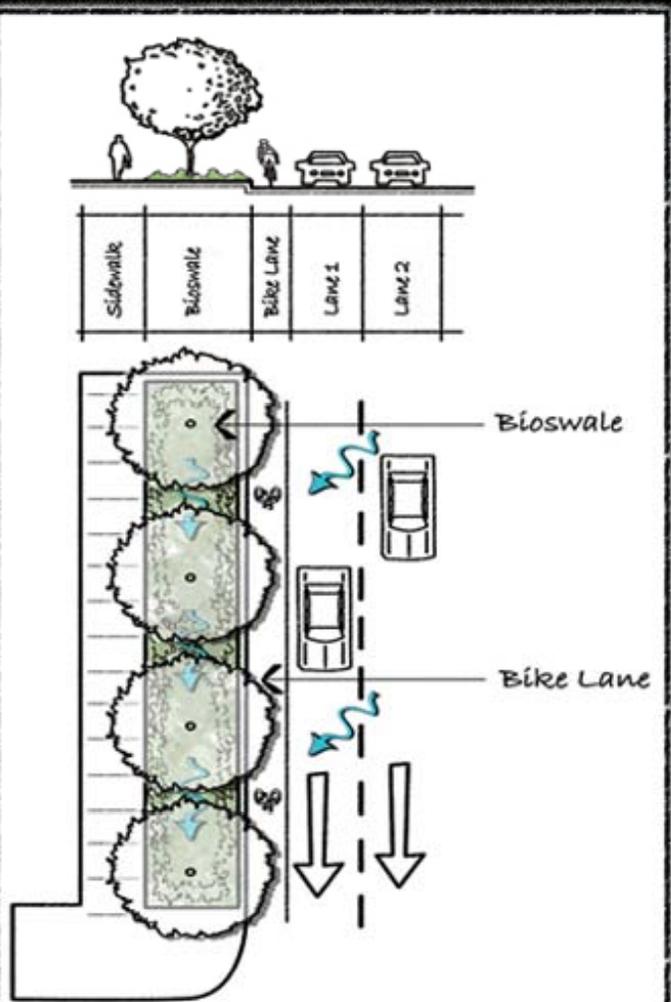
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GI Toolbox

Site Specific BMPs

Green Streets and Parking Lots:

Suburban Arterial





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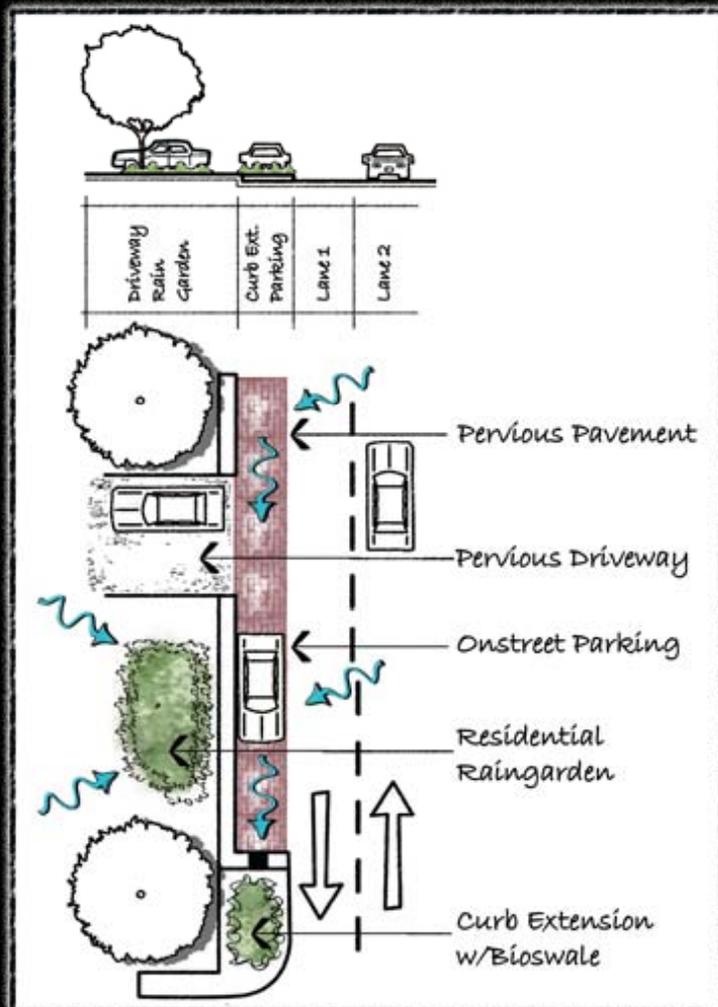
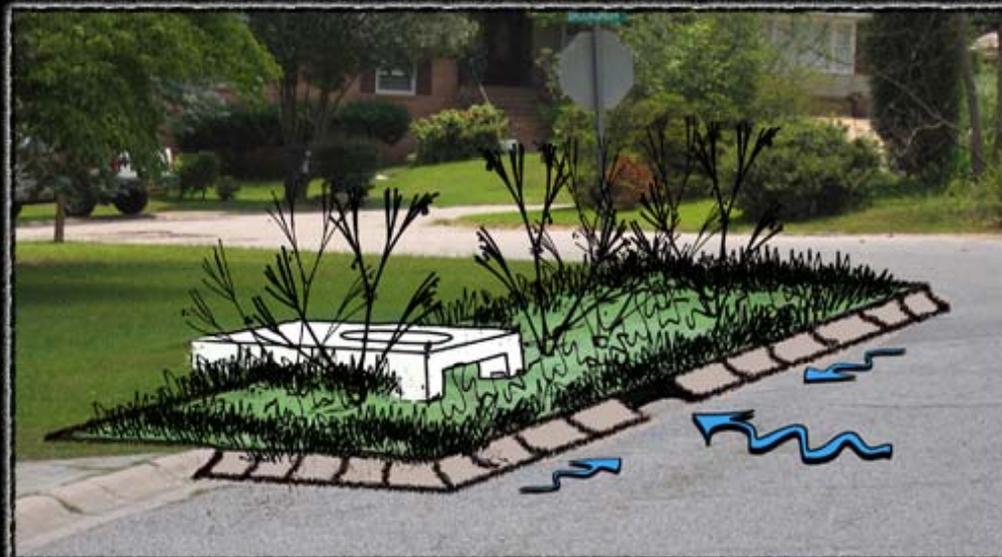
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Site Specific BMPs

Green Streets and Parking Lots:

Residential Collector





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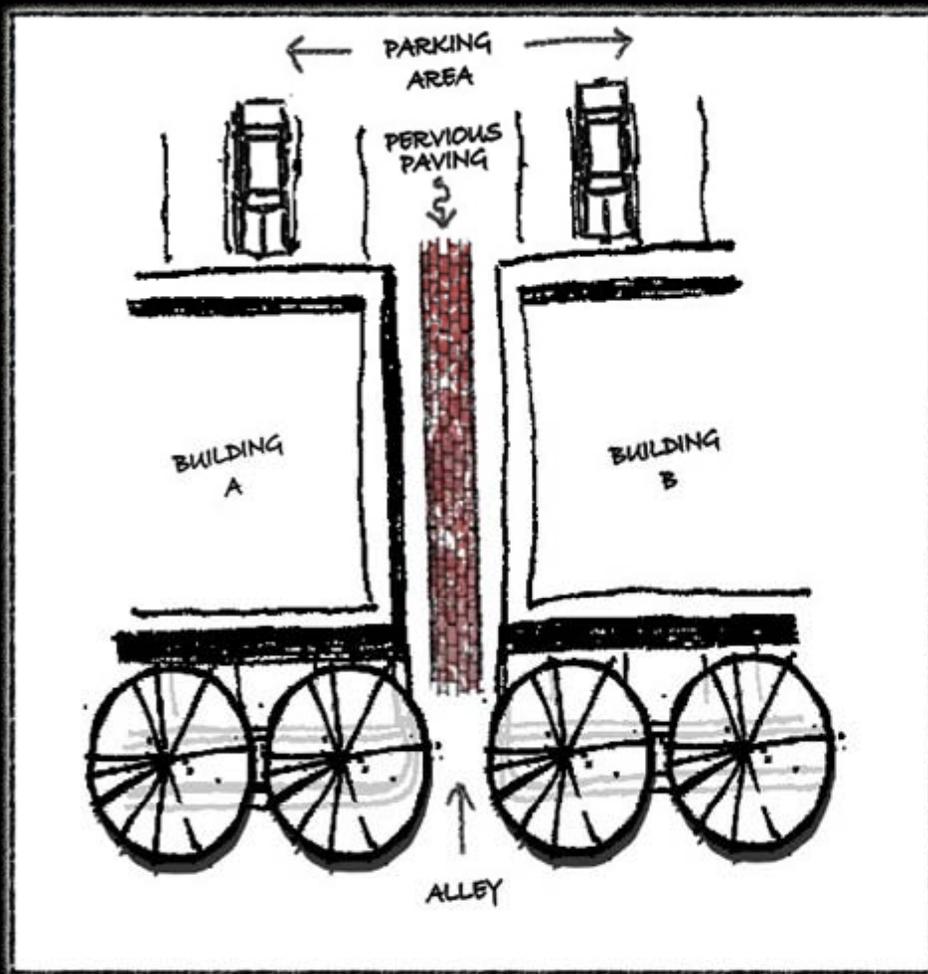
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Site Specific BMPs

Green Streets and Parking Lots:

Commercial Alley

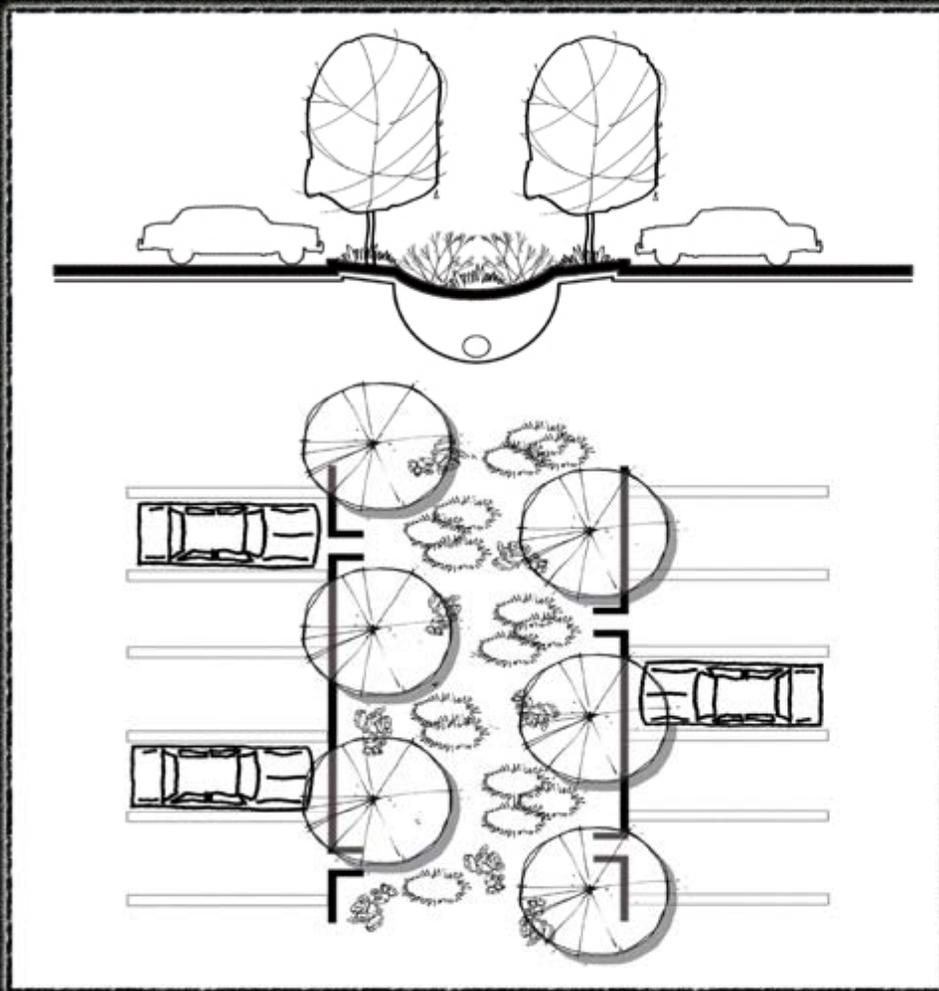




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GI Toolbox



Site Specific BMPs

Green Streets and Parking Lots:

Parking Lot Bioswale





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GI Toolbox

Site Specific BMPs

Greenways, Parks and Plazas





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City of Aiken Case Study





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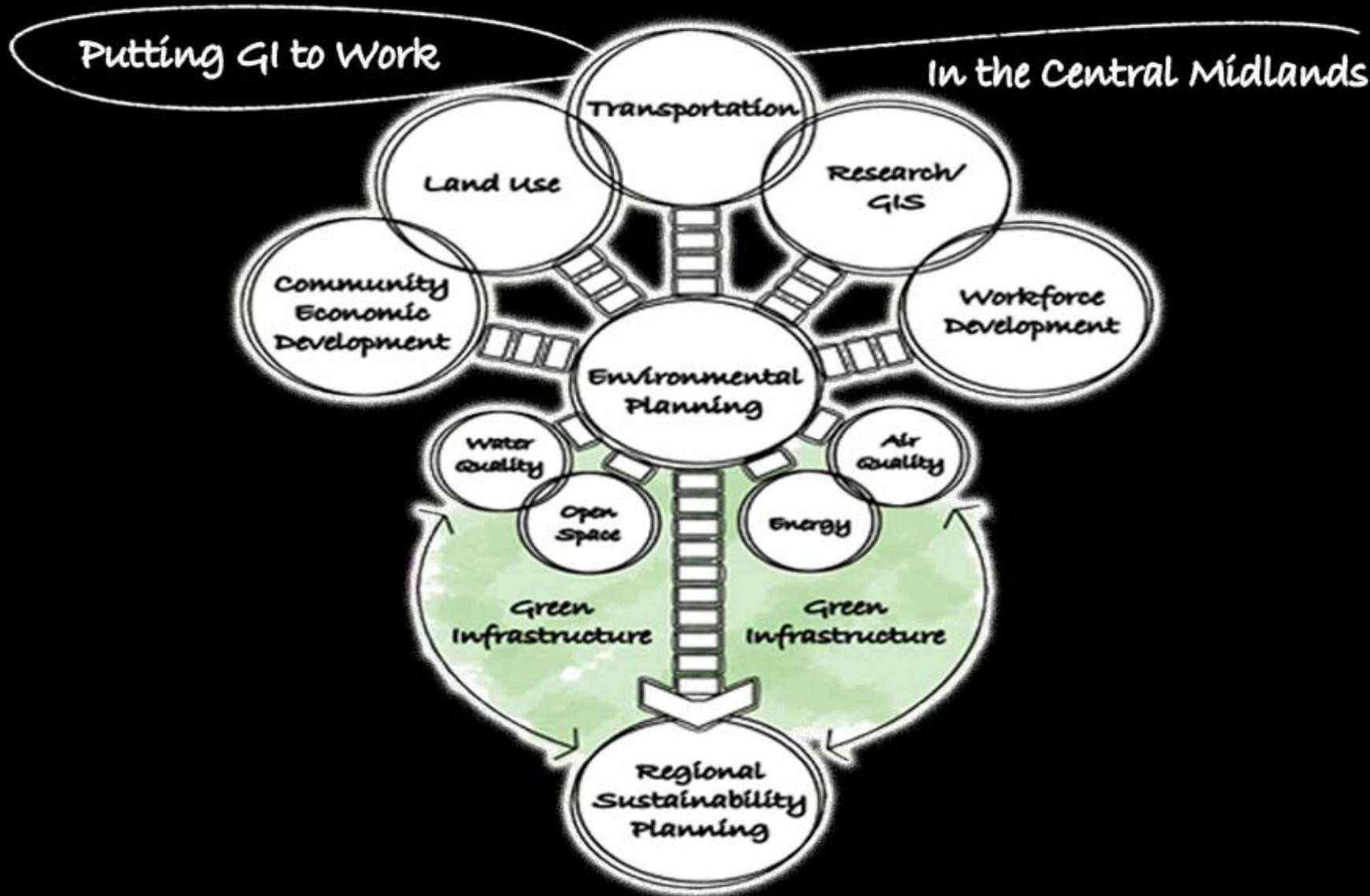
USC Green Quad Case Study





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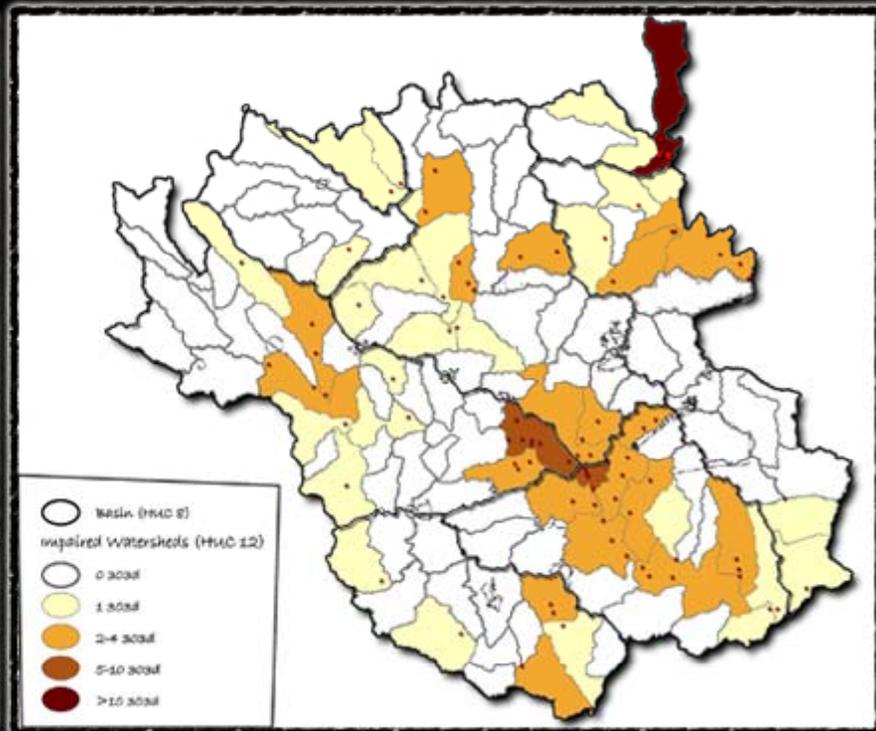
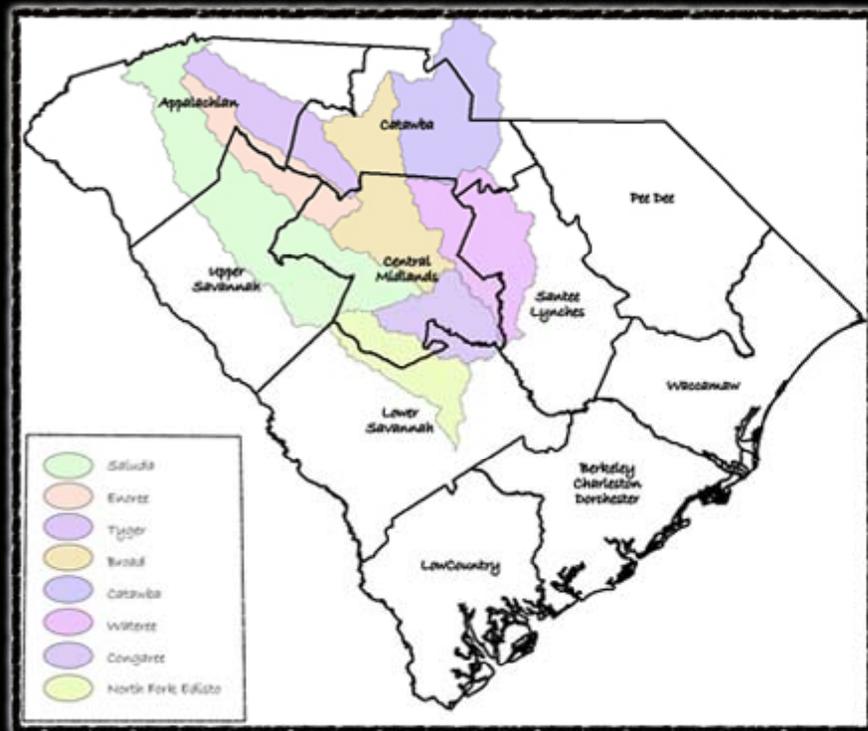


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Putting GI to Work

In the Central Midlands



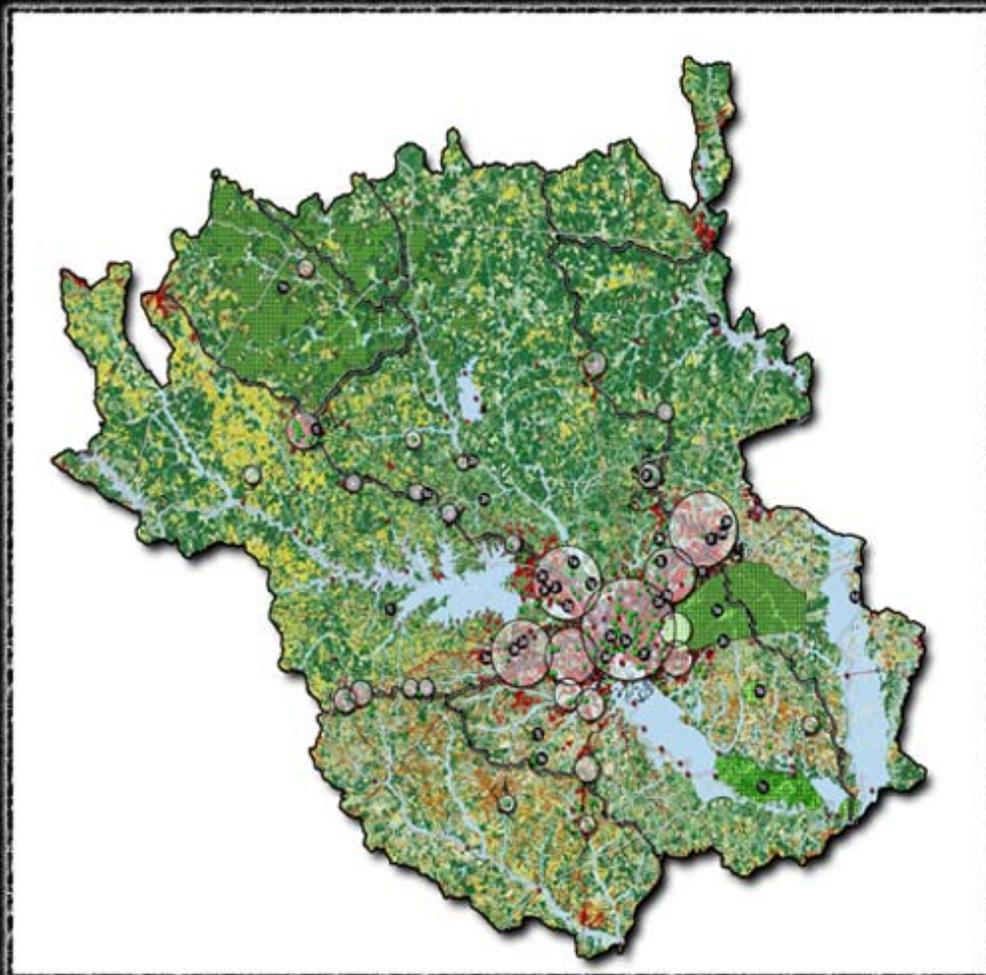


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Putting GI to Work

In the Central Midlands



① Protected Open Space Hubs

- 20 - Fort Jackson
- 21 - McEntire JAGB
- 22 - Chazy National Park
- 23 - USFWS Wetland Reserve
- 24 - Harlowe State Forest
- 25 - Sequoyia National State Park
- 26 - Department of Juvenile Justice
- 27 - Sumner National Forest
- 28 - Rocky Creek WMA
- 29 - Stealy's Pond
- 30 - Peach Tree Rock Preserve
- 31 - Lyzzett Woods
- 32 - Cowson Sandhills Reservoir Station
- 33 - Lake Winters State Park
- 34 - Little Mountain

② Regional Greenways/Trail Links

- 20 - 3 Rivers Greenway
- 21 - Palmetto Trail - Park to Prosperity
- 22 - Palmetto Trail - Fort Jackson Passage
- 23 - 24 Mile Creek
- 24 - Forest Access
- 25 - Nightwood
- 26 - Proposed Lower Saluda
- 27 - Proposed Winters Creek
- 28 - Proposed Kinley Creek

③ Local Scale GI/LID Projects

- 35 - Lexington County Public Works
- 36 - Carley Street Park Rain Garden
- 37 - Isaac Thomas Park Rain Garden
- 38 - Carley Rain Garden
- 39 - USDO Green Small Learning Center
- 40 - Davis Field Rain Garden
- 41 - Tree of Life Rain Garden
- 42 - Cowson Sandhills Rain Garden
- 43 - Barbours Rd ES Rain Garden
- 44 - Wainwright Preserve Project
- 45 - Woodland Heights Public Works



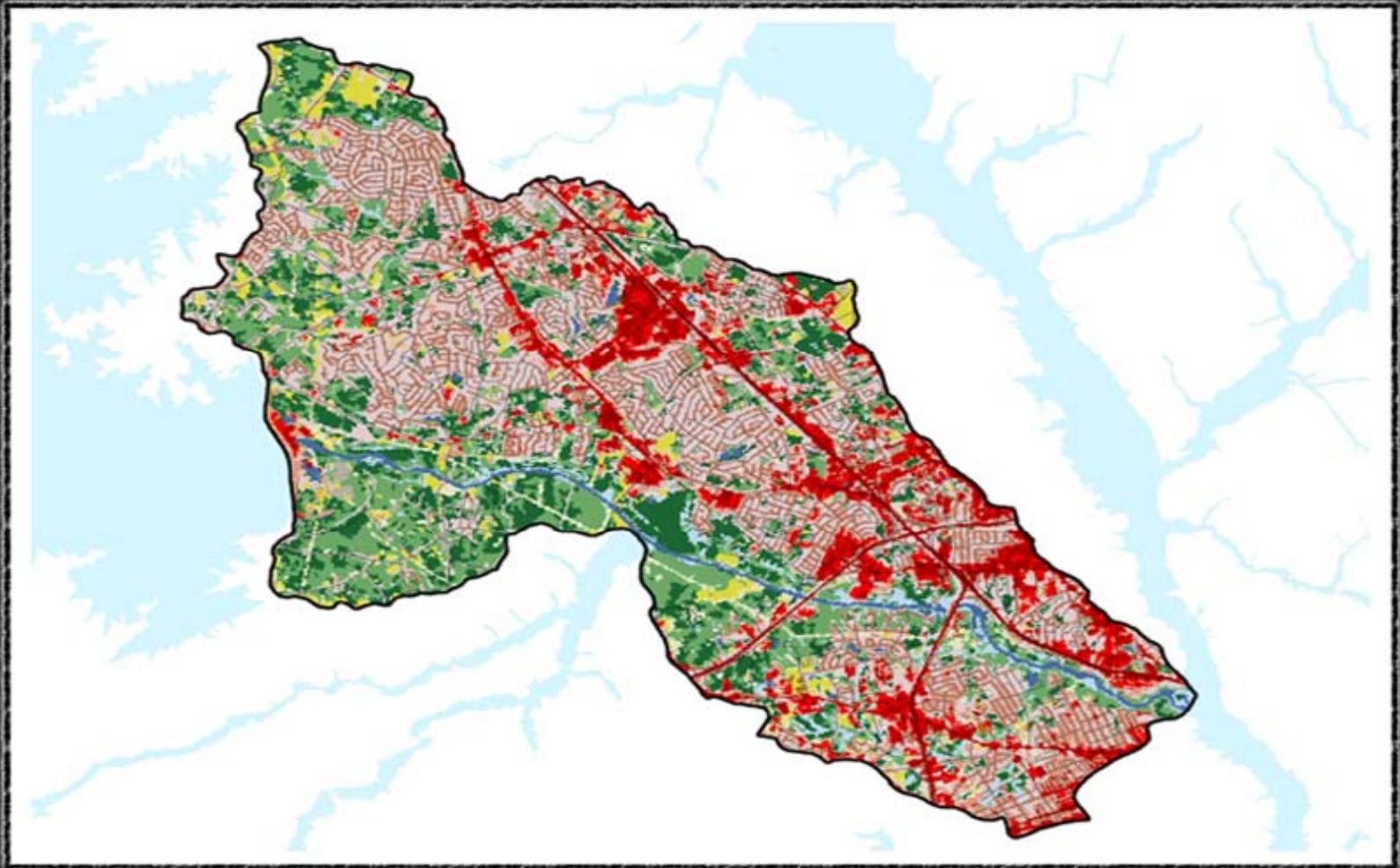


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Lower Saluda Watershed

Concept Plan

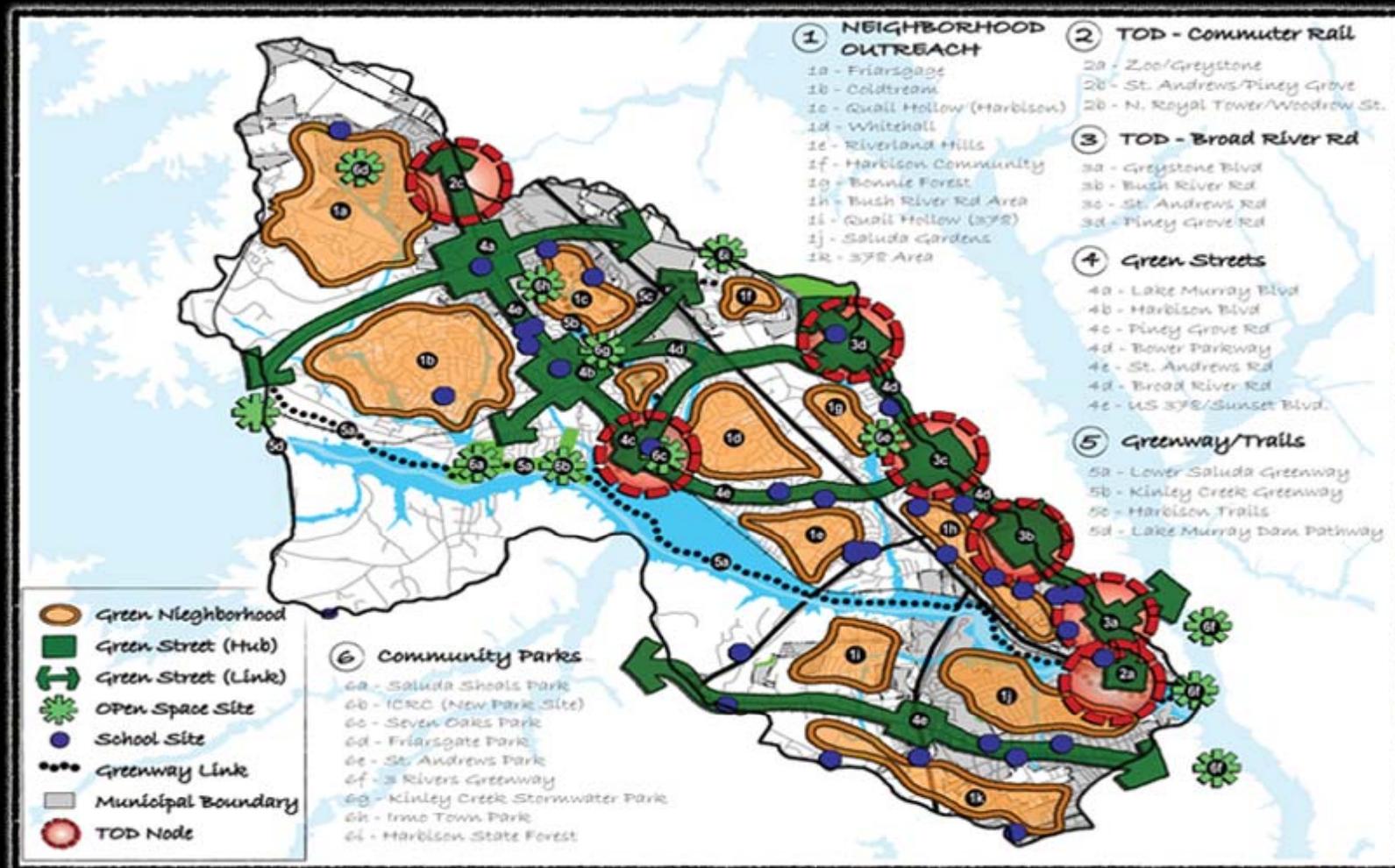




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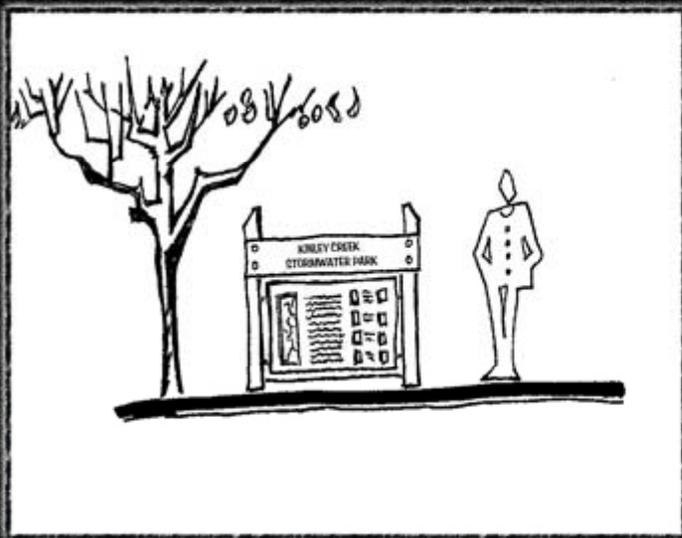




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Lower Saluda Watershed Concept Plan





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Questions and Comments?

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