



Class V Injection Wells and LID Measures

Sonja S. Massey, P.E.
Chief Groundwater Branch, ADEM



Class V UIC Injection Wells and LID Measures

- EPA's 2008 Guidance regarding stormwater infiltration practices which have the potential to be regulated as Class V Wells (ADEM Website under Water/Guidance)
- Low Impact Development Handbook for the State of Alabama (aces.edu/lid)



UIC Permitting in Alabama

- National UIC Program established under the federal Safe Drinking Water Act, 1974
- State of Alabama obtained primacy from EPA for the UIC Program in 1982



UIC Permitting in Alabama

“Well” means a borehole; or, drilled or driven shaft; or, a dug hole; or, an improved sinkhole; or, a subsurface fluid distribution system; or a cesspool; or a drywell; or, any other system which results in subsurface emplacement of fluids and/or pollutants.

- **LID Measures typically not considered to be Class V wells**
 - Rain gardens and bioretention areas
 - Vegetated swales
 - Stormwater wetlands
 - Tree boxes and Planter boxes
 - Permeable pavement
 - Downspout Disconnection if
 - Directed toward vegetated pervious areas
 - Captured in cisterns or rain barrels

- **LID Measures which can generally be considered Class V wells**
 - Infiltration Trench if:
 - Deeper than it is wide; or
 - Has a subsurface distribution system intended to emplace, infiltrate or inject fluids beneath the surface of the ground
 - Commercially Manufactured Stormwater Infiltration Devices
 - These generally have a subsurface distribution system intended to emplace, infiltrate or inject fluids beneath the surface of the ground

- **LID Measures which can generally be considered Class V wells (cont'd)**
 - Drywells, Seepage Pits or Percolation Ponds, Improved Sinkholes (any measure that provides a direct path to groundwater)

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Roadside Rain Garden



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Rain Garden at Pioneer Museum Troy, AL



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**Rain Garden at Benjamin Russell
High School
Alexander City, AL**



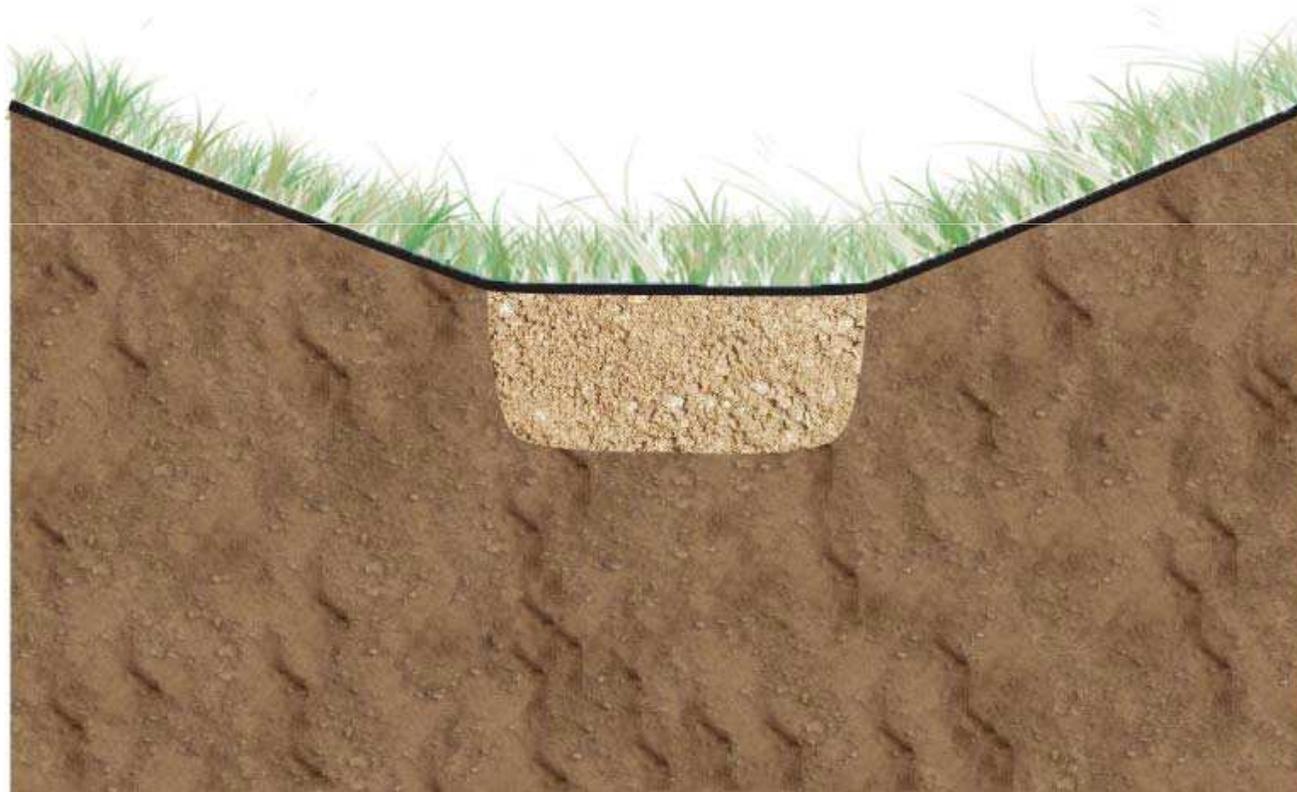
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Bioretention Basin



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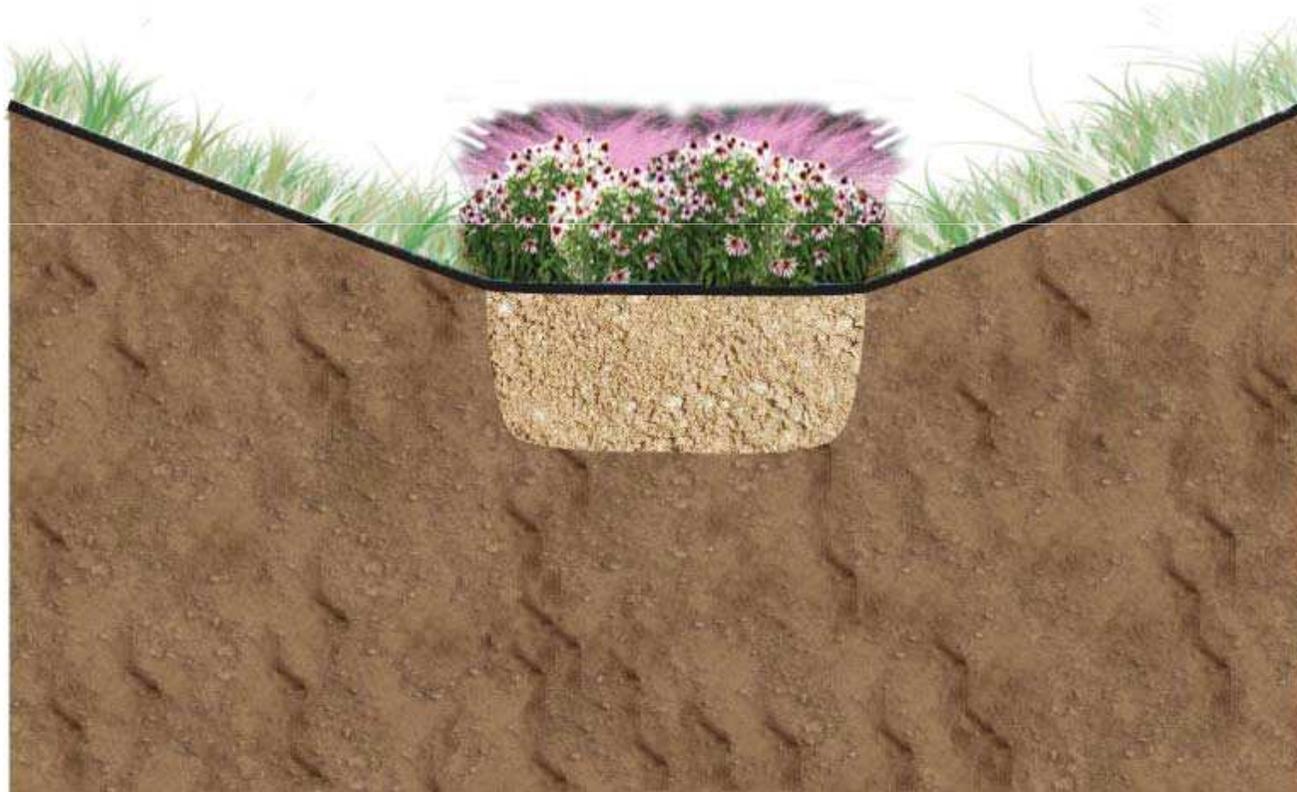
Grassed Swale with Amended Soil



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Infiltration Swale with Amended Soil



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Infiltration Swale at Auburn Research Park, Auburn, AL



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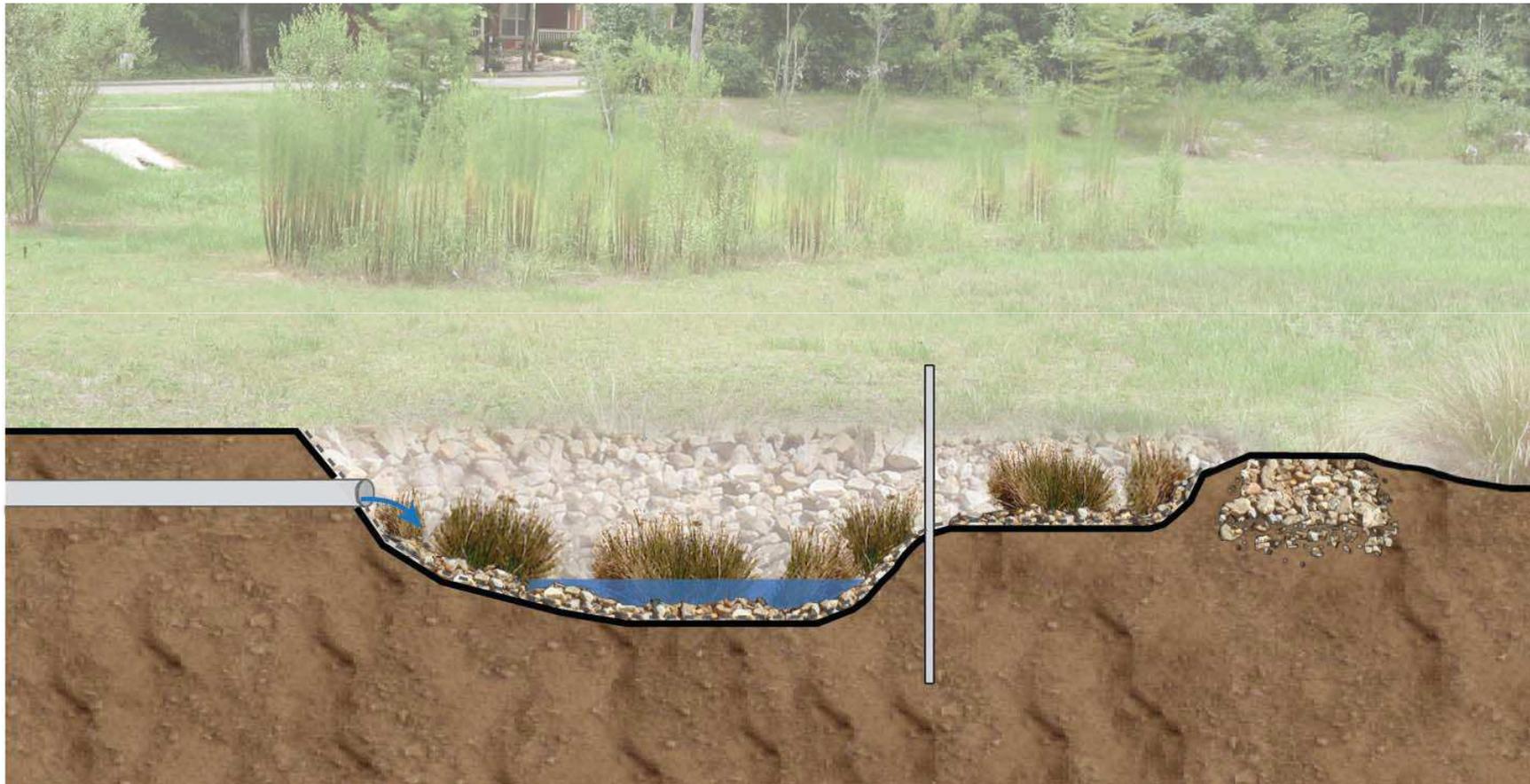
Wet Swale



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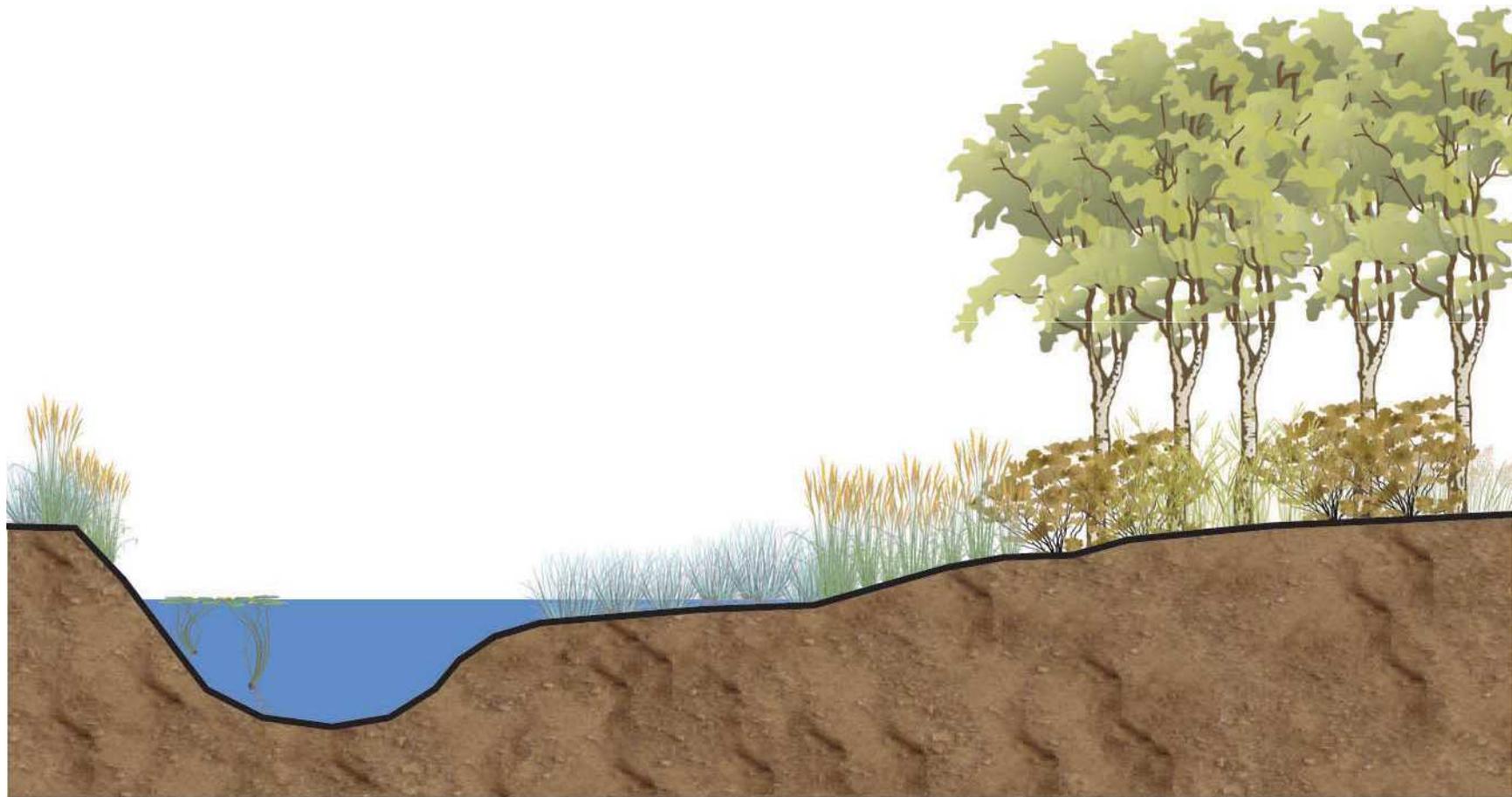
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Constructed Stormwater Wetlands



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Constructed Stormwater Wetlands



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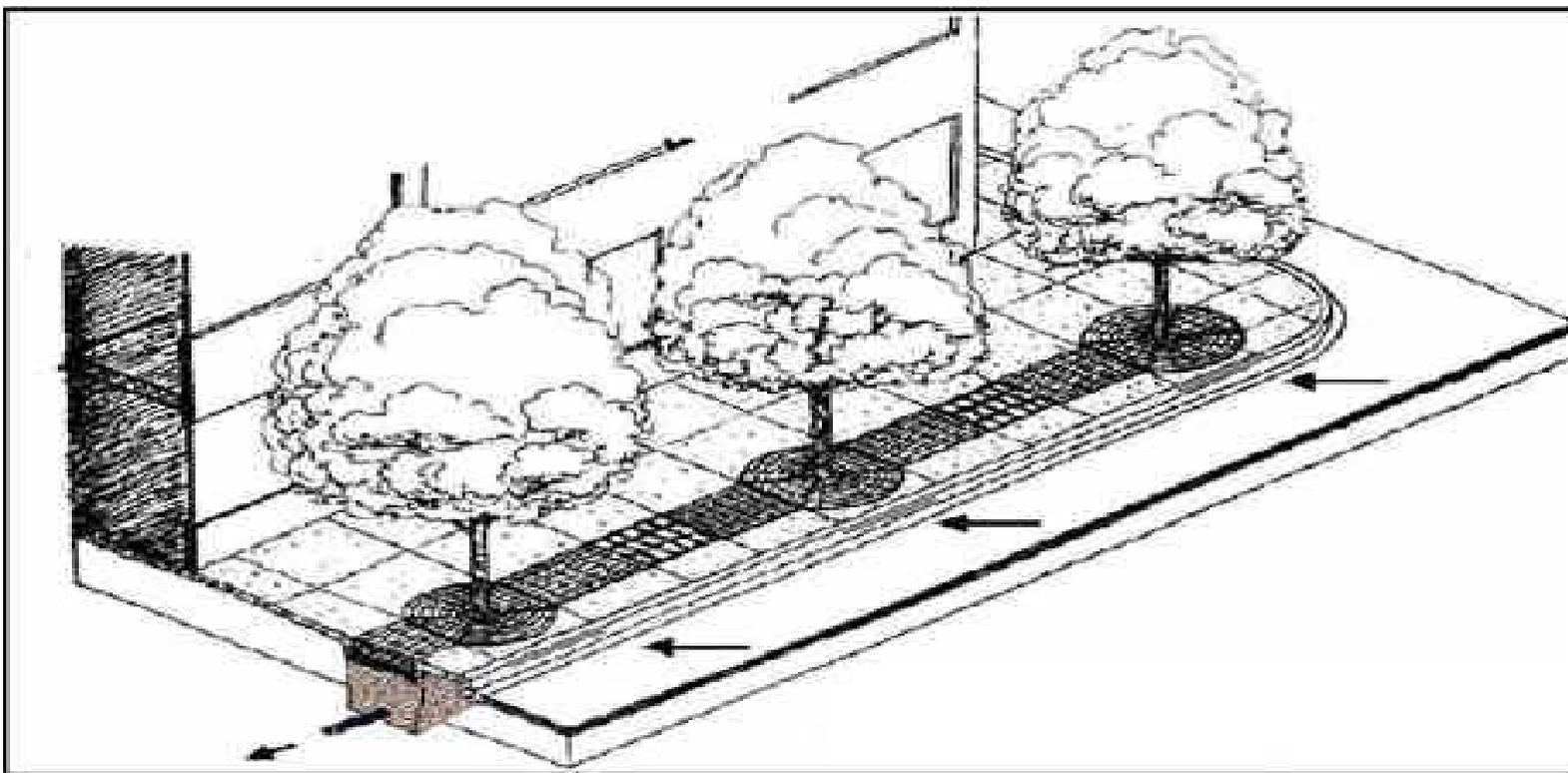
Tree Boxes



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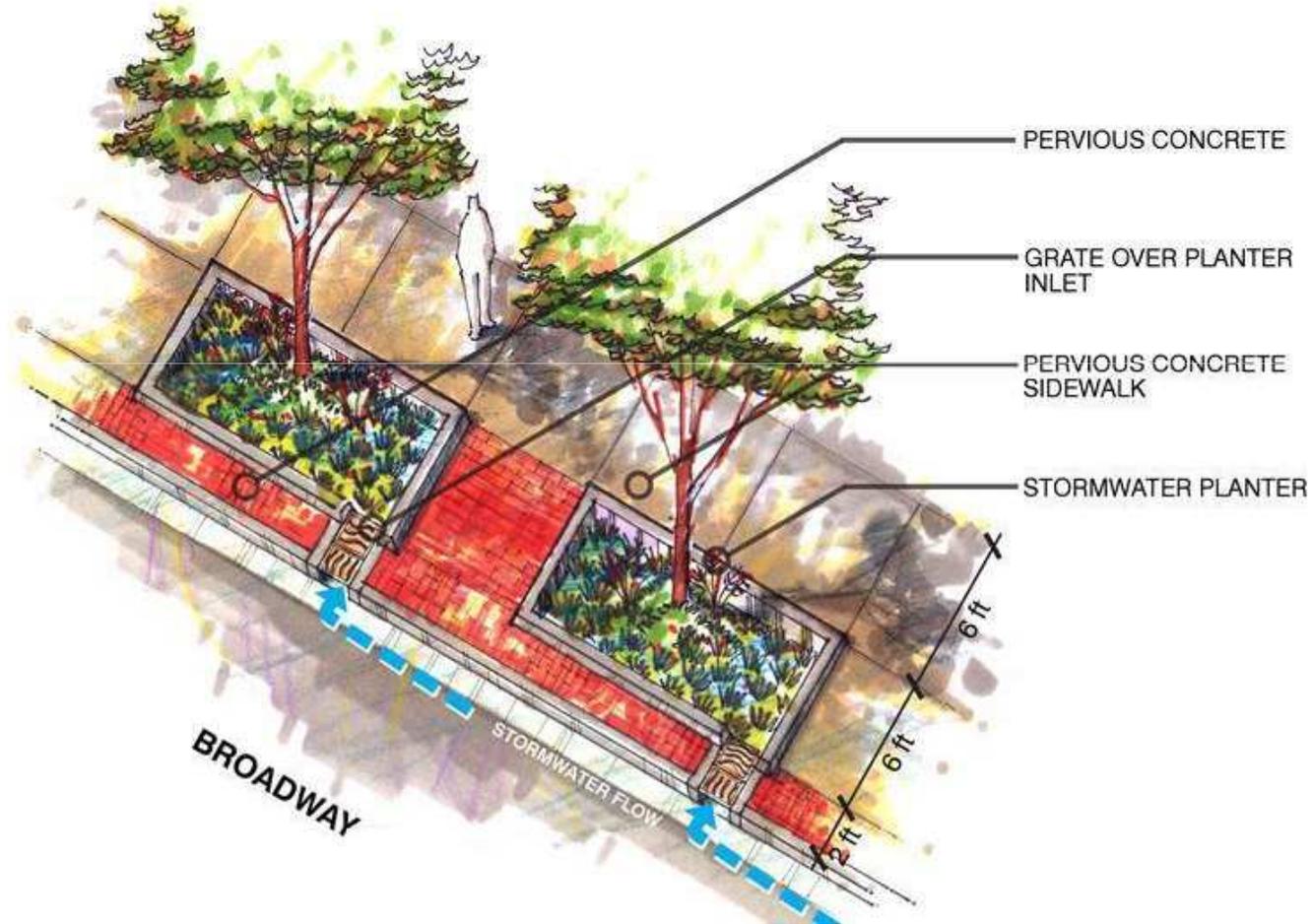
Tree Box Design



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Planter Boxes



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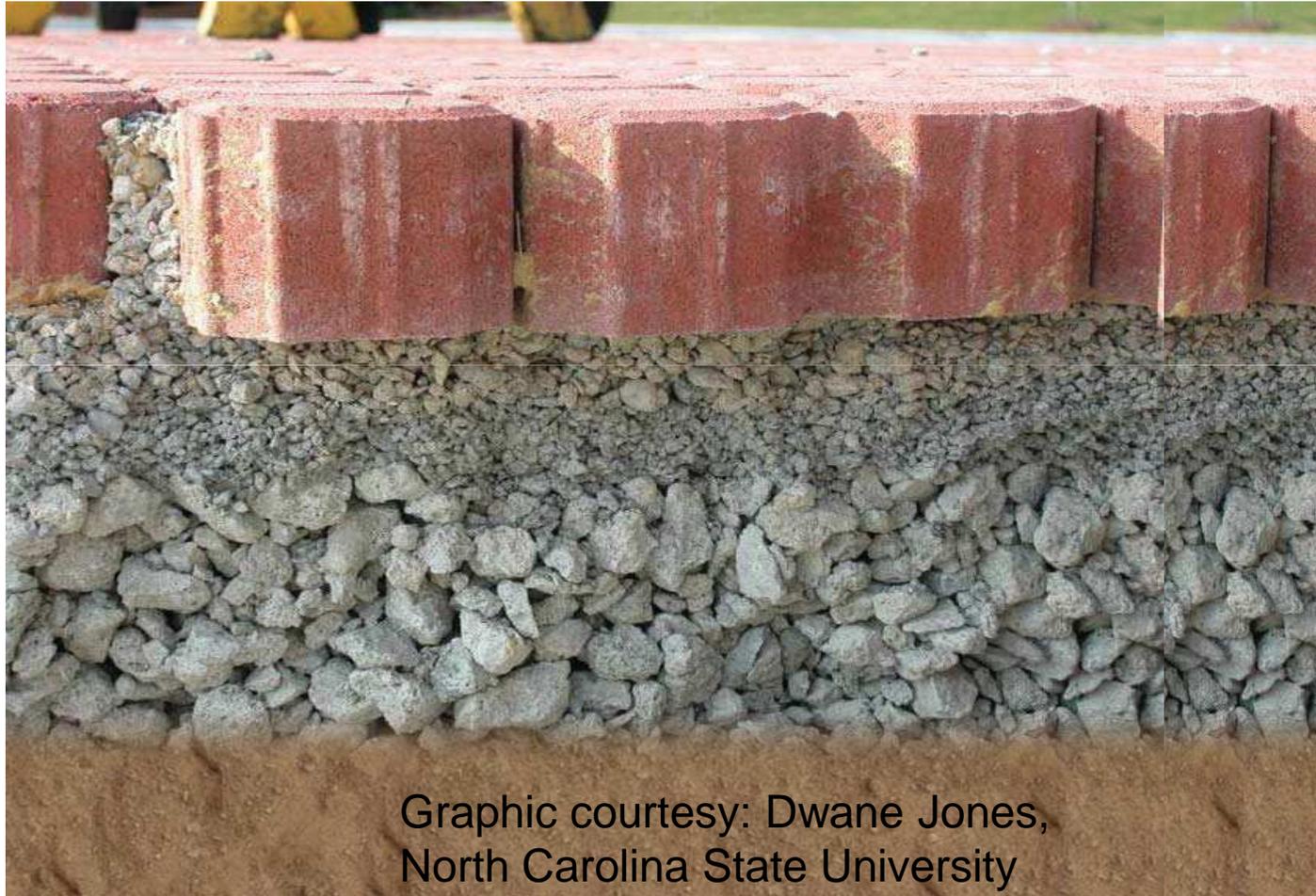
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Permeable Interlocking Concrete Pavers



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Permeable Interlocking Concrete Pavers



Graphic courtesy: Dwane Jones,
North Carolina State University

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**Permeable Interlocking
Concrete Pavers
Orange Beach, AL**



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Disconnected Downspouts Phenix City, AL



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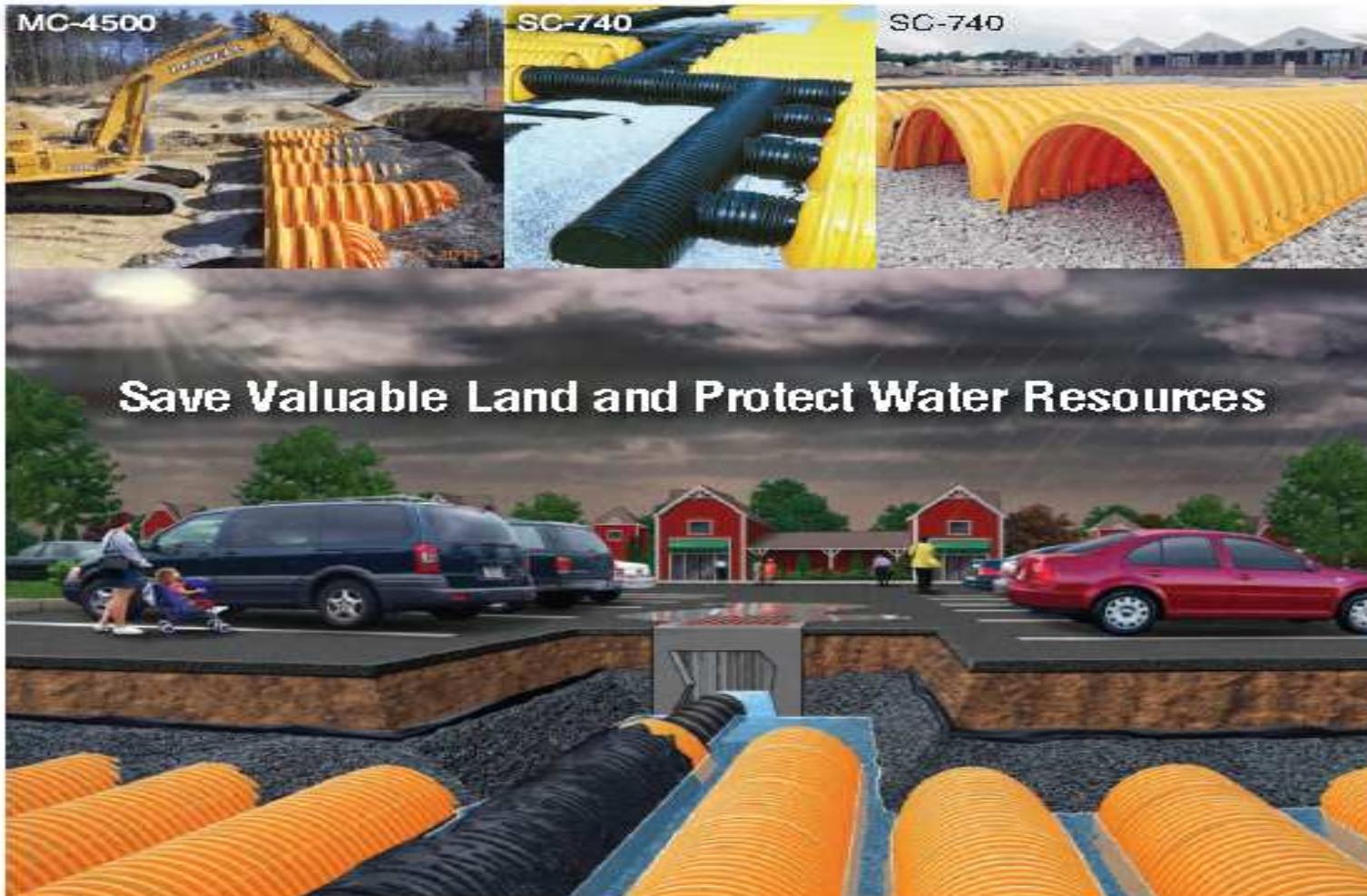
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Rainwater Harvesting



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Subsurface Distribution System



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Subsurface Distribution System



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Measures Generally **Not** Class V Wells

- Any LID measure included in the **ADEM LID Manual** would not require a Class V permit.
- Measures not “deeper than they are wide” and do not have subsurface distribution system intended to emplace, infiltrate or inject fluids beneath the surface of the ground.



Measures Which Generally Are Class V Wells

- Subsurface distribution system intended to infiltrate.
- Commercially Manufactured Stormwater Infiltration Devices.
- Any measure that provides a direct path to groundwater.

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If you have further
questions...

ADEM Groundwater Branch 334-270-5655

Sonja Massey ssm@adem.state.al.us

Joe Kelly jrk@adem.state.al.us