

Green and Complete Streets

Killeen-Temple MPO Livability Workshop

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Which street would you prefer to walk down?



Photo Credit: EPA



Green and Complete Streets

GREEN STREET

- "Green Streets integrate stormwater management techniques in roads and rights-of-way" Source: EPA – Green Streets Toolkit

COMPLETE STREET

- "Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities."

Source: National Complete Streets Coalition



- Green and complete streets manage a street's stormwater runoff by using green infrastructure, and provide safe and accessible routes for all users.



Green Infrastructure

- Involves an array of products, technologies, and practices that use natural systems – or engineered systems that mimic natural processes – to enhance overall environmental quality and provide utility services.
- Uses soils and vegetation to infiltrate, evapo-transpirate, and/or recycle stormwater runoff.
- Can simultaneously help filter air pollutants, reduce energy demands, mitigate urban heat islands, and sequester carbon while also providing communities with aesthetic and quality of life benefits.



Bioretention Basin/Rain Garden

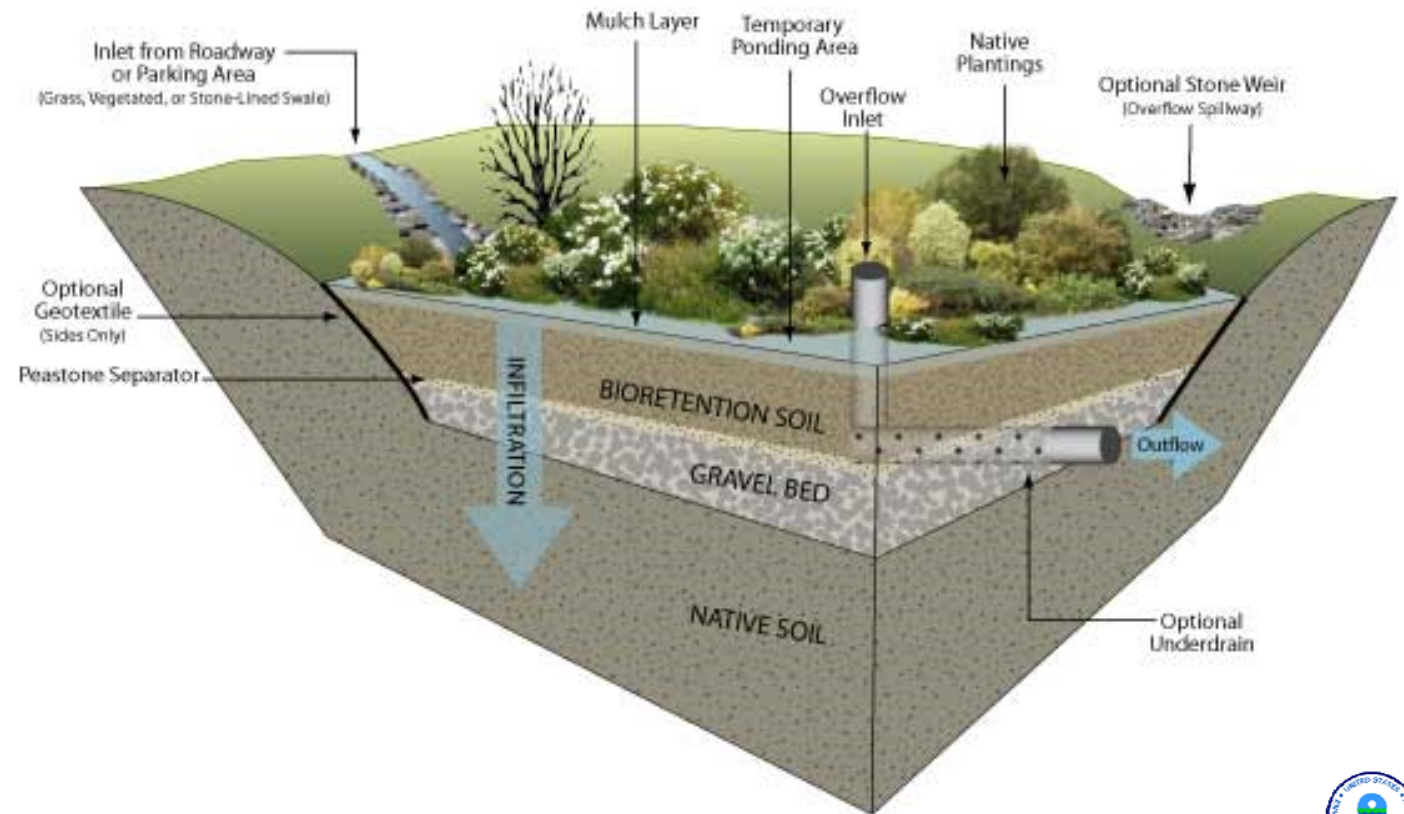
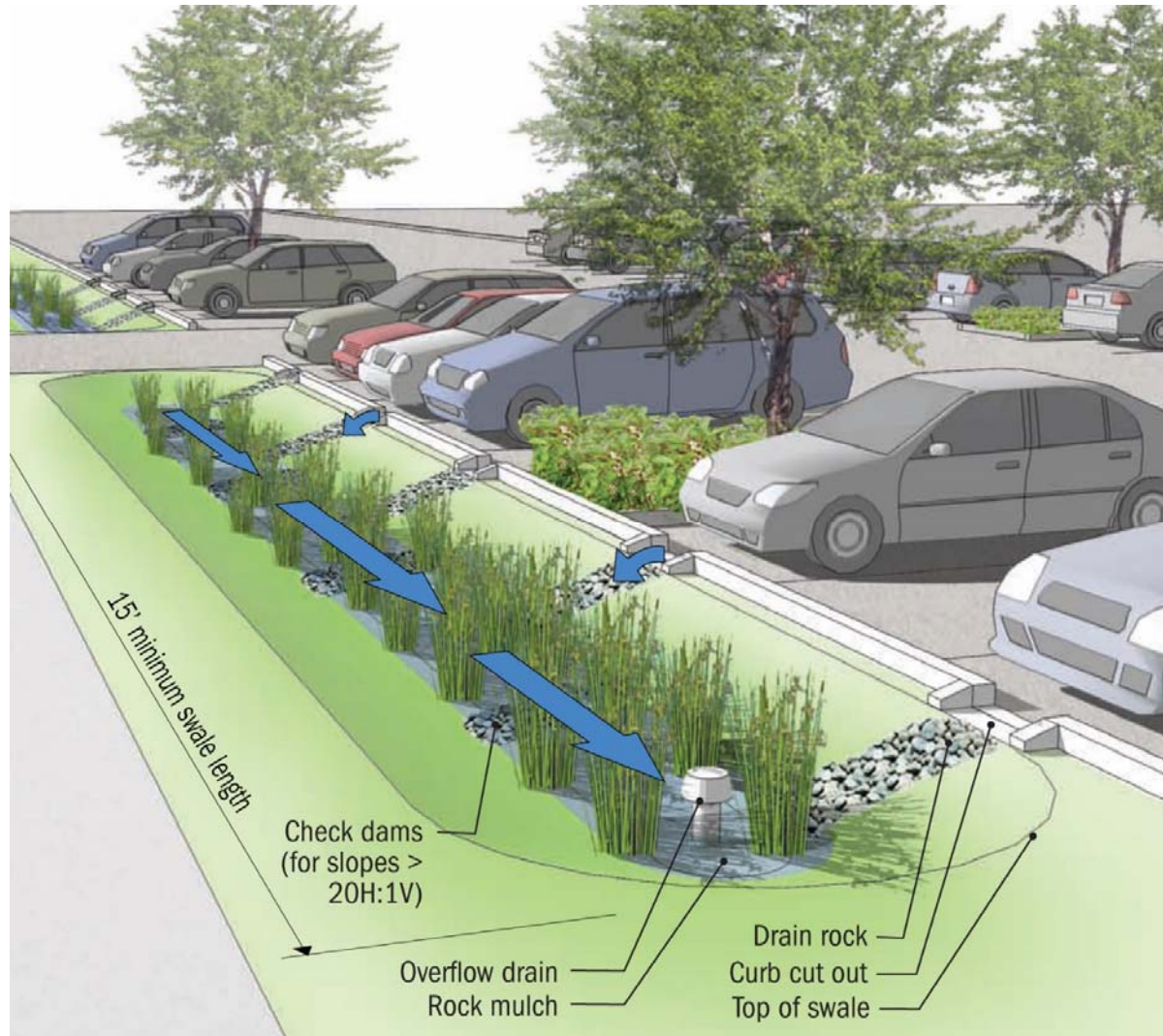


Image: New Columbia Neighborhood, Portland, OR. Credit: EPA

Image Credit: Douglas County, Nebraska – Environmental Services

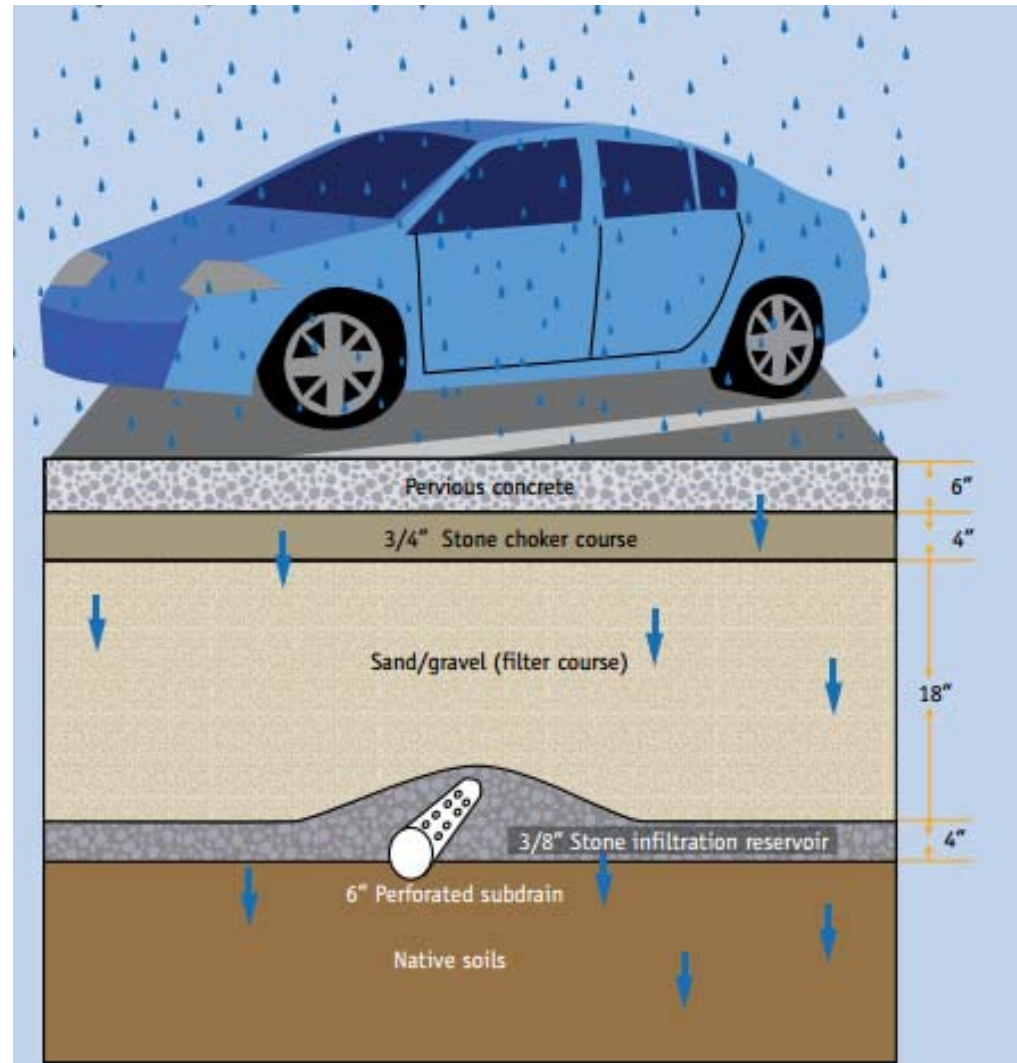
Bioswales

- Linear landscape features that collect stormwater and allow the water to infiltrate
- Plants cleanse stormwater through biofiltration
- Work best along streets or parking lots.



Permeable Pavements

- Paved surfaces that infiltrate, treat, and store rainwater where it falls
- Variety of materials available including concrete, porous asphalt, pavers, and more
- Particularly useful in places where flooding or icing is a problem as water flows to an underlying reservoir (stone or gravel layer)



Which are Most Relevant to Your Community?

- Reduce Stormwater Flow
- Improve Water Quality
- Enhance Pedestrian Safety and Comfort
- Reduce Urban Heat Island Effect
- Reduce Carbon Footprint
- Beautify Neighborhoods
- Catalyst for Redevelopment



Reduce Stormwater Flow & Improve Water Quality



- Reduce Impervious surfaces
- Reduce peak flow rates and flow volumes
- Reduce duration of erosive flows
- Remove pollutants
 - Settling
 - Filtration
 - Infiltration
 - Plant uptake and evapotranspiration



Image Credit: Washington DC Department of Transportation

Enhance Pedestrian Safety and Comfort



- Calm traffic
- Improve comfort and safety for pedestrians and cyclists



Image : Hoboken, NJ. Credit: EPA

Image Credit: City of Portland Bureau of Environmental Services

Reduce Urban Heat Island Effect



- Decrease hard surface areas that absorb and radiate heat with vegetative cover
 - Lessen the amount of radiation absorbed by the surface
 - Decrease ambient air temperature
 - Lower energy demands needed to cool urban areas



Reduce Carbon Footprint



- Encourage a shift in the way people choose to commute through:
 - Safer pedestrian environments
 - Bike facilities
 - Beautified streetscape



Beautify Neighborhoods

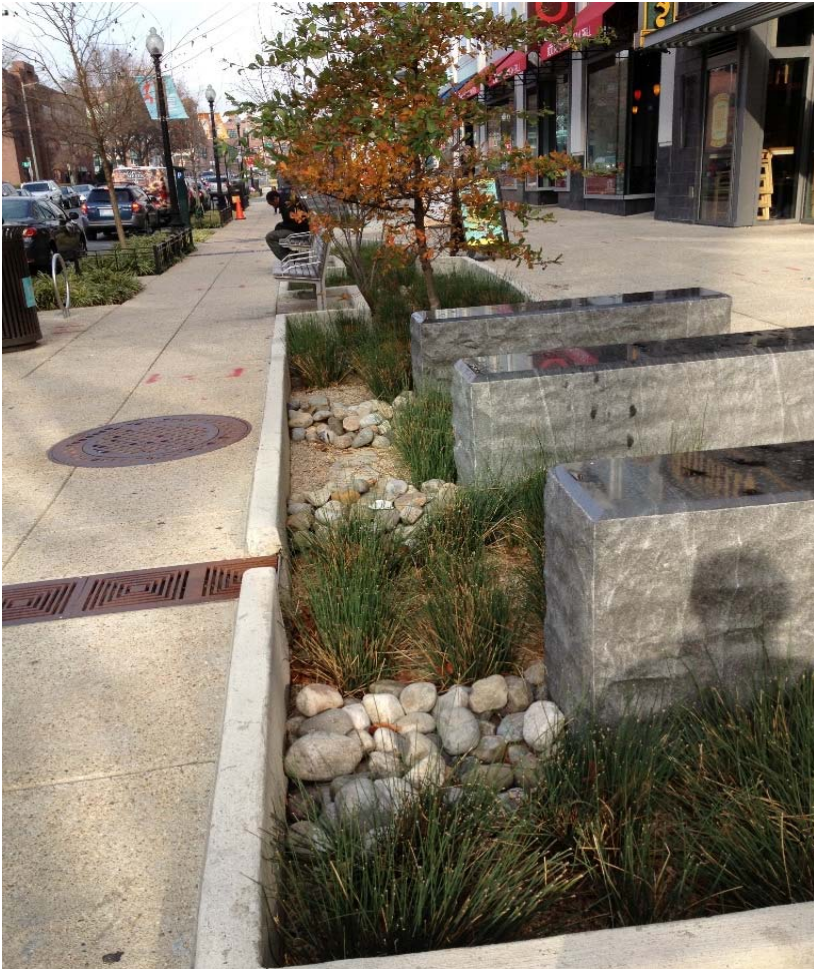


- Increase amount and variety of vegetation
- Introduce alternative materials and orientation for roads and sidewalks
- Improve pedestrian experience
- Enhance the character of the community



Image : Portland, OR. Credit: Kevin Robert Perry

Catalyst for Redevelopment



- Opportunity to create a green infrastructure network that can serve as enjoyable open space in a neighborhood
- Create a unique sense-of-place
- Being “green” can be a positive selling point



Image : NOMA Neighborhood, Washington, DC. Credit: EPA

Thank You

