

LID Site Design Measures

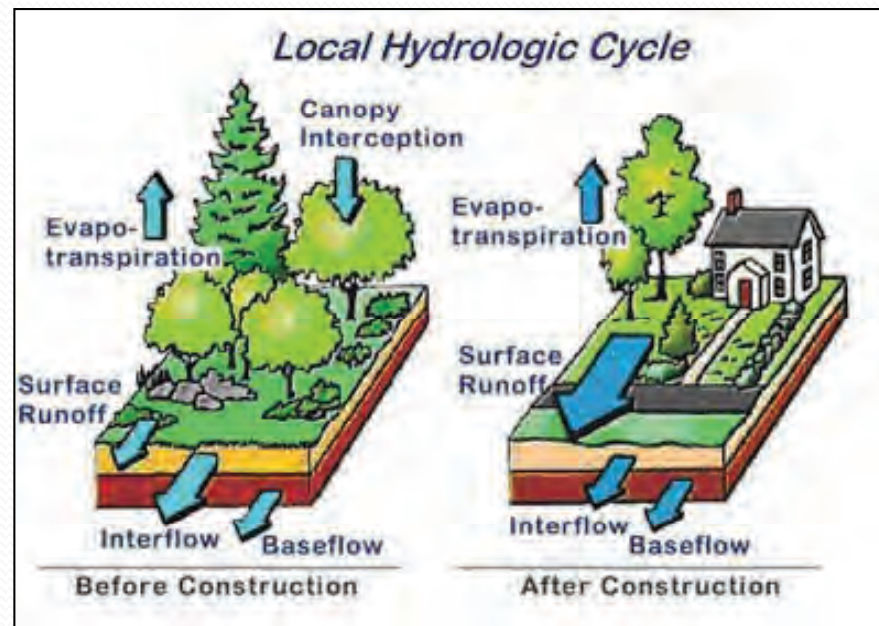
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Presentation Outline

- LID site design guidelines
- Site-based vs. regional LID

LID site design guidelines: protect natural hydrologic functions

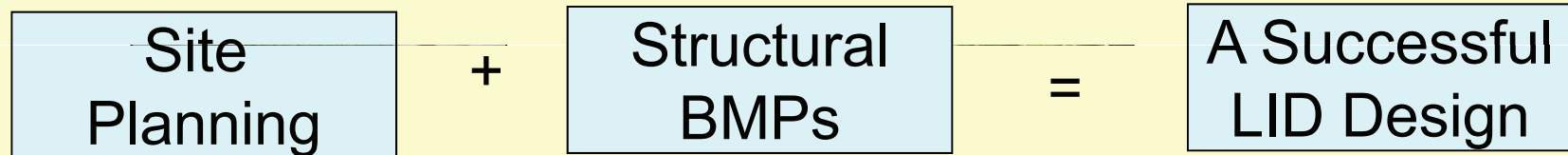


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LID site design guidelines

LID Design Fact:

A good LID design incorporates site planning principles as well as structural BMPs to achieve site performance objectives



Steps for a successful LID project design

- Step 1: Define project site characteristics
- Step 2: Conduct initial site layout- reduce amount and impact of impervious surfaces
- Step 3: Calculate stormwater runoff benefits
- Step 4: Integrate structural LID BMPs
- Step 5: Calculate stormwater runoff benefits

Steps for a successful LID project design

- Step 1: Define project site characteristics including opportunities and constraints
 - minimize clearing and grading
 - use site fingerprinting
 - use drainage as a design element

Minimize clearing and grading

clearing and grading minimized



Source: Lake County Stormwater Management Department, Ohio

mass graded



Crystal Cove, CA
Source: Sukut Construction, Inc.

Use drainage as a design element



Source: www.fceo.co.franklin.oh.us/images/Bioswale.jpg

Steps for a successful LID project design

- Step 2: Conduct initial site layout- reduce amount and impact of impervious surfaces

Reduce impervious areas

- narrow road sections
- reduce sidewalks to one side
- reduce on-street parking
- design driveways to be:
 - shared
 - narrow
 - short
 - permeable

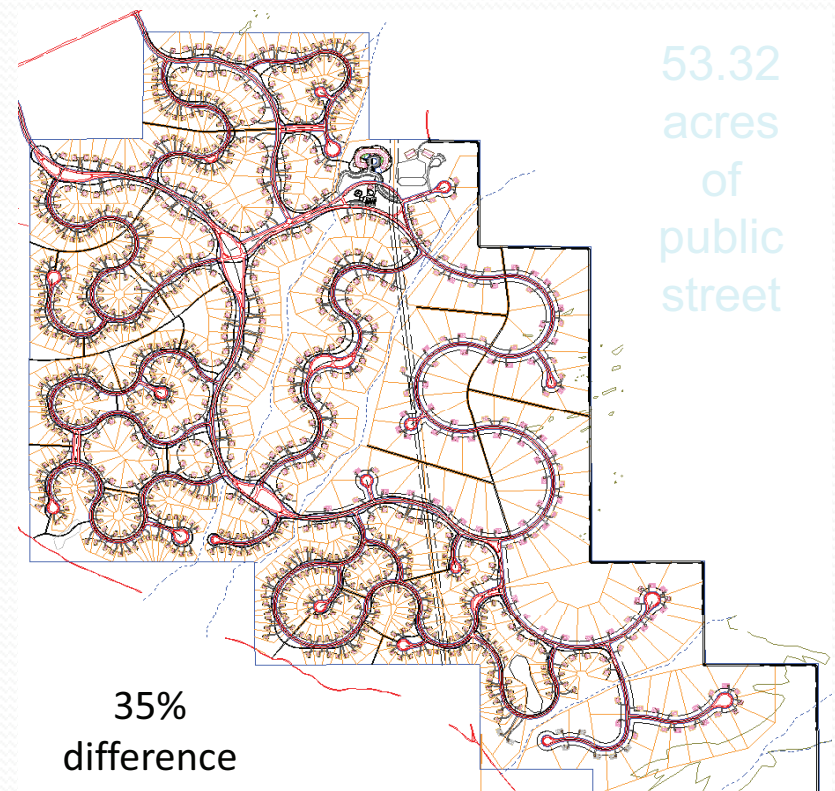
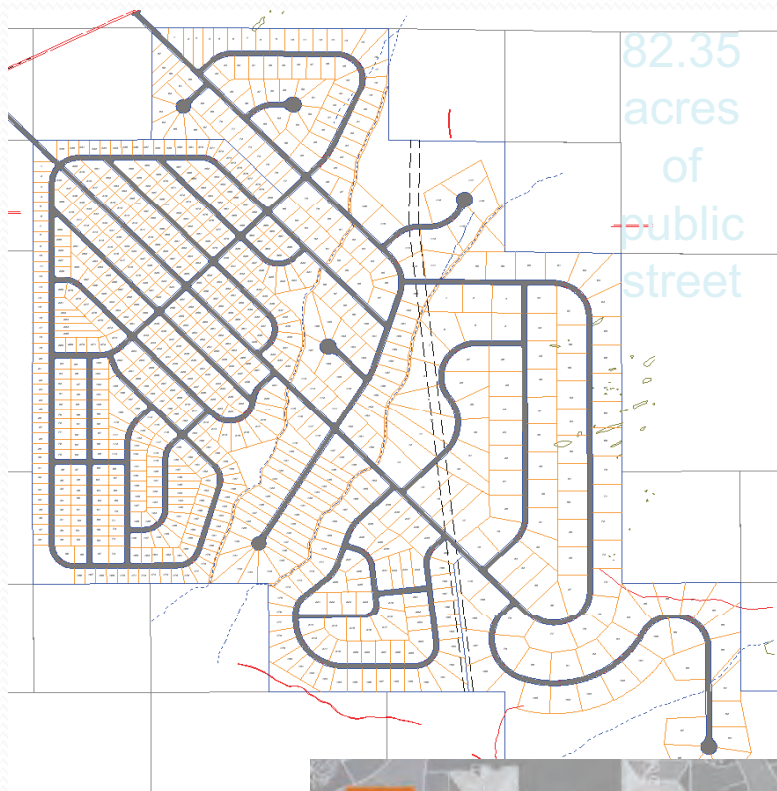


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Reduce impervious areas

- alternative roadway layout



Reduce impact from impervious areas

- disconnect roof drains and direct flows to vegetated areas



City of Seattle

Reduce impact from impervious areas

- direct flows from paved areas to stabilized vegetated areas
- break up flow direction from large paved surfaces



Source: Illinois Environmental Protection Agency

Steps for a successful LID project design

- Step 3: Calculate stormwater runoff benefits

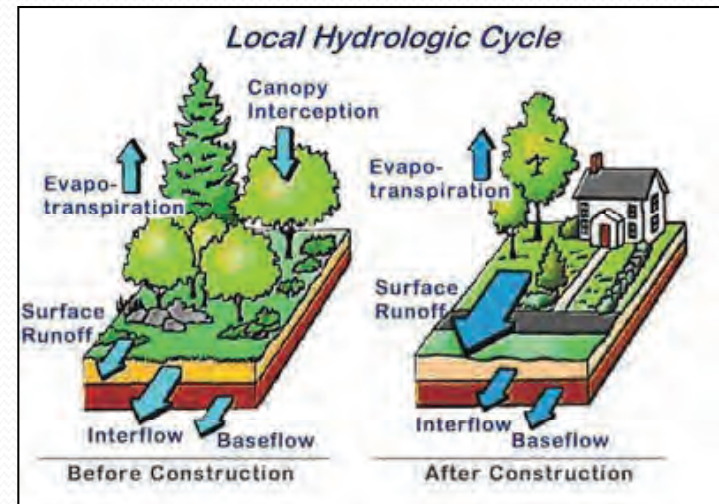
Steps for a successful LID project design

- Step 4: Integrate structural LID BMPs



LID BMP concepts

- mimic natural drainage
- use small scale practices
- manage stormwater at the source
- make landscape and infrastructure multifunctional



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LID BMP concepts

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Steps for a successful LID project design

- Step 5: Repeat calculation of stormwater runoff benefits

Site-based vs. regional LID

- What is regional LID?
- How are the similarities and difference to site-based LID?

Regional LID: transportation infrastructure

A green street is a roadway constructed by integrating transportation, functionality and ecological sustainable design. An environmental approach is used through out the planning, design, and the construction. The result is a highway that will benefit transportation, the ecosystem, urban growth, public health and surrounding communities.



The City of Indianapolis

Questions

