City of Redding

Municipal Utilities

What is Low Impact Development

- Low Impact Development (LID)
- A comprehensive technology-based approach to managing urban stormwater.
- It combines a hydrologically functional site design with pollution prevention measures to compensate for land development impacts on hydrology and water quality.

Formula for Low Impact Development

LID = engineering

+ hydrology

+ ecology

+ land use planning

Types of Low Impact Development


Rain Garden


Rain Barrel


Green Rooftop
Redding Library


Permeable Pavers


Biofilter

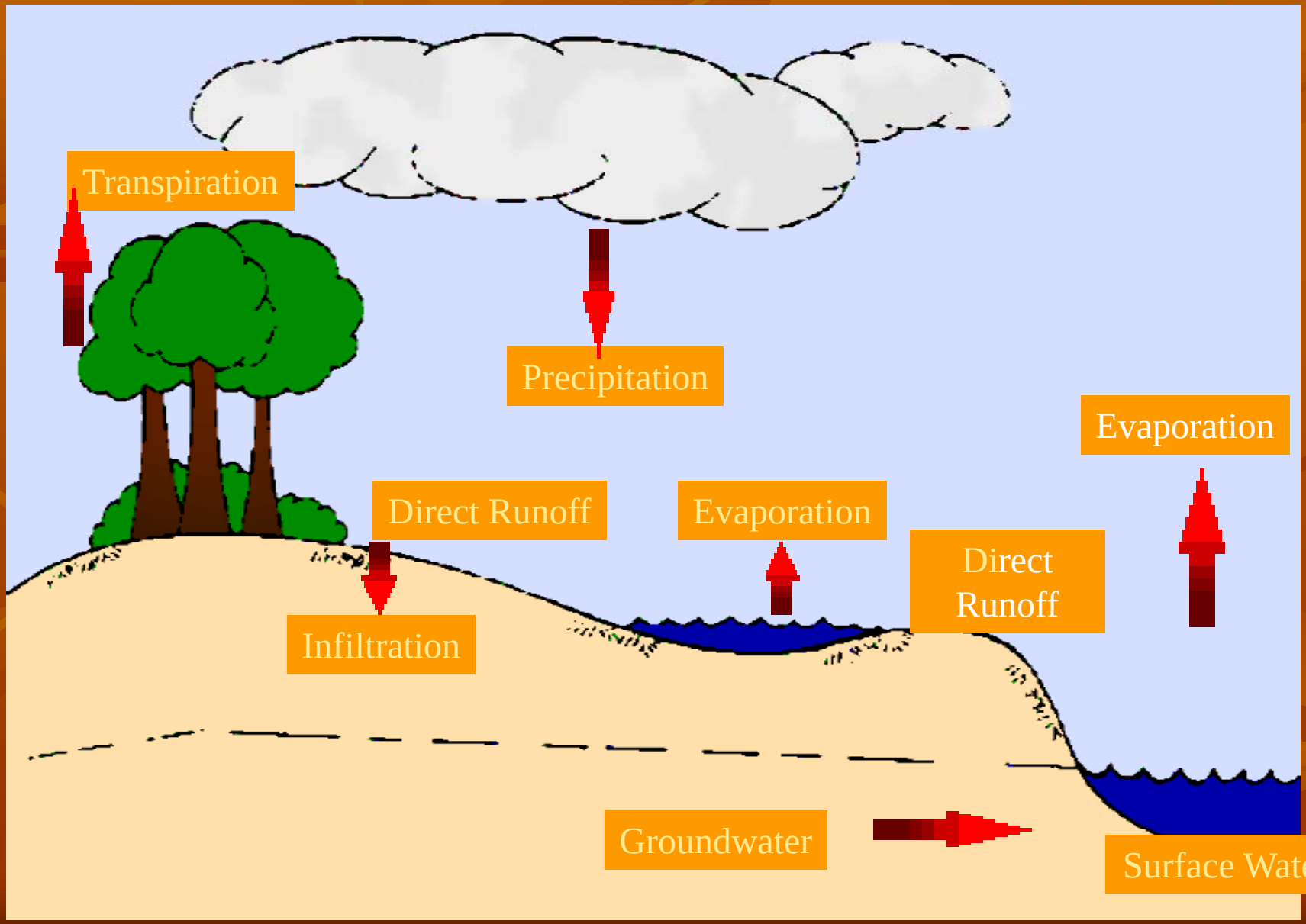

Vegetative Buffers


Vegetative Swale

Low Impact Development Practices

- Pervious surfaces
- Filter runoff through vegetation, soils and organic matter
- Pollutants processed through plant uptake and soil bacteria
- Runoff is reduced by detention, infiltration, evaporation and evapotranspiration by vegetation
- Increase groundwater recharge
- Assist with water conservation

LID / The Water Cycle



Paving Over Paradise – The Problem

Rethink Parking Spaces – The Solution

LID Surface Alternatives

Porous Pavement

Regulatory Considerations

- Require parking lot landscaping and allow it to be used for BMPs
- Allow flexibility in the number of parking spaces by business type
- Use islands for bioretention or biofiltration
- Allow flexibility in overflow parking

LID - Pervious Surfaces

Grid systems

Modular systems

Short Term: ~20% more expensive

Long Term: cheaper, due to less drainage piping

What If?

- Each new development minimized impacts

  = *slow deterioration*

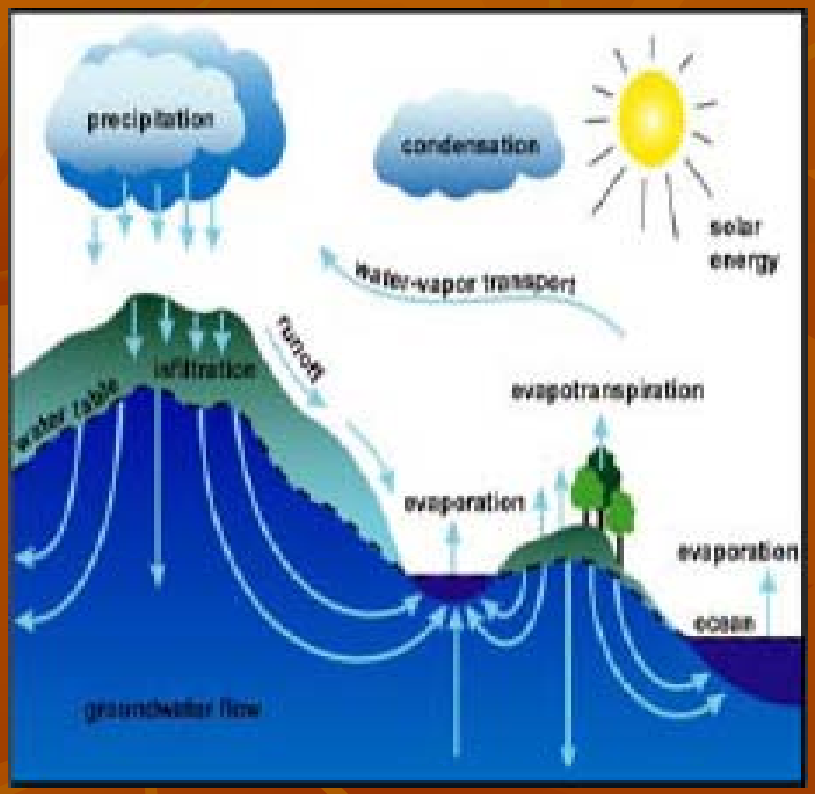
- Each new development caused no new net impacts

  = *no improvement/status quo*

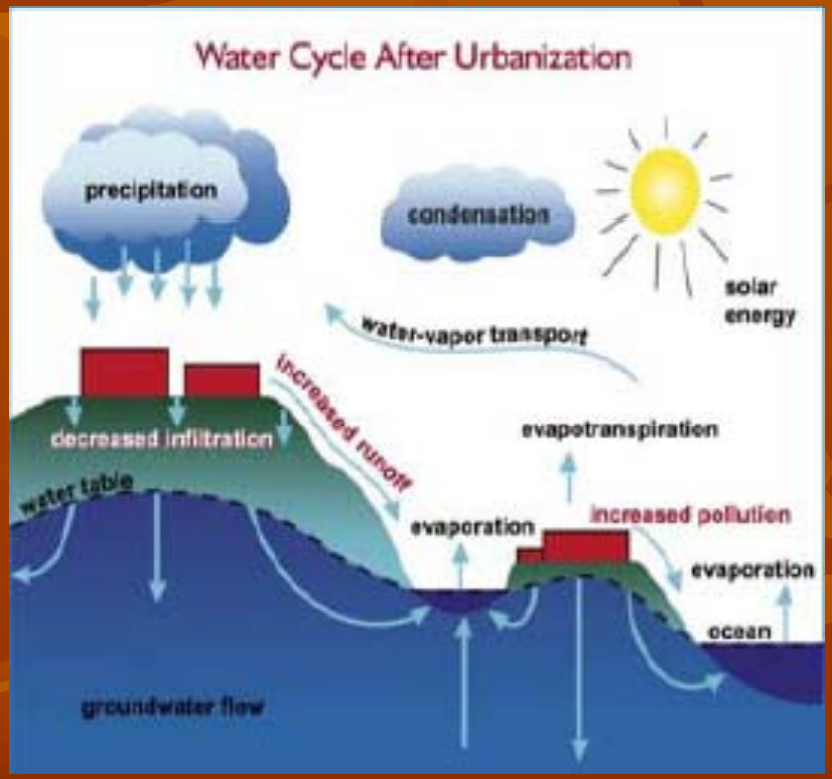
- Each new development produced a positive impact

  = *restoration*

LID - Before and After Development



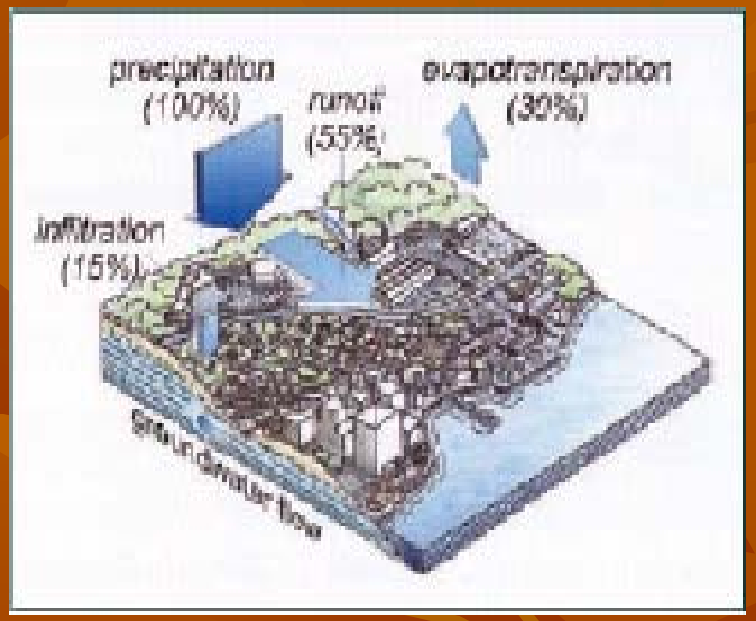
Predevelopment



After Urbanization

LID Smart Growth Techniques

Low Impact Development (LID) is a more sustainable land development pattern that results from a site planning process that:



- Identifies critical natural resources
- Determines appropriate building envelopes.
- Incorporates a range of best management practices (BMPs) that preserve the natural hydrology of the land.

Landscape –The Problem

LID Landscape –The Solution

Rain Garden

Examples of LID

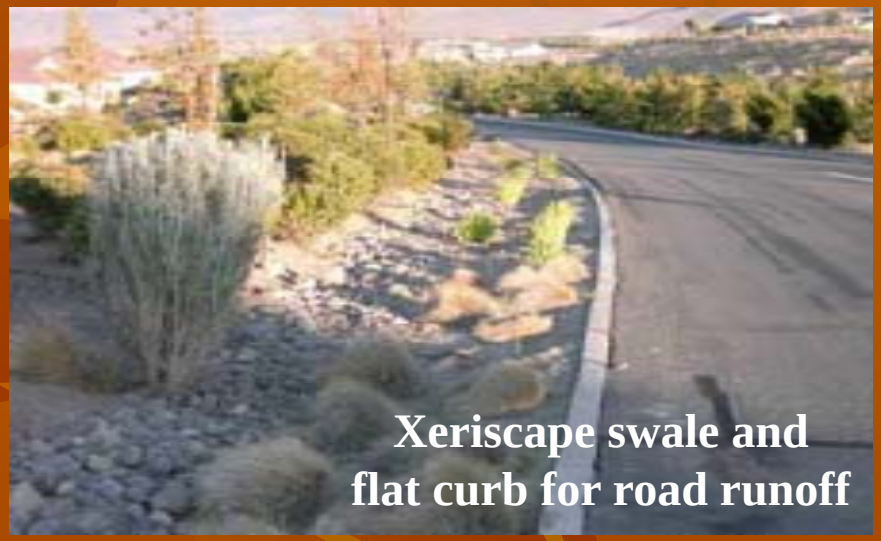
Detain commercial roof runoff

Landscape detention at a single family home

Filter runoff from a multifamily development

Wetlands treating parking lot runoff

LID Examples



Xeriscape swale and
flat curb for road runoff

Landscaped buffers between
lawn and sidewalk

Residential roof runoff
directed to vegetation

Before LID

After LID

Grass Area Before LID

LID- Grassy Swale

Conserving Resources Today For Redding's Tomorrow

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