Introduction

TETRA TECH

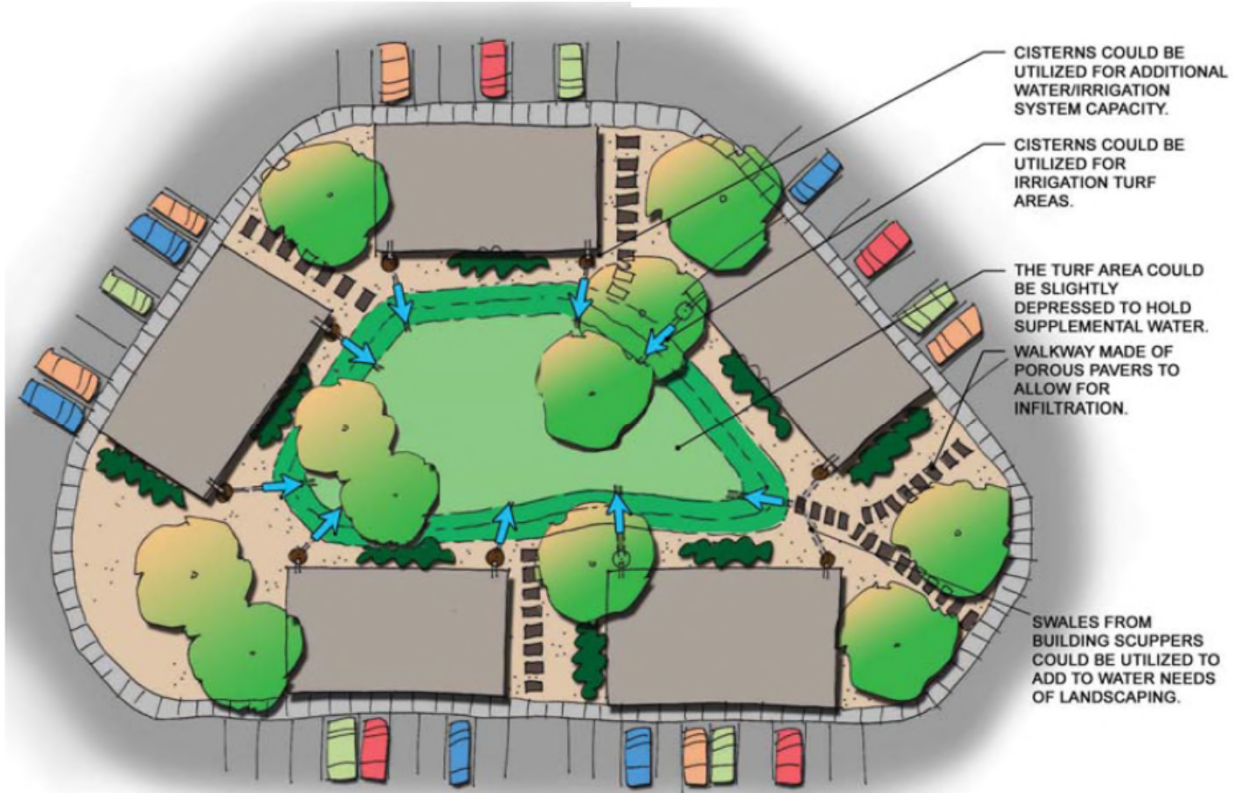
What do we mean by "climate resiliency"?

"Improving community resiliency to threats posed by climate change to critical infrastructure, water quality, and human health."

http://water.epa.gov/infrastructure/greeninfrastructure/climate_res.ctm

Drought – Climate Resiliency Actions

- Store rainwater for groundwater reserves
- Harvest rainwater on-site for irrigation or uses



Water Harvesting to water Commons Area on a Commercial Site

Source:
Middle Rio Grande Low Impact Developments: Projects for Storm Water Management

Mid Rio Grand Storm Water Quality Team

On the web
www.keeptheriogrand.org

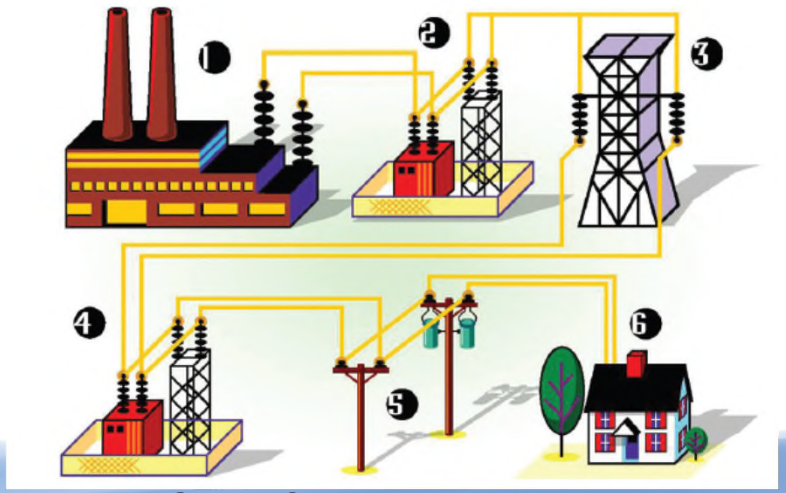
Flooding and Water Quality - Climate Resiliency Actions

- Preserve areas in the community with well-drained soils and water absorbing soils.
- Conserve areas in and around floodplains.
- Site green infrastructure practices to reduce localized flooding and water quality impacts.

Source: Mid Rio Grand Storm Water Quality Team

Energy- Climate Resiliency Actions

- Reduce rainwater flow into sewer systems and the amount of water treated (treatment=energy).
- Reduce power plant and related cooling water demand.
- Use trees and green roofs to lower building energy use.



Source:CNM

Urban Heat Island - Climate Resiliency Actions

- Install green roofs.
- Plant trees and install green infrastructure in barren areas of the community.
- Install green infrastructure as part of street upgrades or maintenance.

What's green infrastructure?

Measures reducing runoff to more natural conditions

- Example green infrastructure practices..
  - Trees
  - Natural areas and open space
  - Rainwater harvesting
  - Raingardens
  - Vegetated swales
  - Permeable paving
  - Green roofs

Source: Mid Rio Grande Storm Water Quality Team

“Green” Stormwater Guiding Principles

1. Manage stormwater runoff both at the source and at the surface.

2. Use plants and soil to slow, filter, cleanse, and infiltrate runoff.

Photo courtesy Summer Waters,UA

3. Design facilities that are simple, low-cost, and aesthetically enhance the community.

Green Infrastructure Practices….

- Attempt to mimic predevelopment hydrology
- Reduce runoff through
  - Infiltration
  - Evapotranspiration
  - Reuse
- Are multifunctional
- Provide multiple community benefits

Charrette Objectives

- Understand how climate change may affect the region.
- Explore how green infrastructure can be used to help meet the region's stormwater permit requirements, address flooding, AND make the region more resilient.
- Discuss how green infrastructure can be designed, sited, and implemented with climate change and water rights in mind.