



TETRA TECH

LA StormCatcher: Piloting the Potential of Residential Capture

Southern California Water Committee
Stormwater Workshop
October 11, 2017

A project of



Facilitated by



TETRA TECH

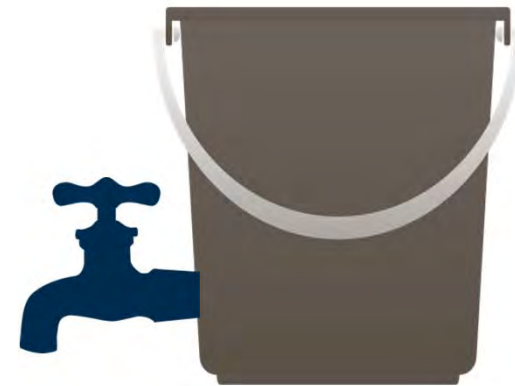
Business as Usual...



Water
Supply



Water
Quality



Flood
Control

The Vision Emerging



Water
Supply

Water
Quality

Flood
Control

The Vision Emerging



Water
Supply

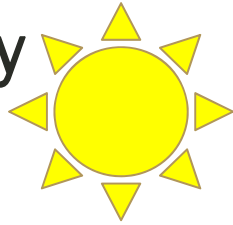
Water
Quality

Flood
Control

Residential Parcel Scale

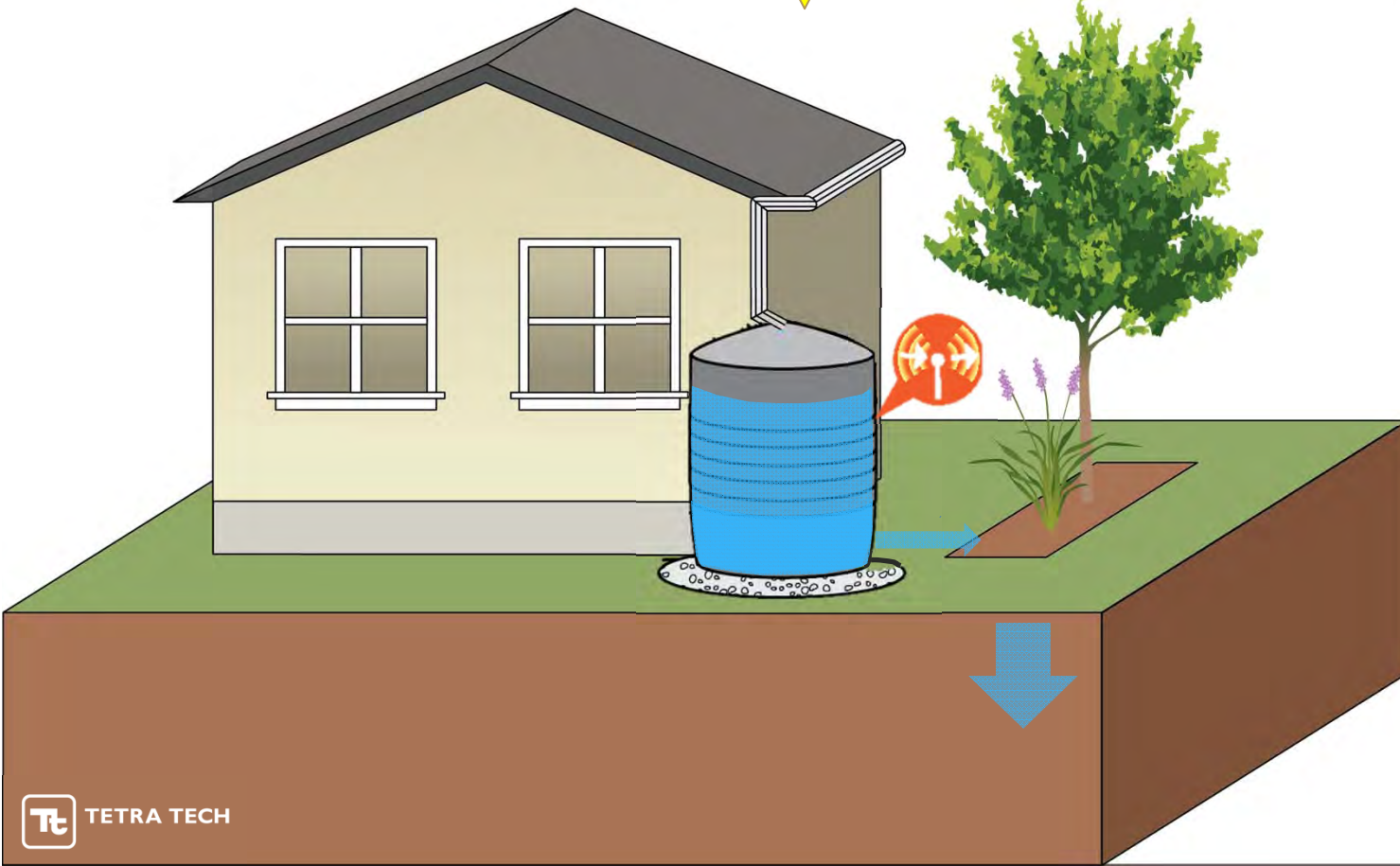
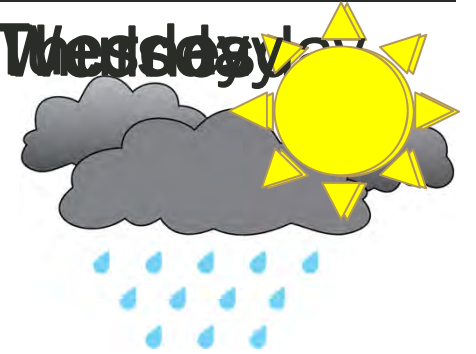


Monday

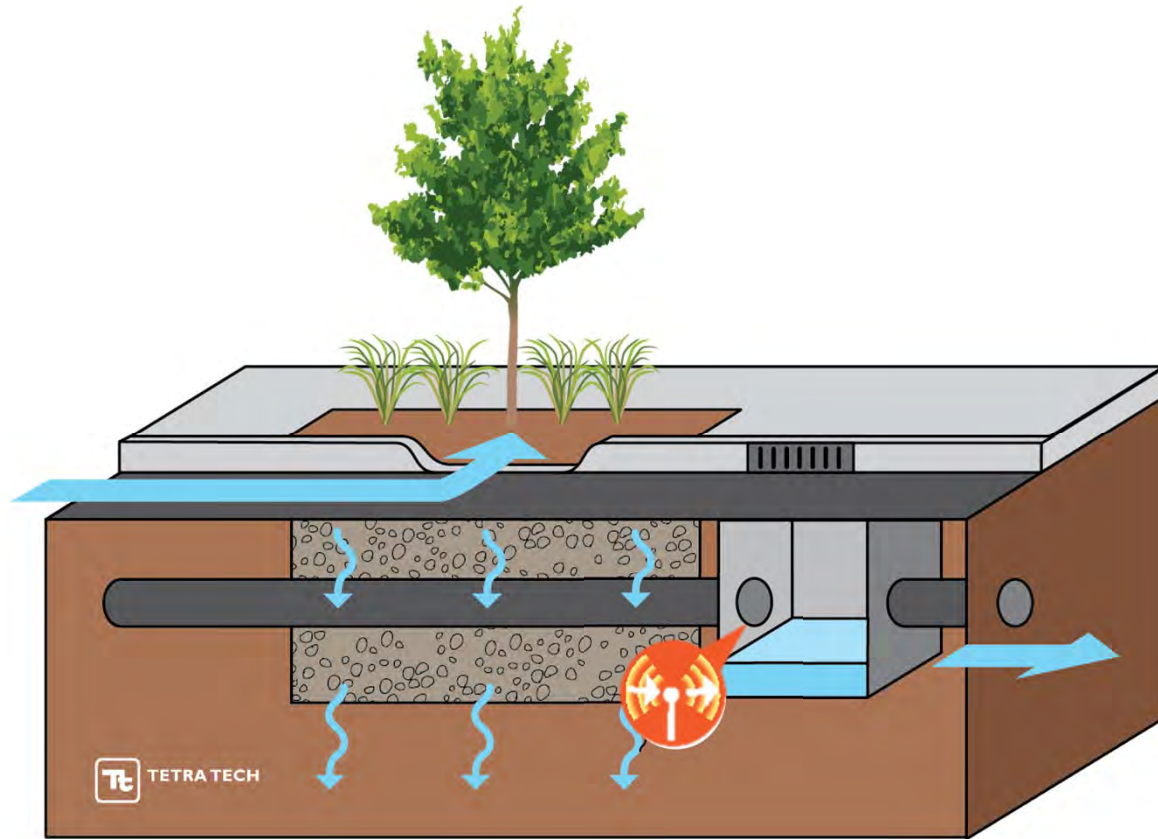


Tomorrow's Forecast

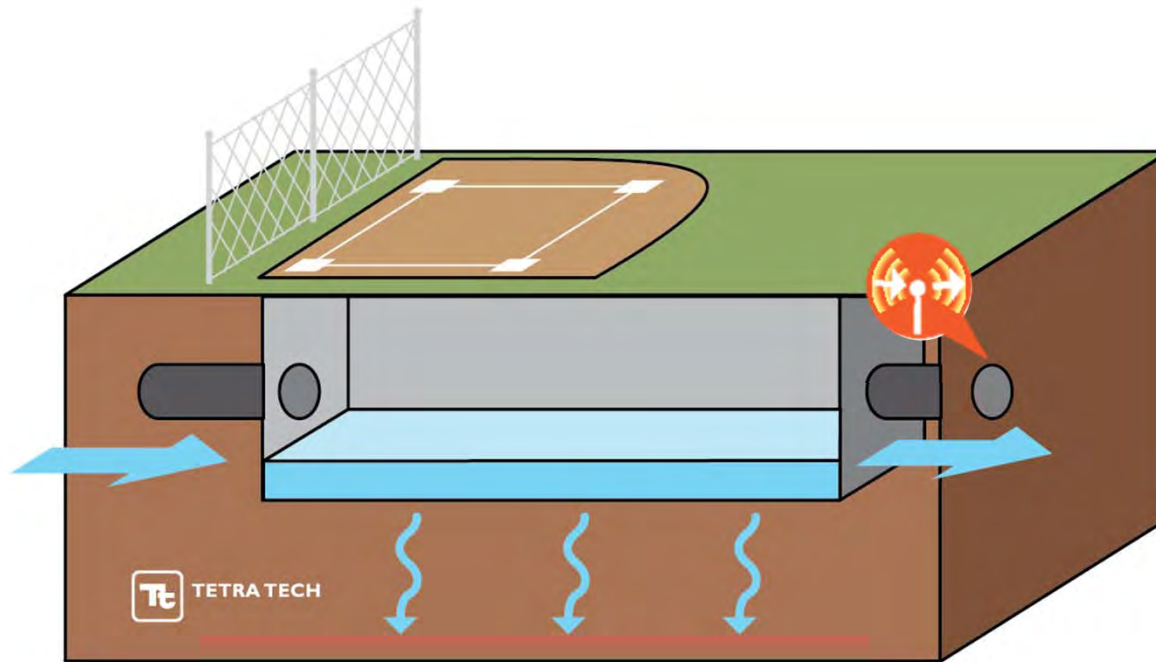
Wednesday



Street-Scale



Regional-Scale

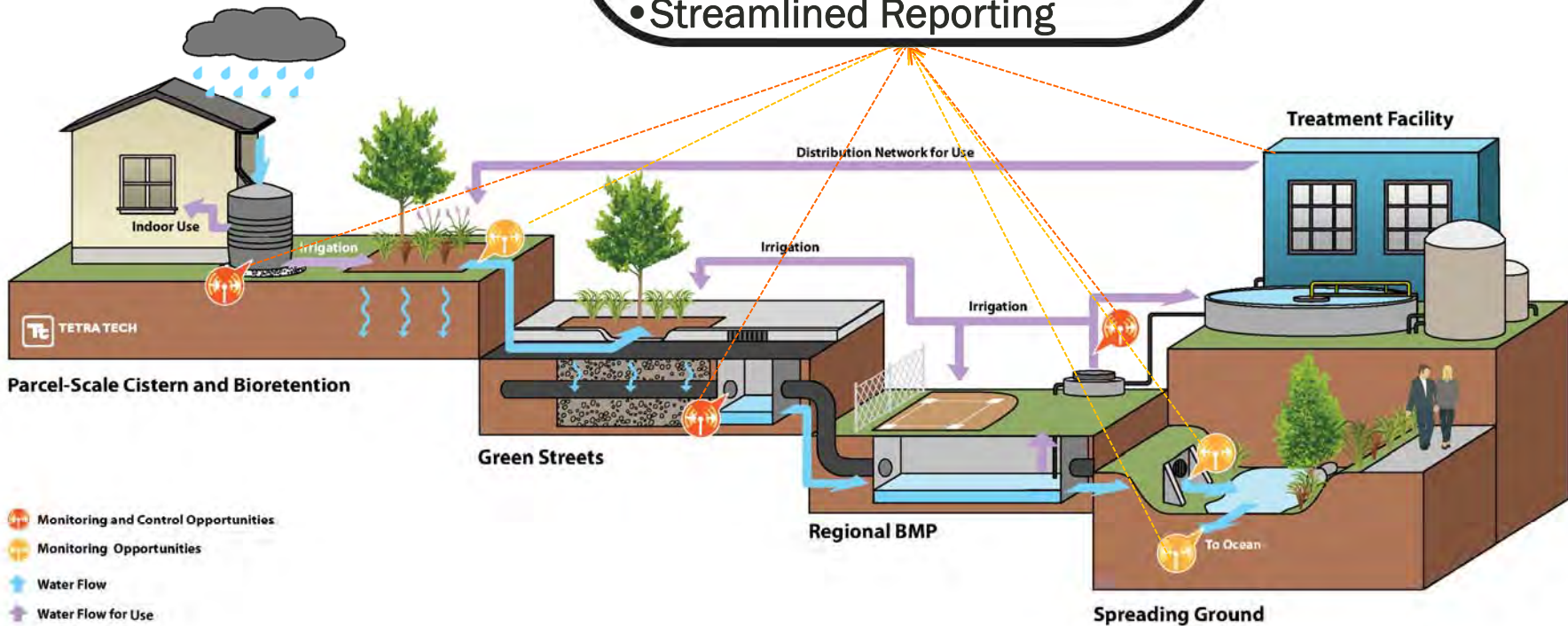


All Scales Connected and Networked



Continuous Monitoring & Control Enables:

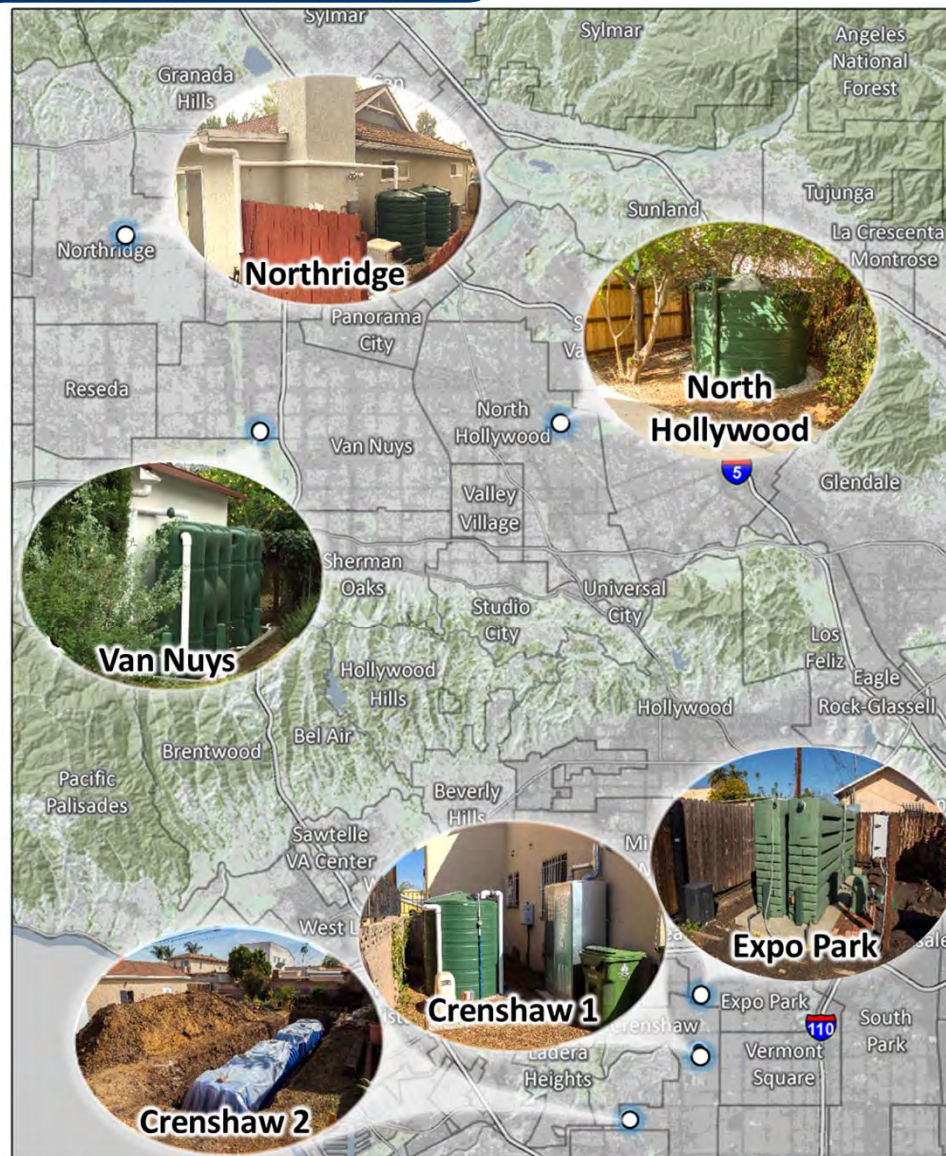
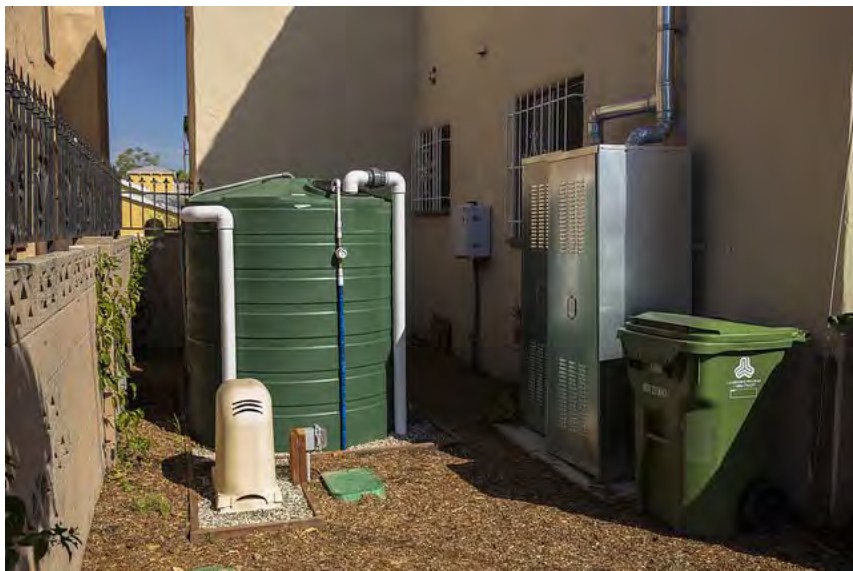
- Maximum Cobenefits
- Strategic, Tactical O&M
- Streamlined Reporting



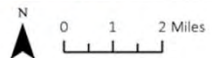


From Theory to Practice

Pilot Sites



● Candidate Site
 ☒ Communities



Operation Mode

Current State: Automatic Control

- Manual Control
- Automatic Control

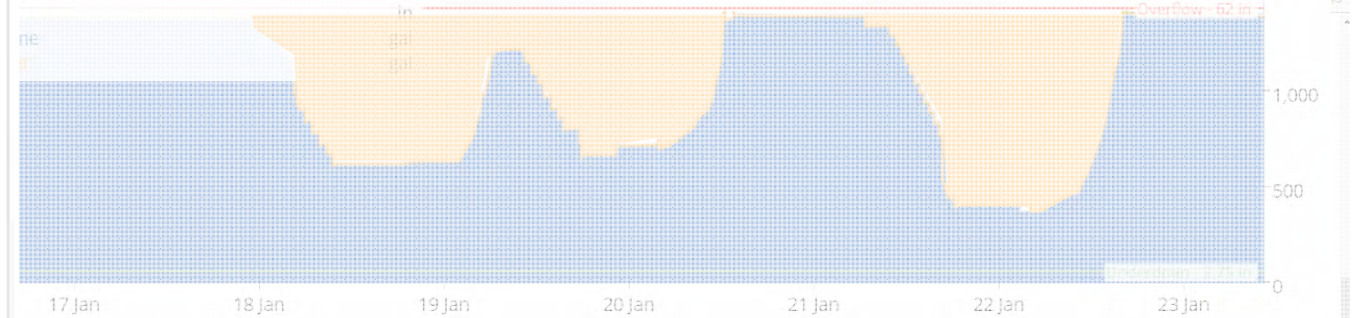
Change

Valve State

Current State: Close
Not available for control.

96.9% Closed | 3.1% Open

Intelligently Managed Water, Reduced Overflow (Routed to Rain Garden or Reclamation)



Forecast

1/2017 07:00

Probability

90 %

Quantity

0.12 in

Probability Threshold - 90 %

in

1.5

0.5

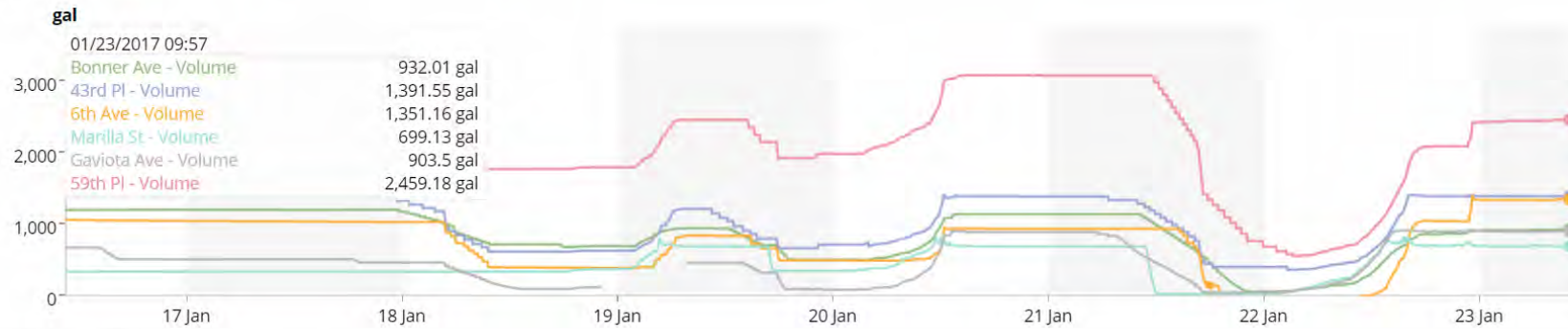
20

RTC Network Dashboard for Programmatic Management



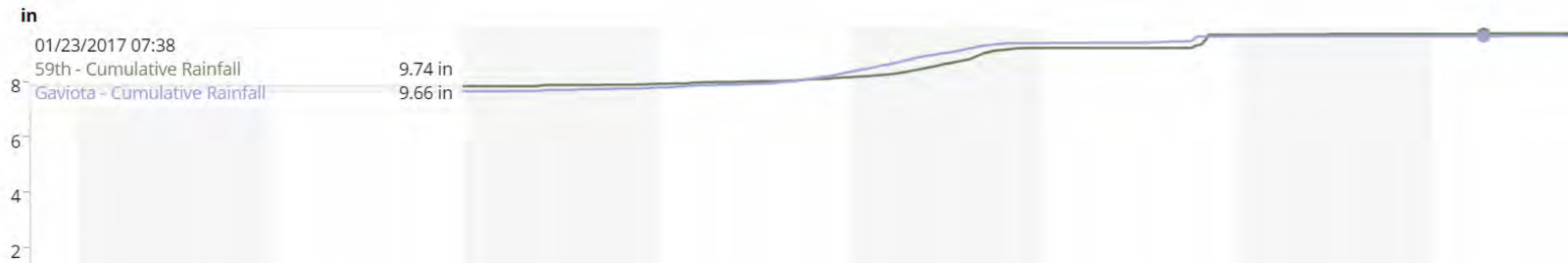
Current Cistern Volumes

12hr | 24hr | 48hr | 1wk



Cumulative Rainfall

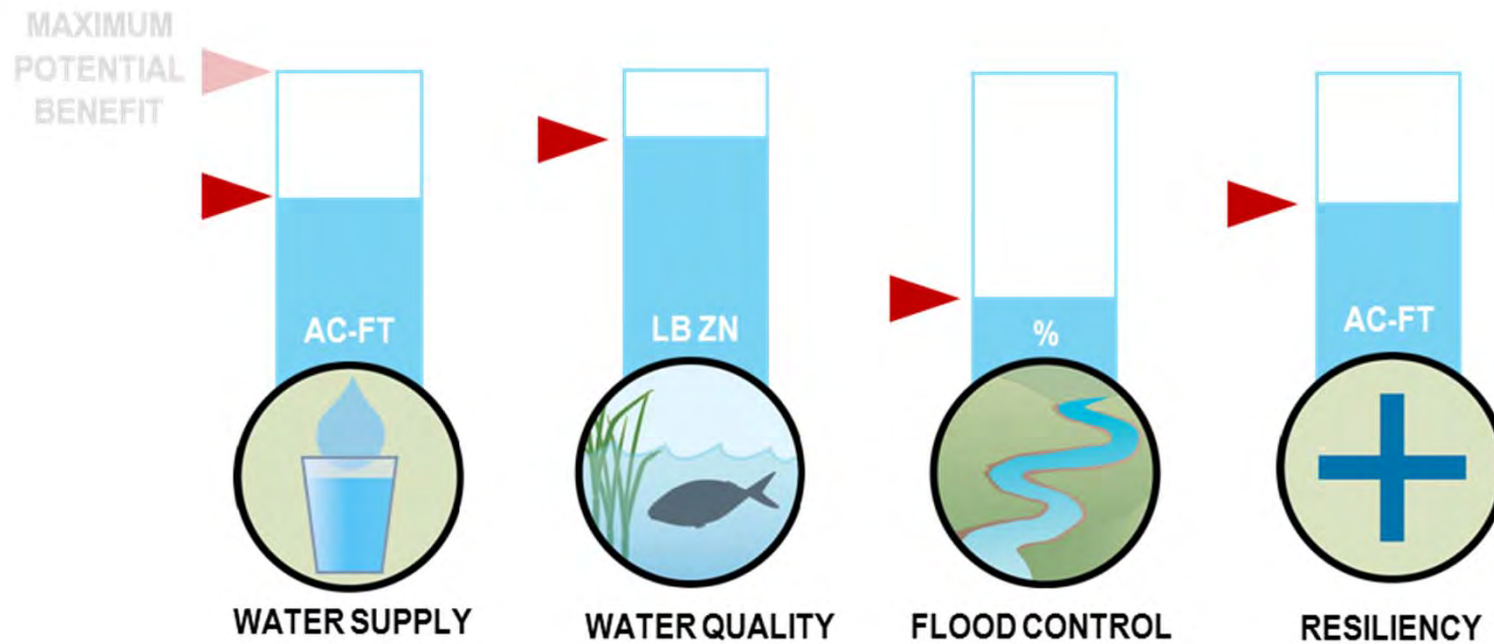
12hr | 24hr | 48hr | 1wk



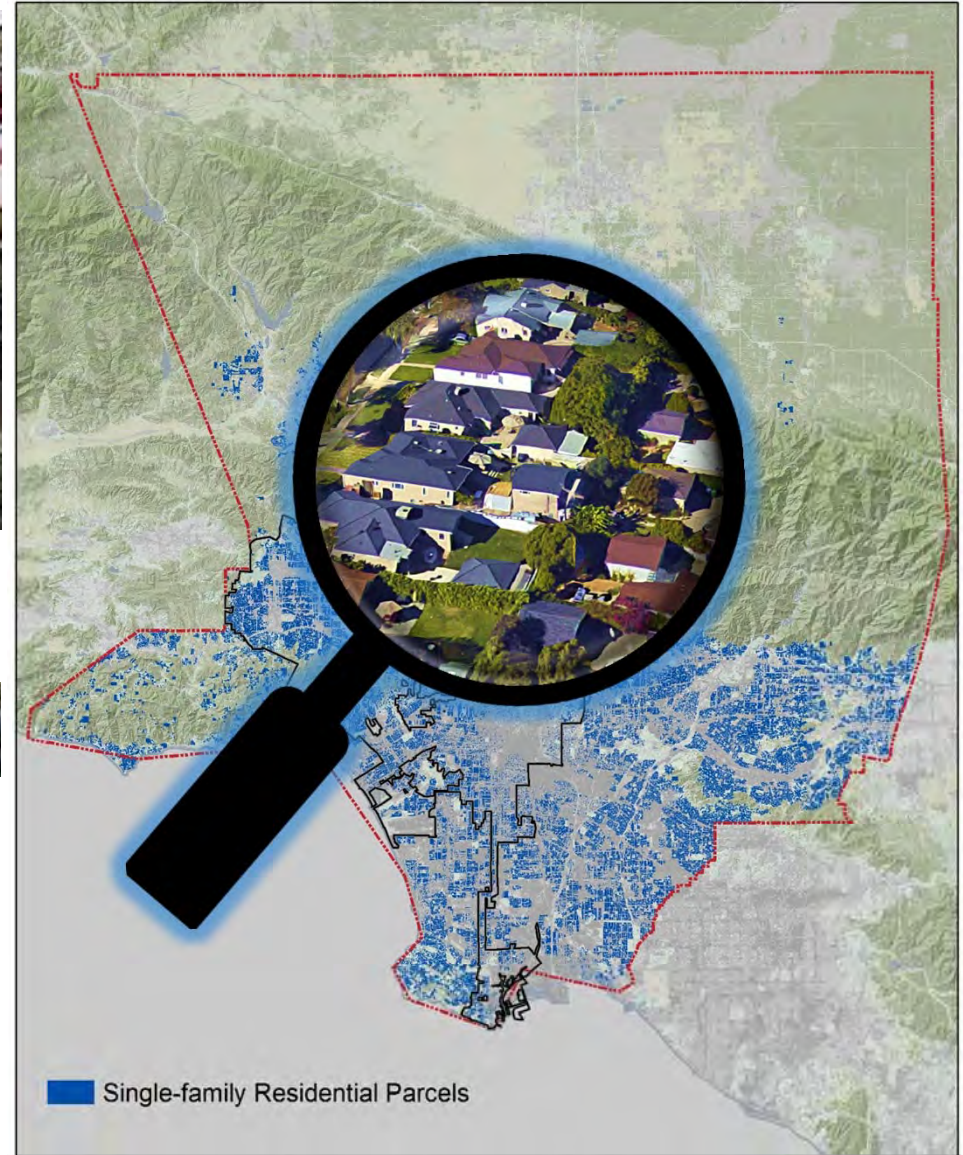


From Pilot to Scale

Metrics for Evaluation



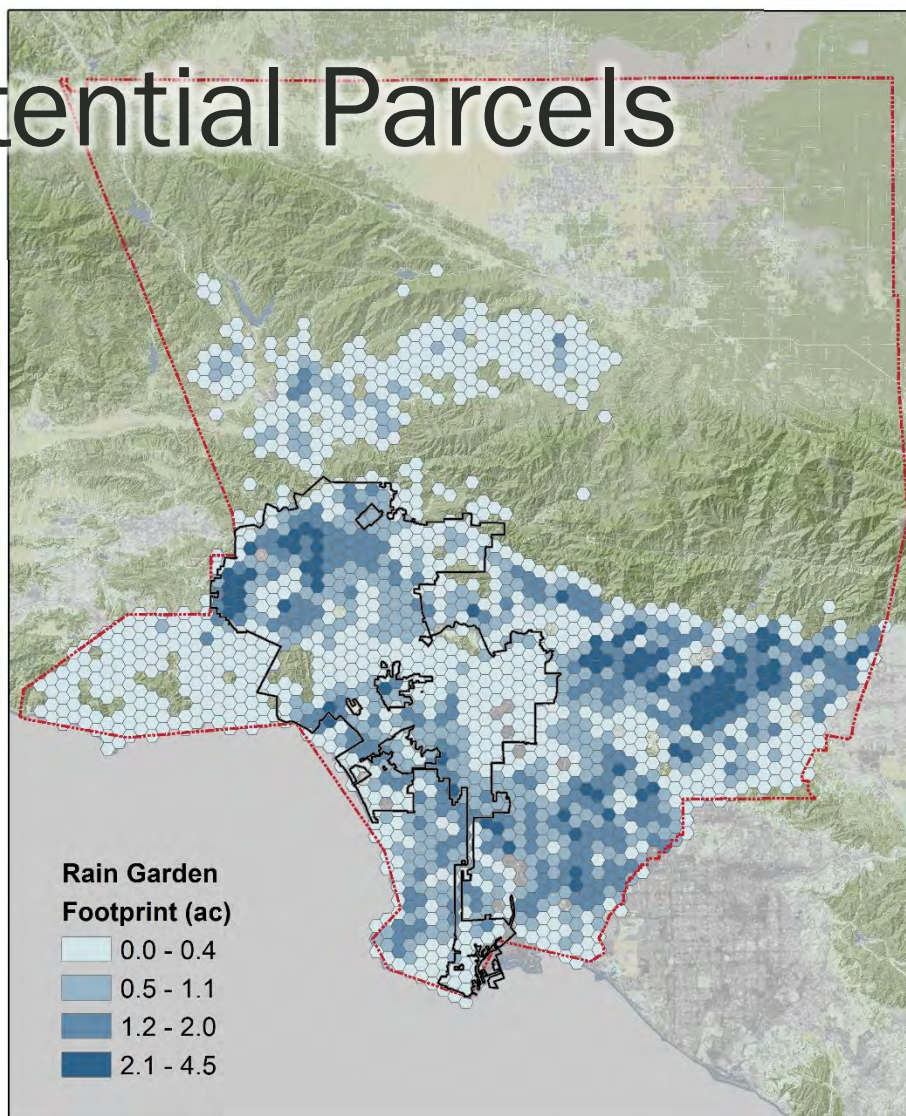
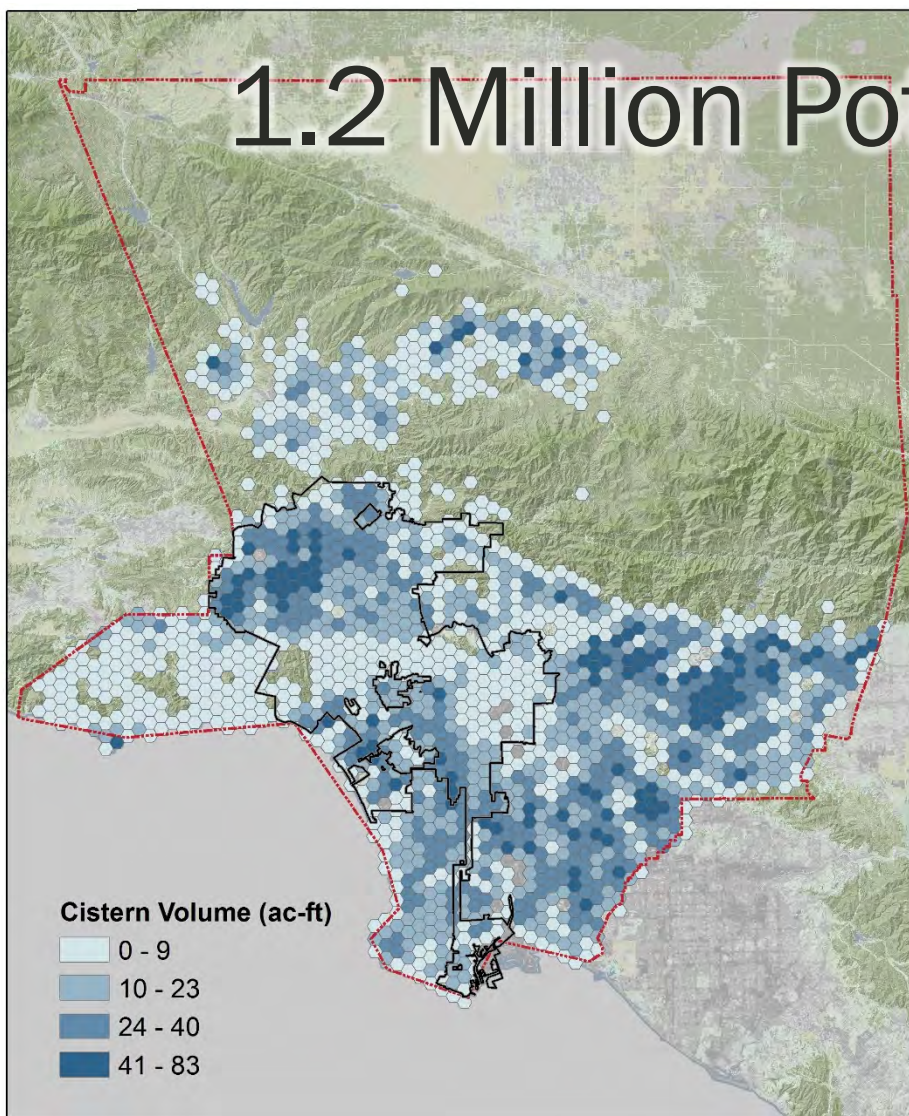
High-Resolution Opportunity Assessment



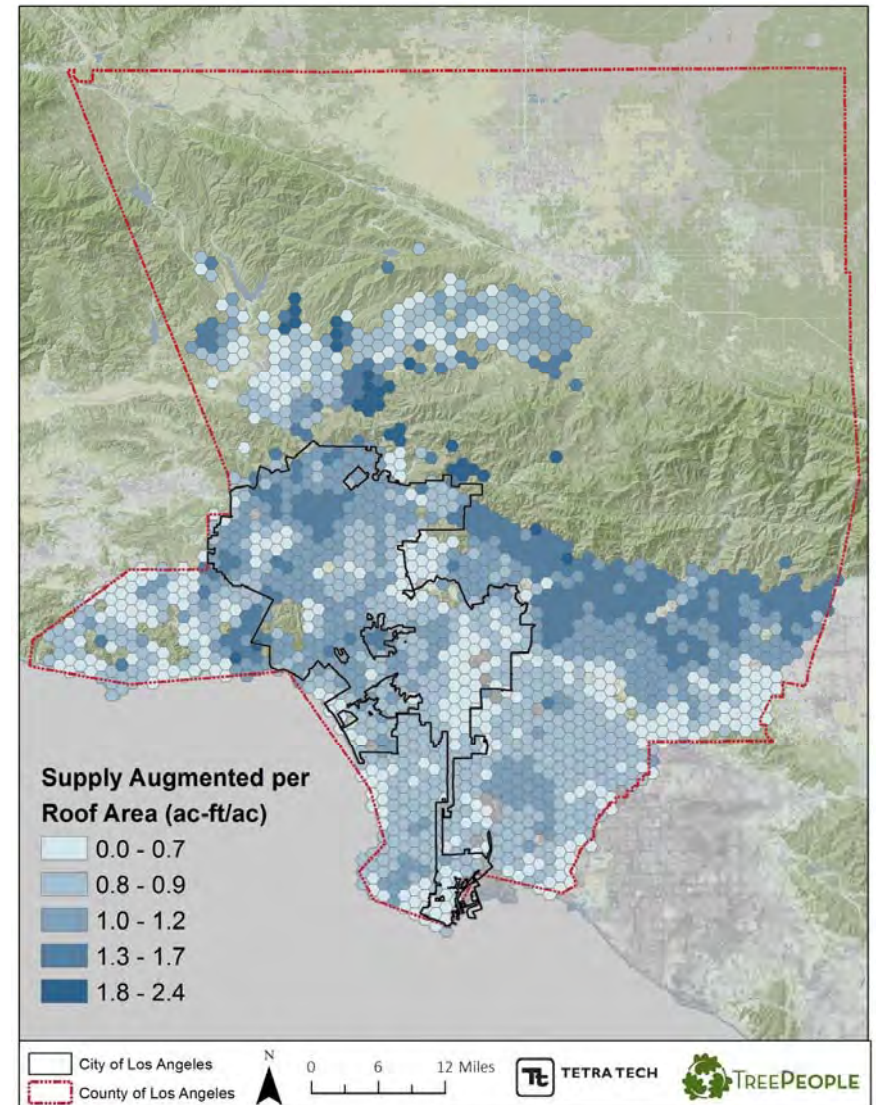
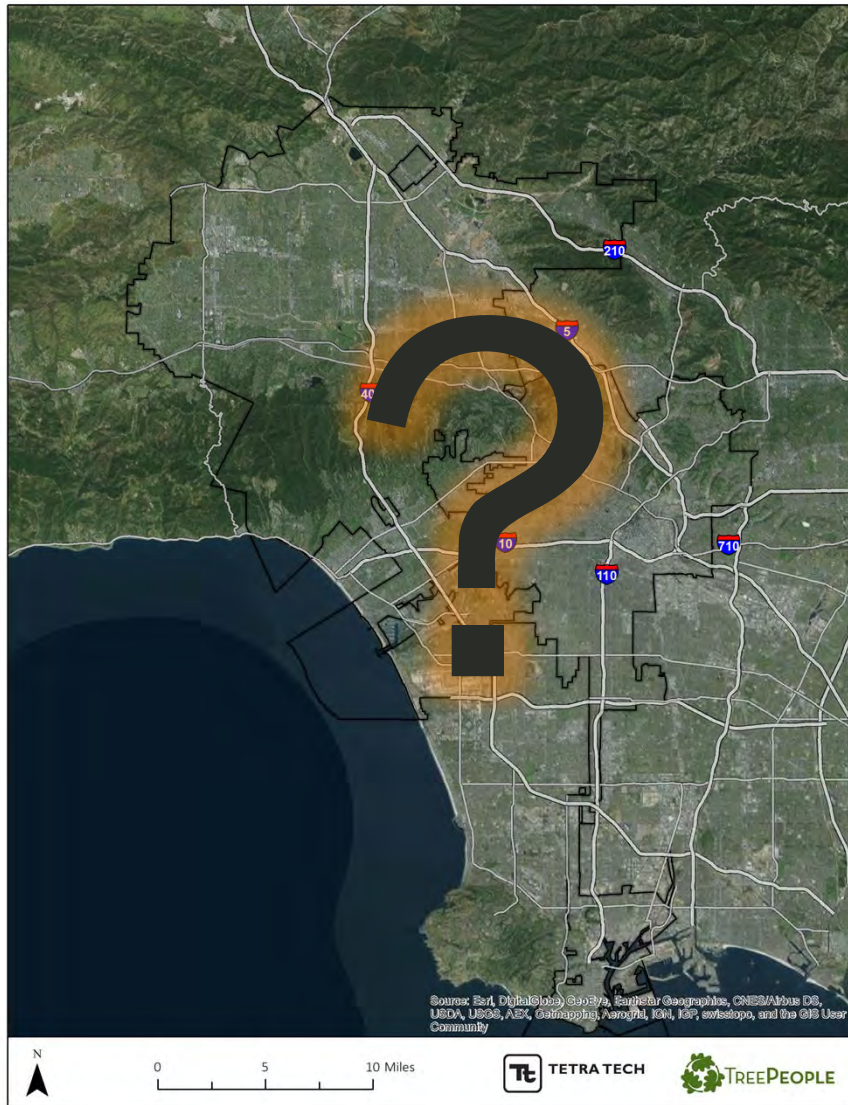
High-Resolution Opportunity Assessment



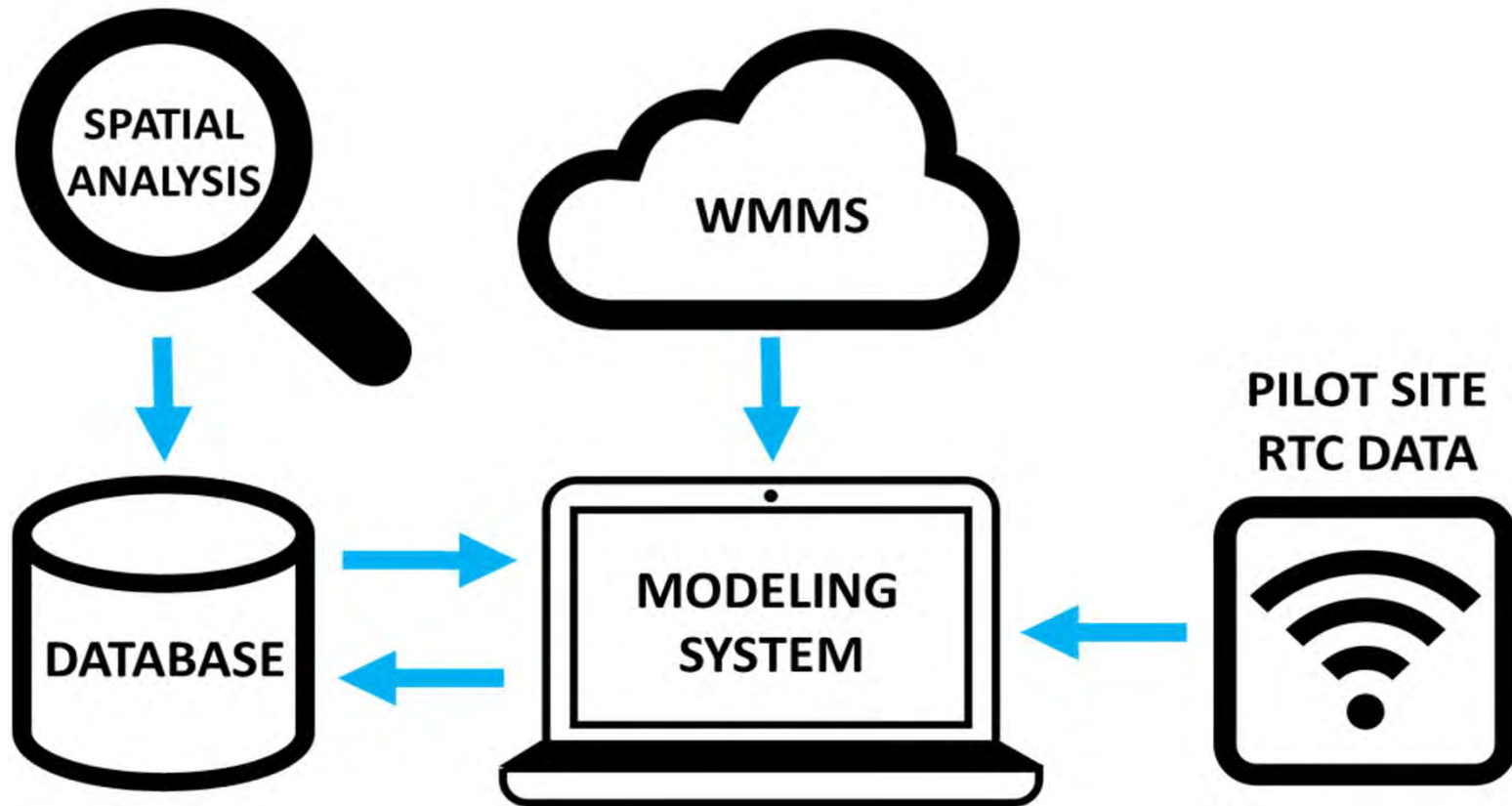
1.2 Million Potential Parcels



High-Resolution Opportunity Assessment



Model System Development

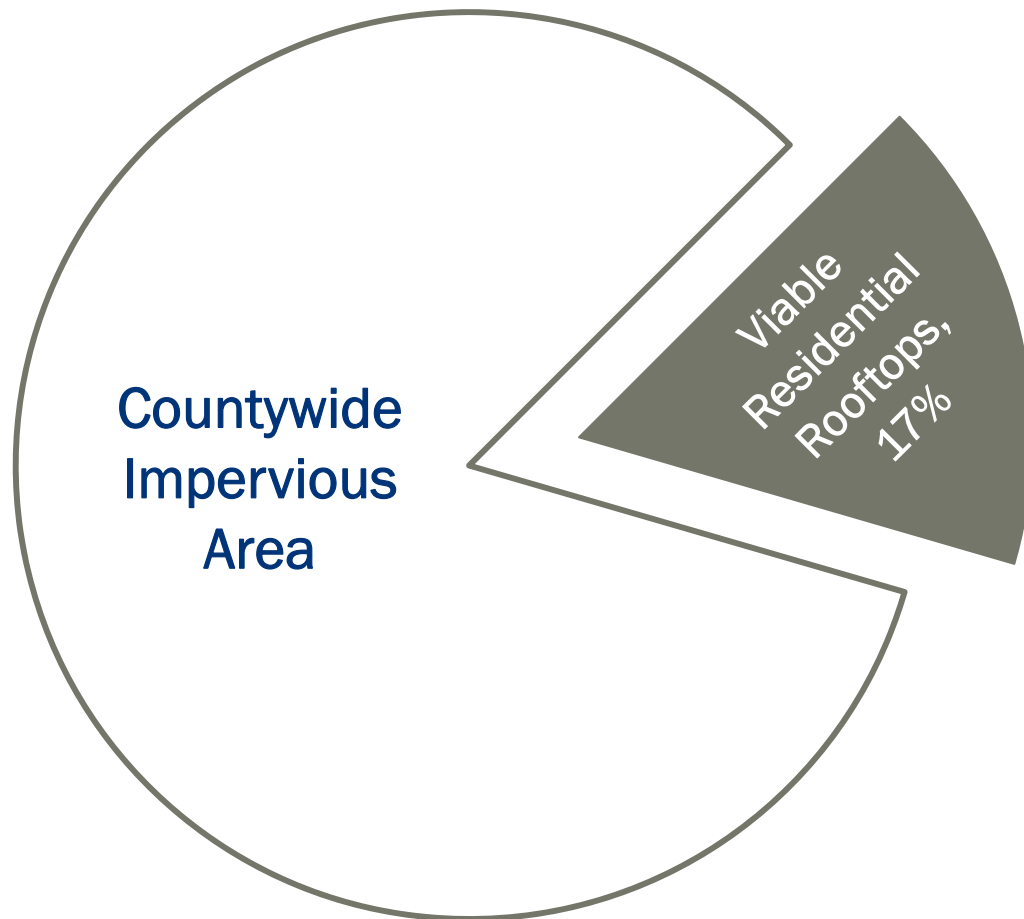


New High-Resolution, Parcel-Scale Modeling

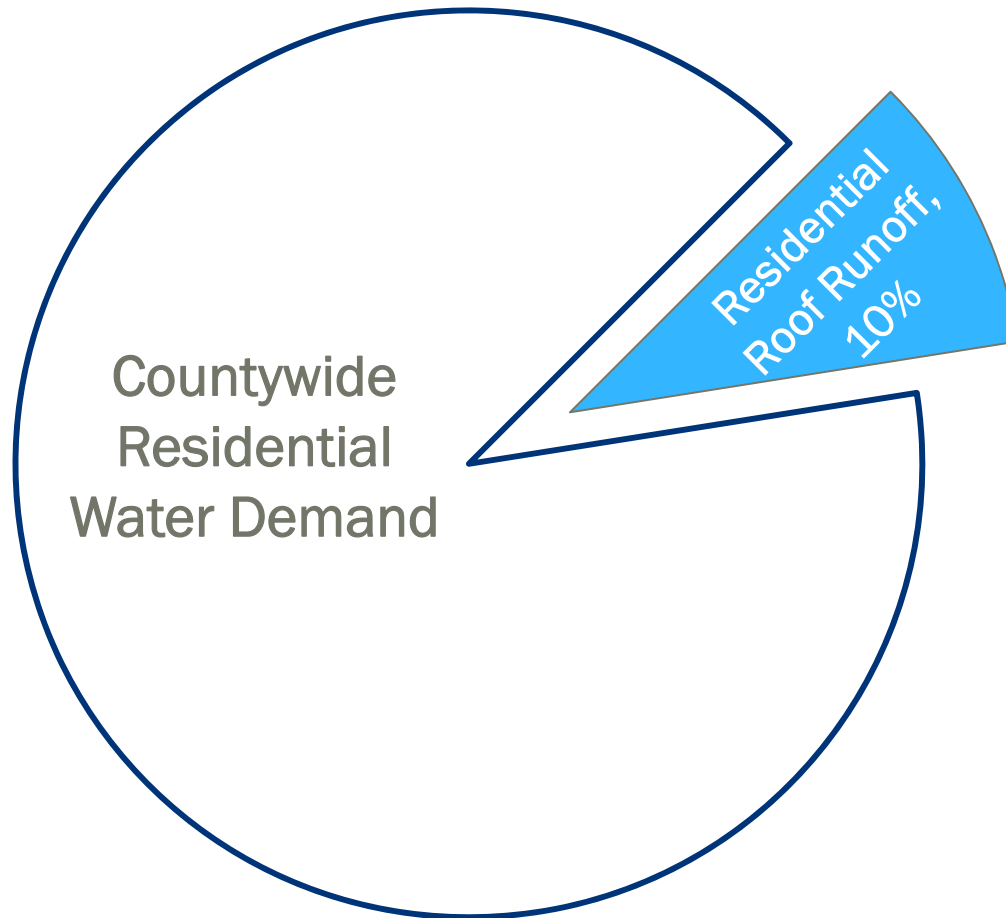


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

How Much Impervious Area Could We Treat?



How Much Could Water Demand be Augmented?



How Could Water Quality Be Improved?



How Can We be Prepare for Disasters?



Average Regional Long-Term Storage for Full Implementation:
**up to 350 Million Person-Days
of Emergency Water On-Hand**
or
**Enough to Sustain
LA County for One Month**