

An aerial photograph of a suburban neighborhood. In the foreground, there is a large, open green field with a winding path and a small pond. To the left, there is a parking lot with several cars and a building. The middle ground is filled with residential houses, some with red roofs and others with grey roofs. In the background, there are rolling hills and mountains under a blue sky with scattered white clouds.

INTEGRATED WATER AND LAND USE PLANNING

Anne J Castle
Sharing Visions for a Sustainable Water Future
September 27, 2021

WHY?

- Water suppliers are faced with the prospect of:
 - Reduced supplies
 - Increased demand
 - Uncertainty
 - Climate change exacerbating everything
- Without a significant emphasis on water efficiency, we have a **water gap**

TRADITIONAL WATER CONSERVATION

- Water supplier focused
 - Rate structure
 - Tap fees
 - Maybe irrigation restrictions
- But water supplier has to serve whatever development the land use authority approves

WATER EFFICIENT DESIGN

Initial
configuration of
development
influences
future water
demand



WATER EFFICIENT DESIGN

Zoning regs and master plans created with water conservation in mind reduce the water footprint in perpetuity



BENEFITS

- Enhanced ability to absorb growth and increase resilience
- Water savings can also be used to further other unique community goals
 - Preserve stream flows
 - Preserve nearby agricultural land



CHALLENGES OF LAND/WATER INTEGRATION

- Water supplier and land use authority may be separate entities
 - Water district may serve parts of city and/or unincorporated areas of county
 - City water utility may serve areas outside city boundaries
- Denver Water serves areas in 27 different land use authorities

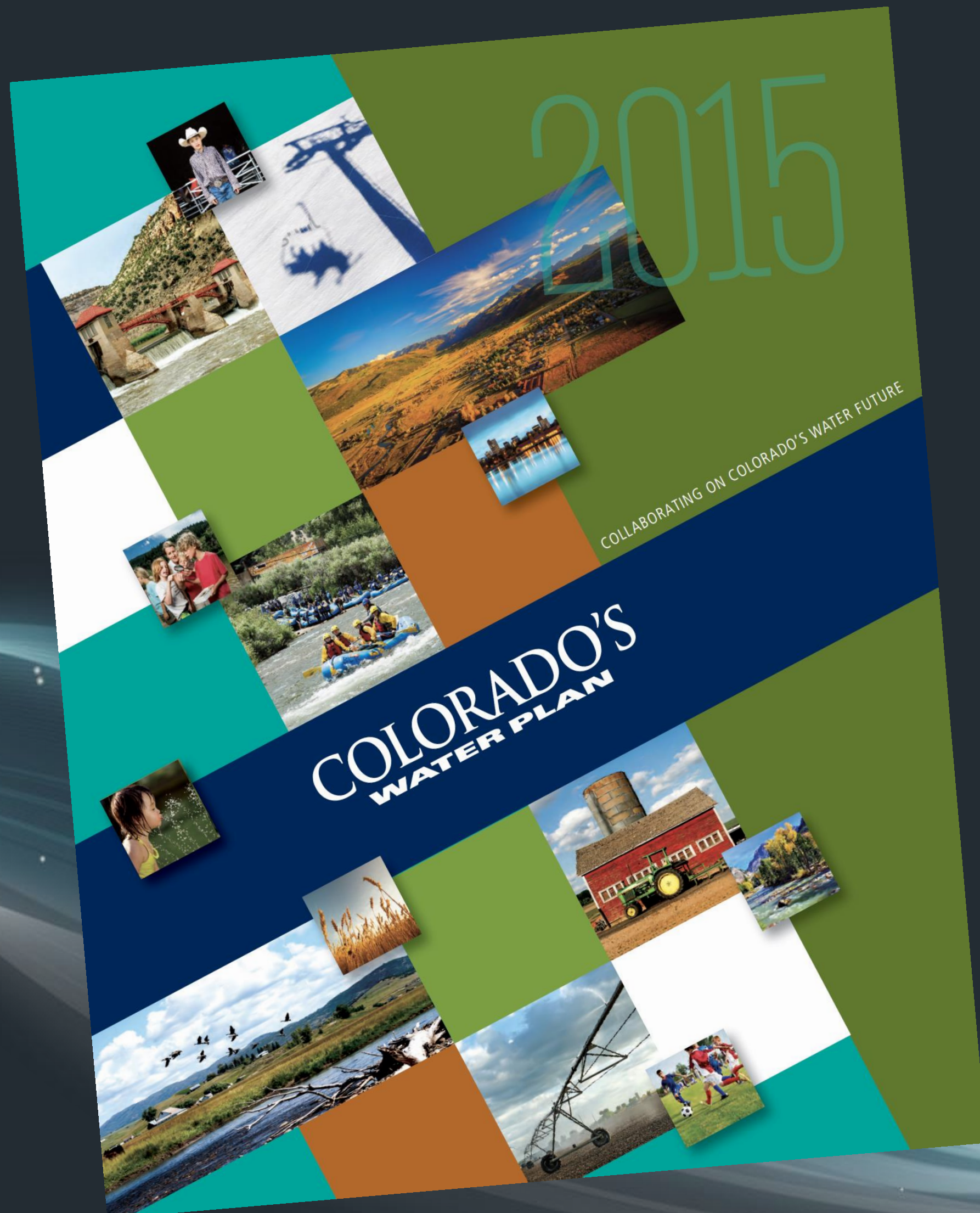
Integration is Hard!



COLORADO SPECIFICS

- **Water Efficiency Plans**
 - Colo. Rev. Stat. § 37-60-126
 - Water providers must file plans every 7 years
 - Must include **evaluation of best practices for implementing water conservation through land use planning**
 - Covered entities = > 2,000 acre feet annually or recipient of CWCB funding

COLORADO SPECIFICS



Colorado Water Plan
By 2025, 75% of Coloradans will live in communities that have incorporated water-saving actions into land use planning

WATER ADEQUACY

- **Colo. Rev. Stat. § 29-20-301, -303**
 - **A local government can't approve a development permit until the applicant demonstrates the **water supply is adequate****
 - **For development of ≥ 50 units**

WATER ADEQUACY

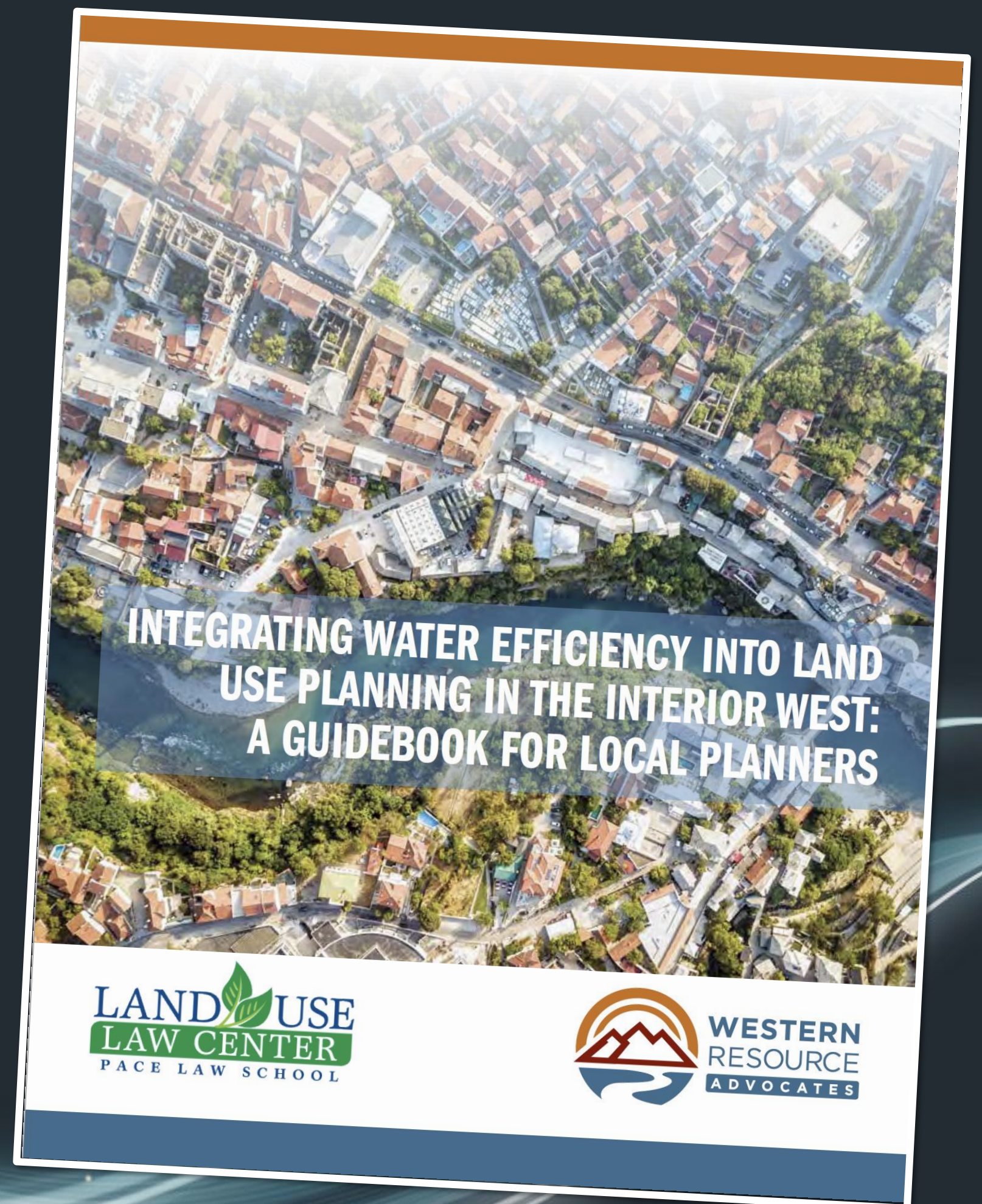
- “Adequate” includes quality, quantity, dependability, and availability for the particular development
- May include reasonable conservation measures to account for hydrologic variability
- Local governments have great discretion in determining what adequate means

Possible Uses of Water Adequacy Authority

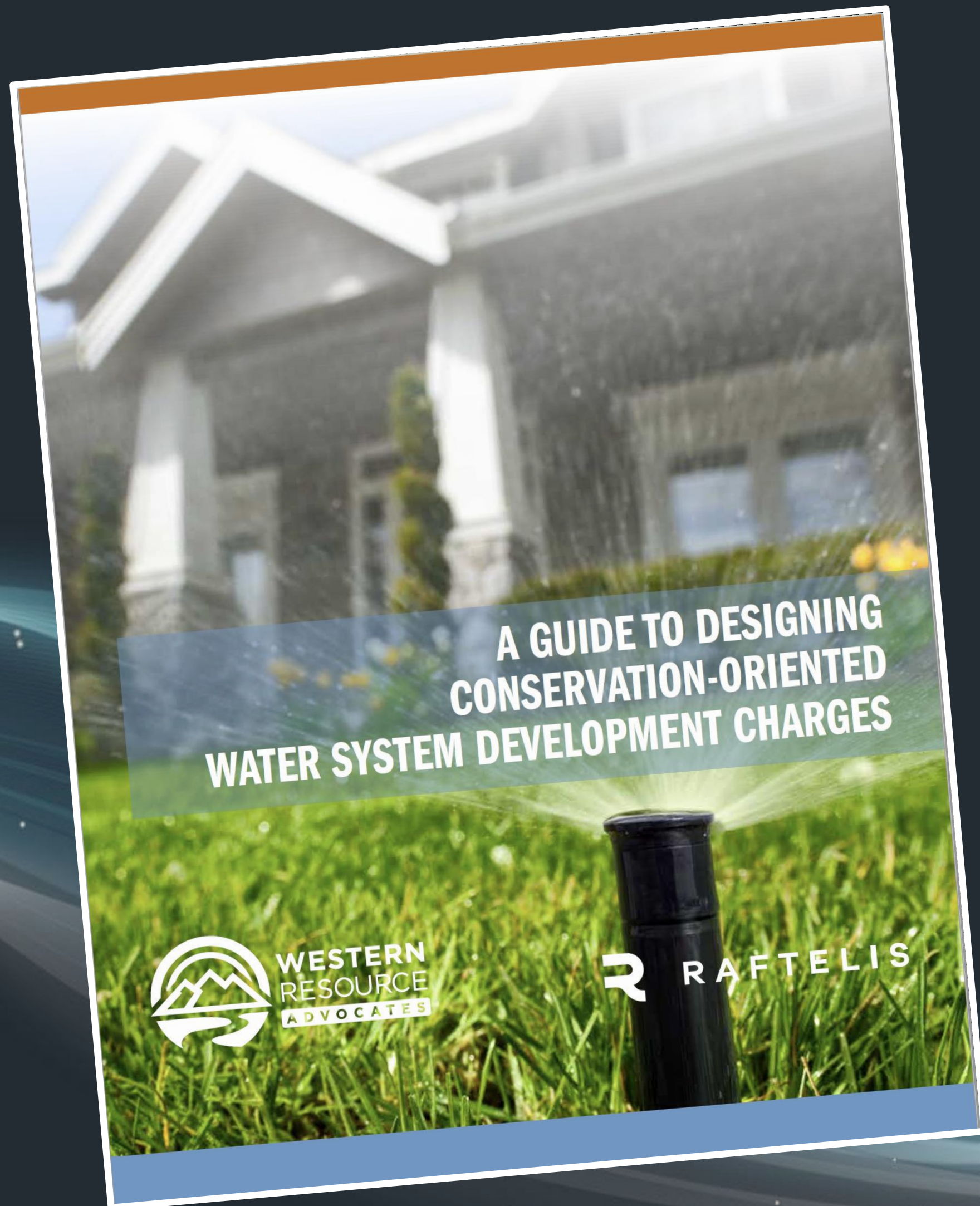
- Local government could require water conservation measures in all development proposals
- Could decrease minimum for water adequacy review from 50 units to something less

TOOLS

Western Resource
Advocates:
Guidebook for Land
Use Planners
Chapters on:
Comp plans
Zoning
Subdivision regs



TOOLS



WRA Tap Fee Guide:

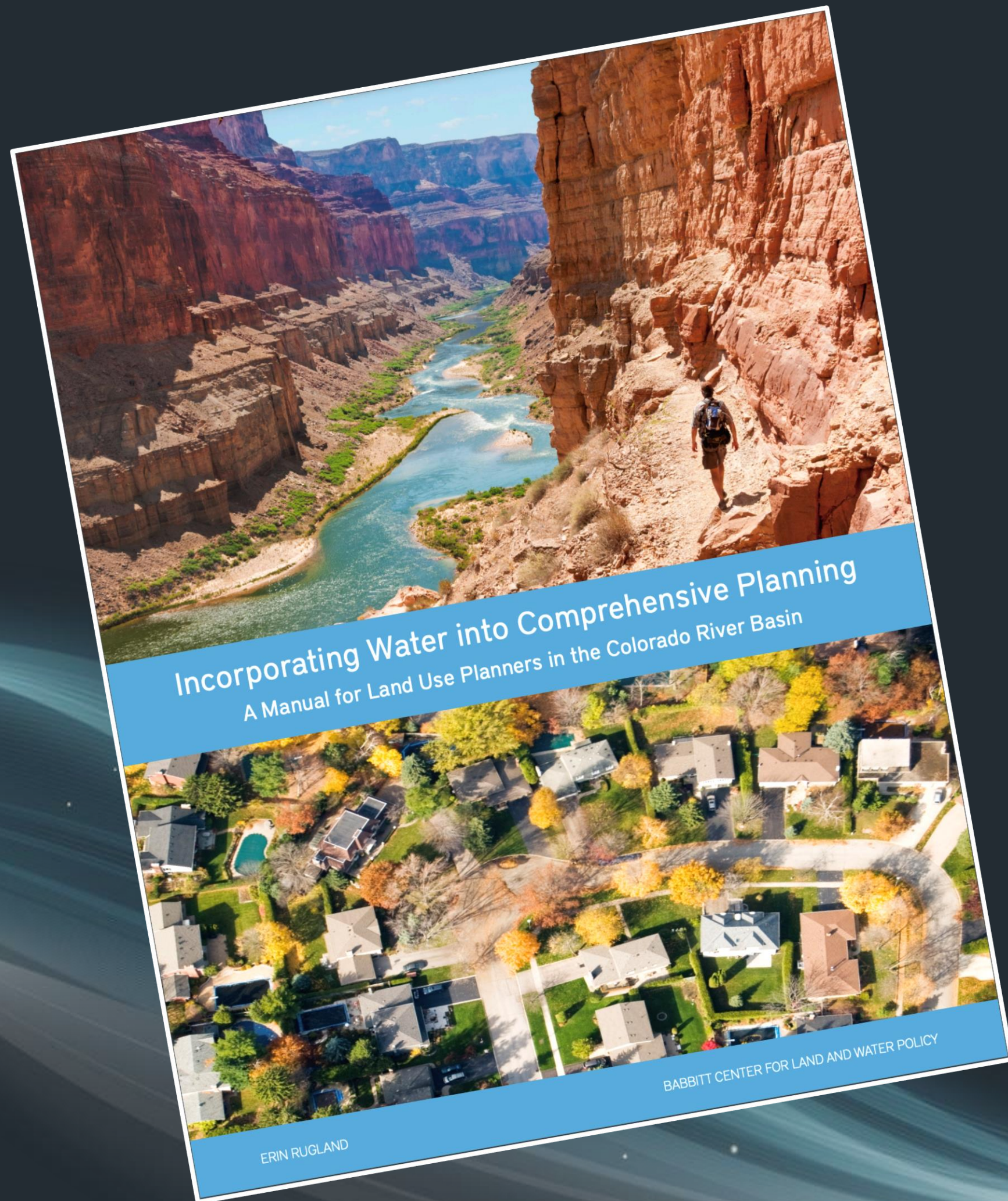
Reduce demand using tap fees to incentivize water efficient homes and development

TOOLS

- Colo Water and Growth Dialogue
- Describes effects of higher densities and landscaping policies
- Tools for developing growth scenarios and projecting water demand



TOOLS



- Babbitt Center for Land and Water Policy
- Step by step instructions
- How land use planners can use comprehensive plans to effectuate water policy

TOOLS

- Guidance aimed at water suppliers
- Best practices for using land use authority to implement water conservation



GUIDANCE

- More than 100 land use practices described for consideration
- No one-size-fits-all
- Hundreds of examples and case studies
- Direct weblinks to more detail



Types of Activities for Water Suppliers

- Foundational
- Technical Assistance and Incentives
- Ordinances and Regulations
- Education/Outreach

FOUNDATIONAL ACTIVITIES

1

Establish a land and water planning team – representatives from both entities

2

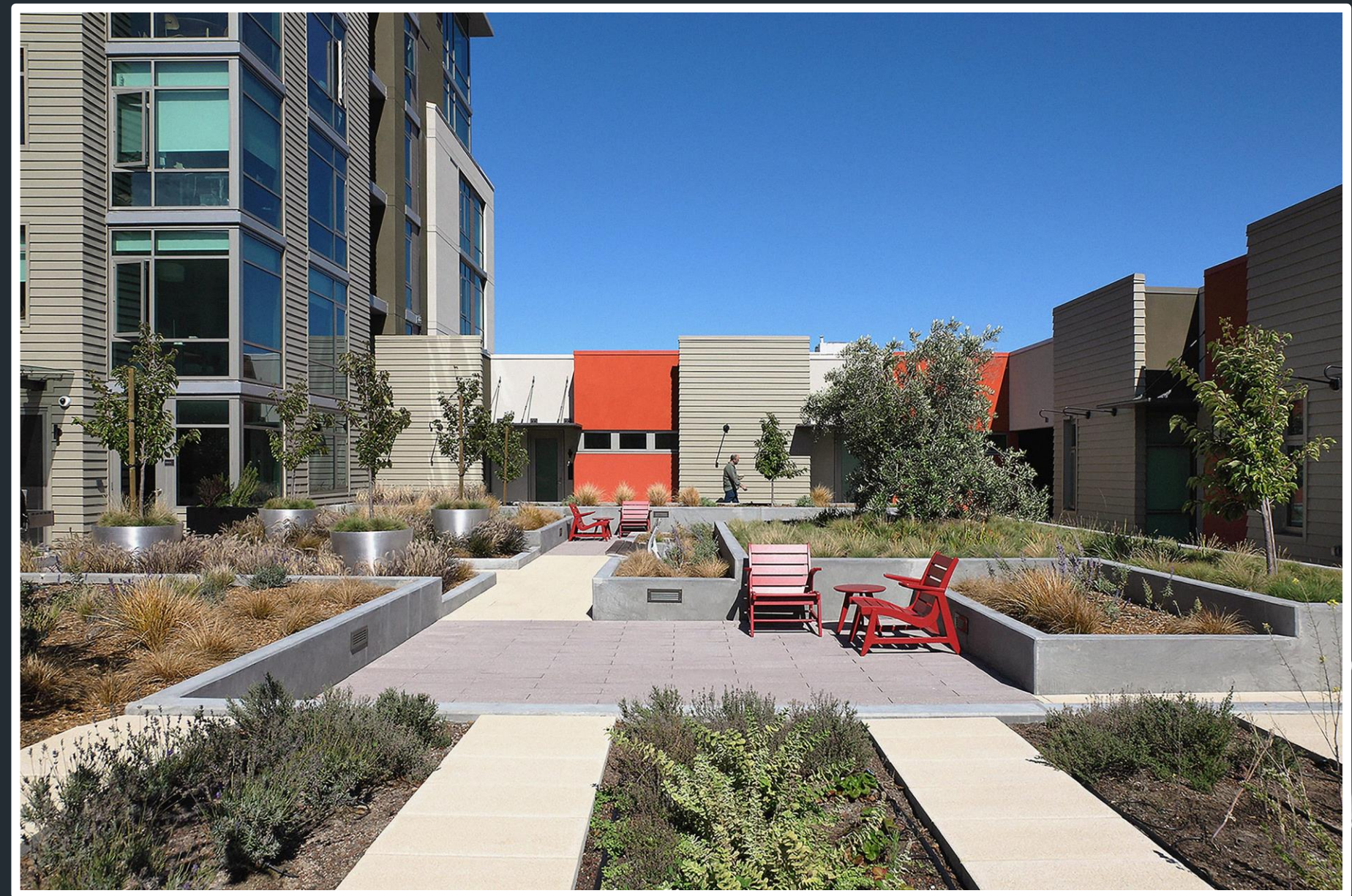
Make sure they're using the same data!

3

Make water part of the development approval process

INCENTIVES

- Density bonuses
- Infill incentives
- Tap fee reductions
- Fee guarantee for future building permits
- Reduced water dedication requirement



Incentives for What?

- WaterSense outdoor fixtures
- Installation of greywater systems
- Low- or no-water-use landscaping
- High-efficiency irrigation
 - Slow-flow nozzles
 - Conversion of spray heads to drip
- Installation of rain sensors, soil moisture sensors, and smart controllers

OTHER BEST PRACTICES

- Water efficient landscape code
- Water efficient stormwater management policies
- Regional coordination



Choosing Among Best Practices

Community challenges

Community goals

Anticipated growth

Outdoor use

Customer demographics



Examples:
 Any amendment to the **City of Westminster's** land use plan must, among other requirements, not negatively impact water infrastructure or water supply ([Westminster Municipal Code 11-5-21](#)).
 Prior to permitting, new construction and remodeling in the **City of Santa Fe, New Mexico** are required to receive a certificate of compliance before permitting stating that all plumbing fixtures meet water conservation restrictions ([Santa Fe Ordinance No. 1997-17](#)).

b. Include water demand and conservation among the considerations for **annexation**.

Example: The City of Colorado Springs coordinates its annexation policies with Colorado Springs Utilities to ensure there is projected available water surplus both at the time of the annexation request and into the foreseeable future ([Conditions for Annexation Code 7.6.203](#)).

4. Incorporate Water Efficiency into Zoning Codes and Rezoning Procedures

Extensive information on this subject is available in the CWCB and DOLA-sponsored training program on [Integrating Water Efficiency into the Zoning Code](#) and associated [webinar](#). See [Integrating Water Efficiency into Land Use Planning in the Interior West: A Guidebook for Local Planners](#), Chapter 7, for a full overview of incorporating water into zoning codes and rezonings.

Case Studies: PUDs in Westminster and Eagle County

Westminster uses a PUD process for all sites two acres or greater and thus almost all development approvals are the result of negotiation. Water conservation is a key consideration with the PUD approval process, particularly in regard to site design and landscaping. See Westminster's PUD code ([11-4-7](#)) and comprehensive plan amendment code ([11-5-21](#)).

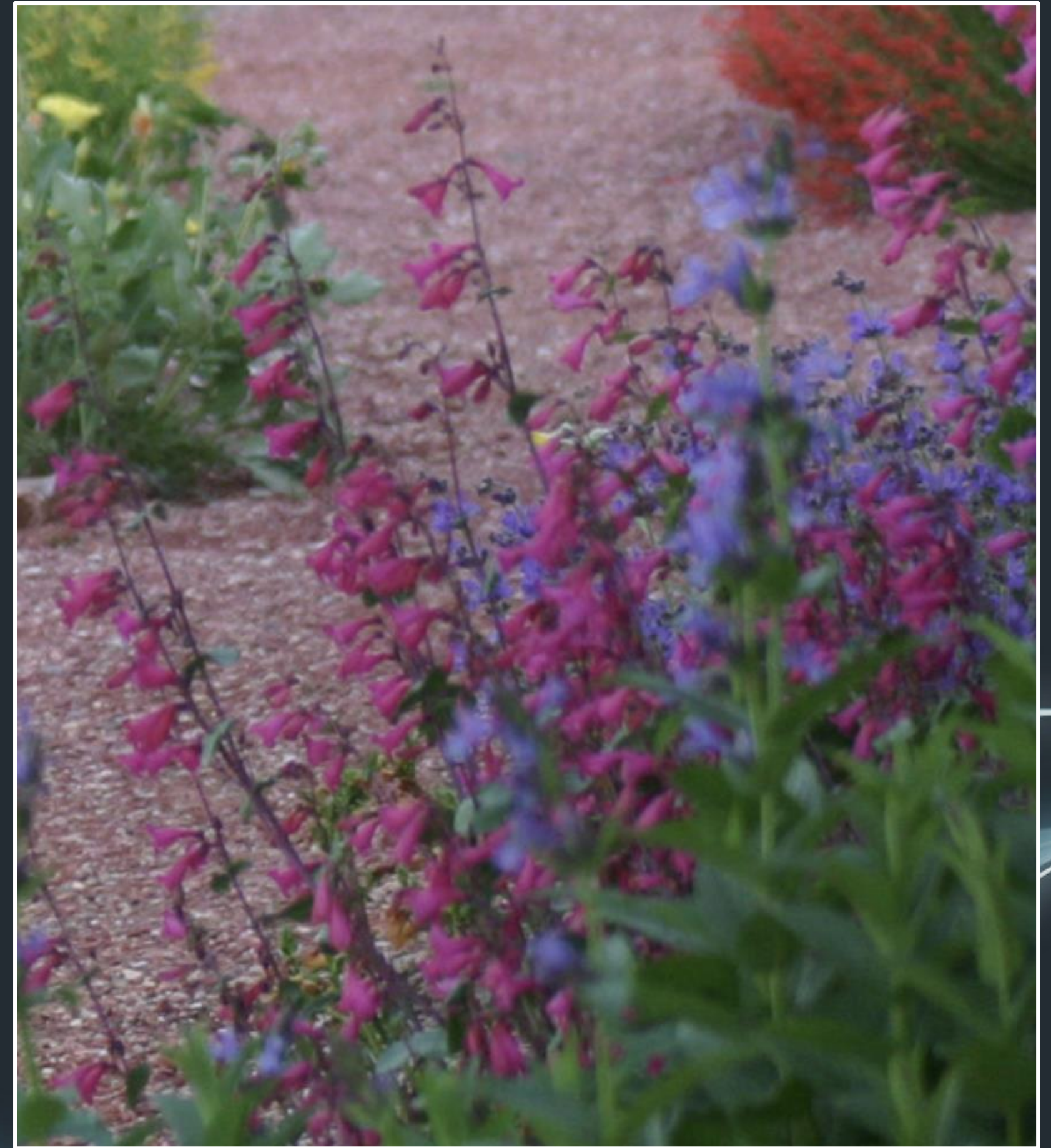
Eagle County and Eagle River Water and Sanitation District (ERWSD) work together to incorporate water-saving measures into new developments in the PUD process. Three developments have incorporated water efficiency measures as a result: [Fox Hollow](#), [6 West](#), and [Stillwater](#). Measures included outdoor irrigation budgets and planting limited to those on the [Colorado State University recommended plant list](#).

Additionally, ERWSD included language in the PUDs to allow for future adjustments: "These requirements may be adjusted with approval of the Eagle River Water and Sanitation District if such adjustments maintain the water efficiency goals as outlined in these requirements."

EXAMPLE PAGE

Success Stories - Westminster

- All land use permitting decisions are based on availability of water for that land area and use
- Water efficiency plan goal - Reduce water use from 126 gpcd to 110 gpcd or lower by 2030



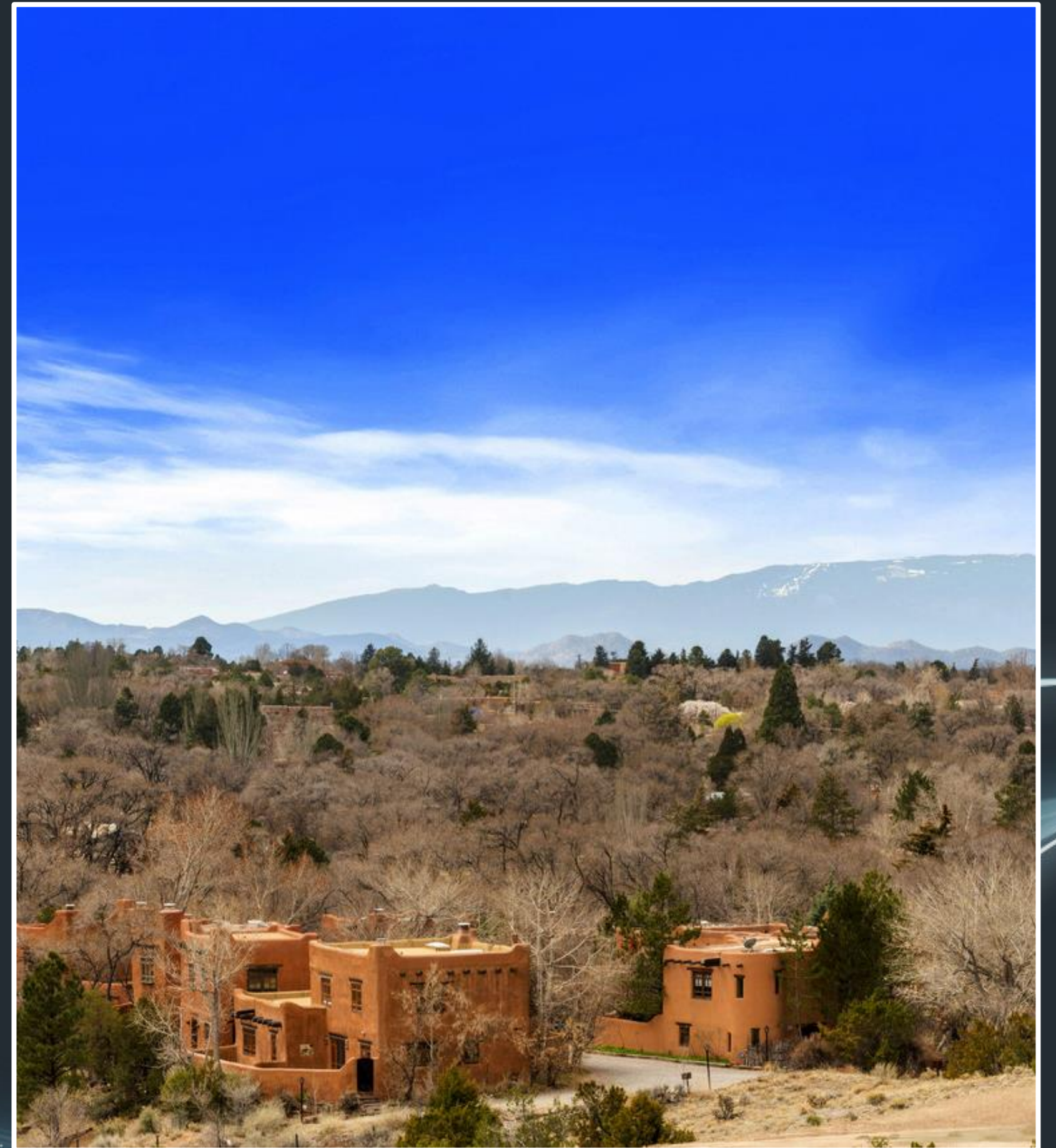
Success Stories - Aurora



- Irrigation tap fee reduction for low water use landscaping (Z-Zones – zero water use)
- Residential tap fee credit for xeric landscaping
- Water utility involved in development approval

Success Stories – Santa Fe

Developers must get certificate of compliance stating that all plumbing fixtures meet water conservation restrictions before permit approval



Success Stories – Las Vegas



- No new turf allowed in front yards.
- 50% of side and rear yards may be grass (maximum of 5,000 square feet).
- Turf prohibited in multi-family common areas
- No “non-functional” turf

Questions and Discussion

