

WATER AND COMPREHENSIVE PLANNING IN GREELEY

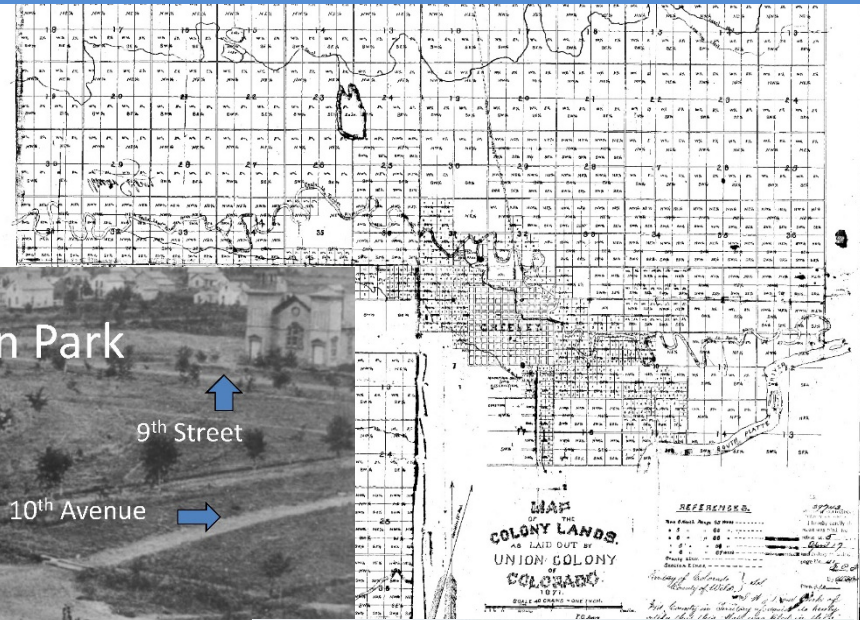
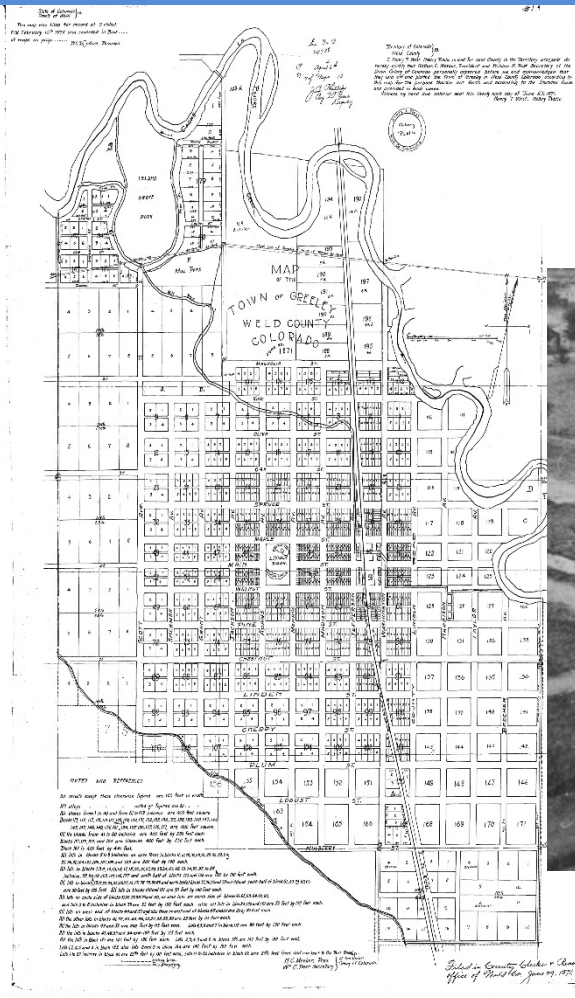
03/07/2018

**Rocky Mountain Land Use Symposium
John Barnett, AICP Long Range Planner**





Urban & Water Planning Were integrated from the Beginning





Urban & Water Planning are Still Integrated





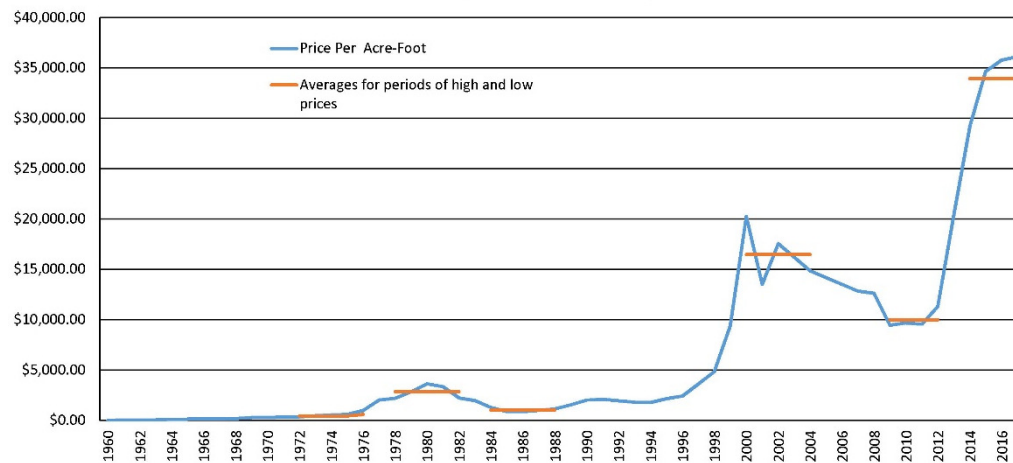
Greeley's Economy

- **Weld County is in the top 10 Counties in agricultural production**
- **Approximately 10,000 people are employed in agriculture and related industries**
- **Many water providers including Greeley are buying farms for their water rights**
- **These water rights are seasonal and water must be stored to be available for year-round municipal use**

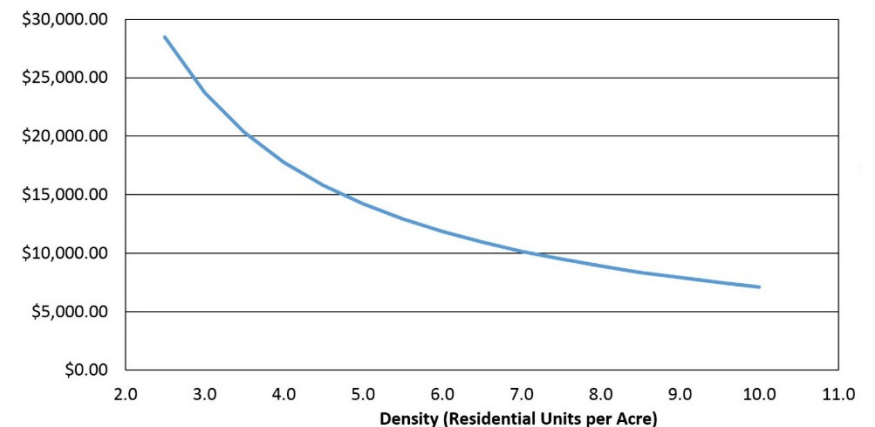


Raw water price and housing cost

C-BT Units converted to Acre Feet based on Average yield
Historical Market Price Data



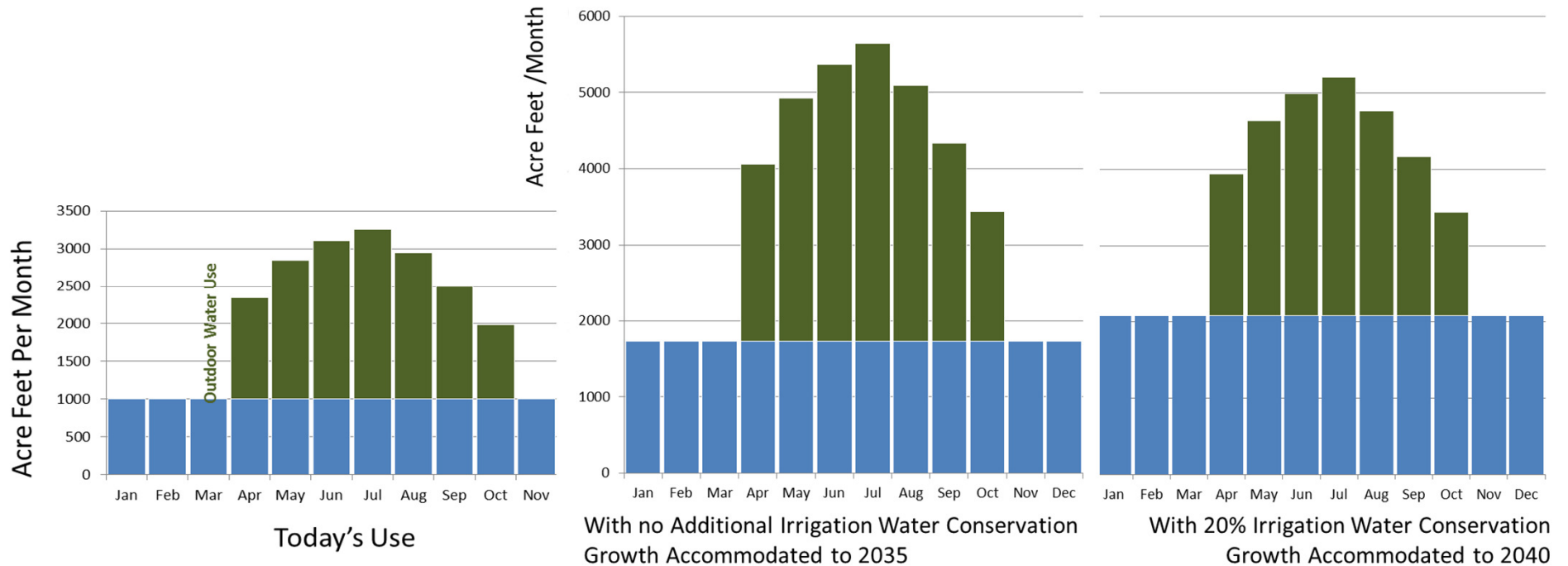
Impact of Increased Raw Water Price Increases Since 2012
on the Cost Per Unit at Various Densities



Greeley is studying alternative approaches to providing raw water for new growth.

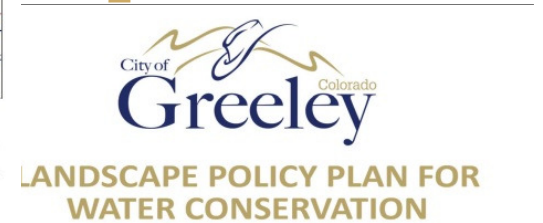
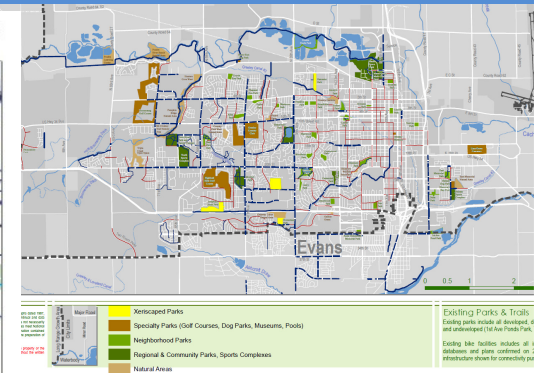
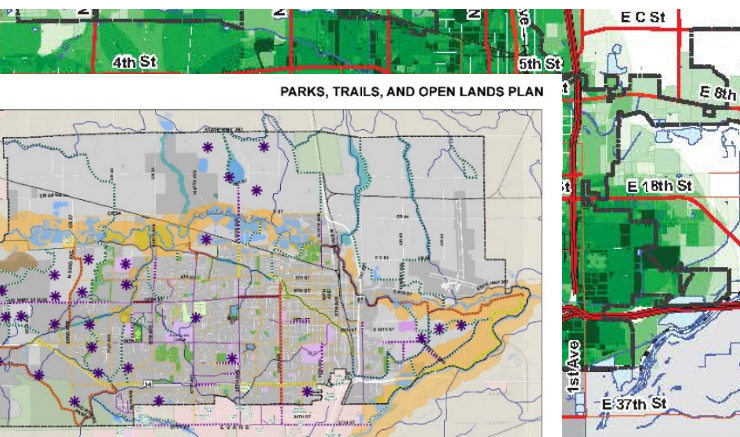
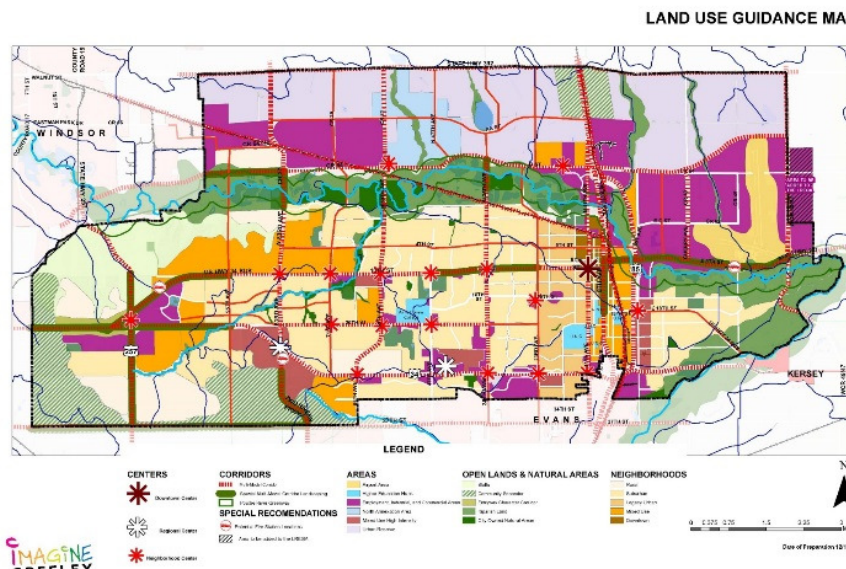


Potential Impact of a 20% Savings of Outdoor Water Use on Demand



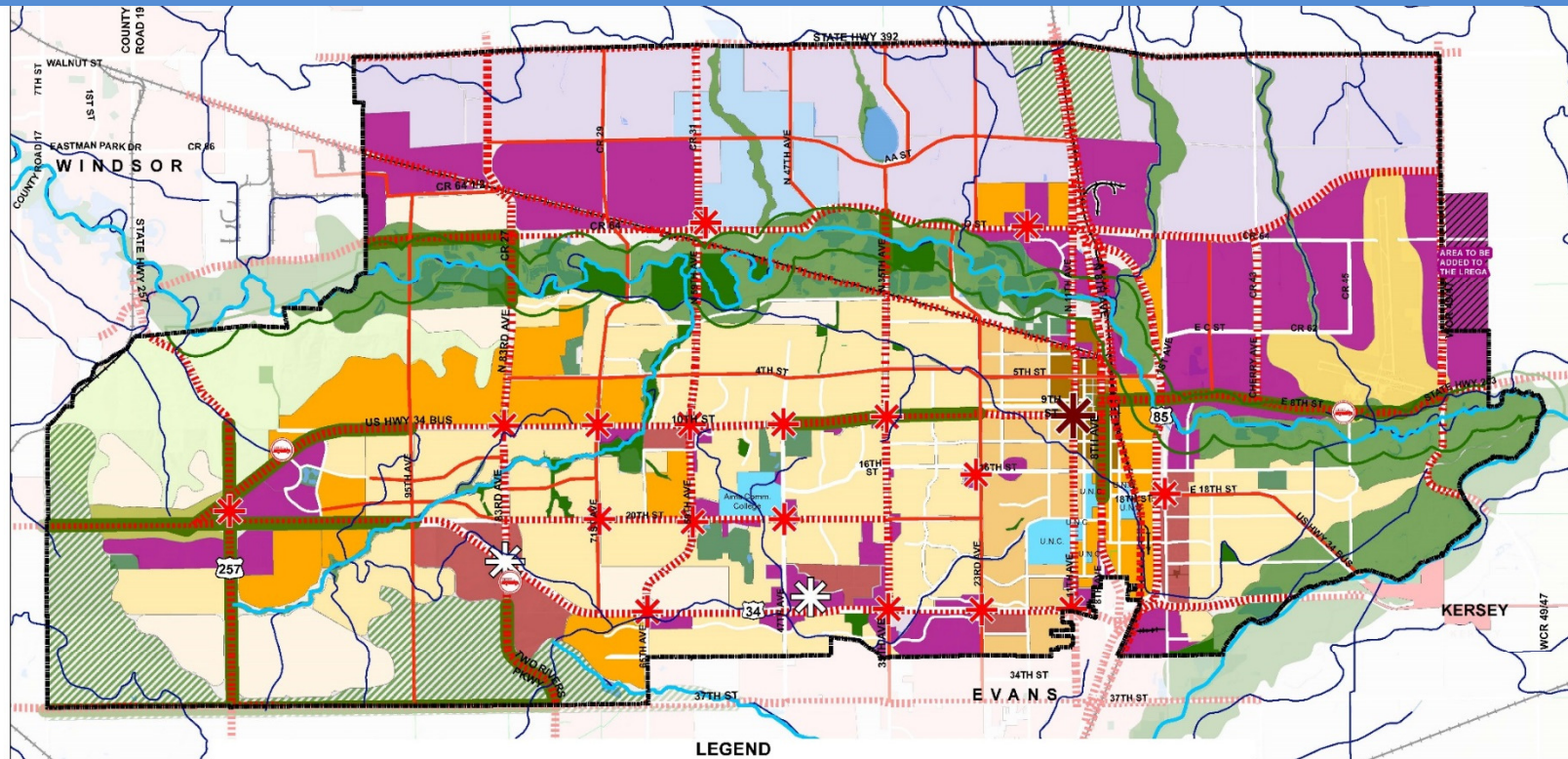


Some of Greeley's Plans



A cooperative planning project
City Manager's Office, Water and Sewer Department,
Culture, Parks, and Recreation Department,
Community Development Department

Land Use Guidance Map



CENTERS

- Downtown Center
- Regional Center
- Neighborhood Center

CORRIDORS

- Multi-Model Corridor
- Special Multi-Model Corridor Landscaping
- Poudre River Greenway

SPECIAL RECOMMENDATIONS

- Potential Fire Station Locations
- Area to be added to the LREIGA

AREAS

- Airport Area
- Higher Education Hubs
- Employment, Industrial, and Commercial Areas
- North Annexation Area
- Mixed Use High Intensity
- Urban Reserve

OPEN LANDS & NATURAL AREAS

- Bluffs
- Community Separator
- Entryway Character Corridor
- Riparian Land
- City Owned Natural Areas

NEIGHBORHOODS

- Rural
- Suburban
- Legacy Urban
- Mixed Use
- Downtown

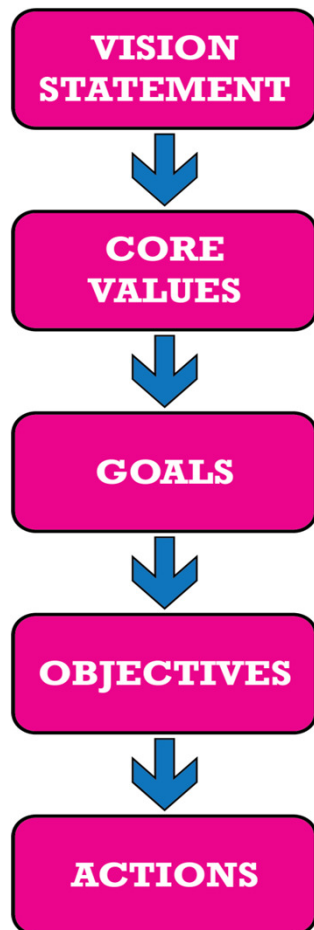
0 0.375 0.75 1.5 2.25 3 Miles

Date of Preparation 12/1/17



Water and the Comprehensive Plan

Parts of the Plan



Core Values

Sustainable patterns of growth and development

High-quality infrastructure and services

Responsible stewardship of natural resources and the environment

World-class water resources & management

Goals & Objectives

Goal NR-1: Protect, conserve, maintain, and improve the quality and quantity of water available to Greeley.

Objective NR-1.1 Anticipate Future Needs

Objective NR-1.2 Water Source Protection

Objective NR-1.3 Water Conservation

Objective NR-1.4 Non-Potable Water

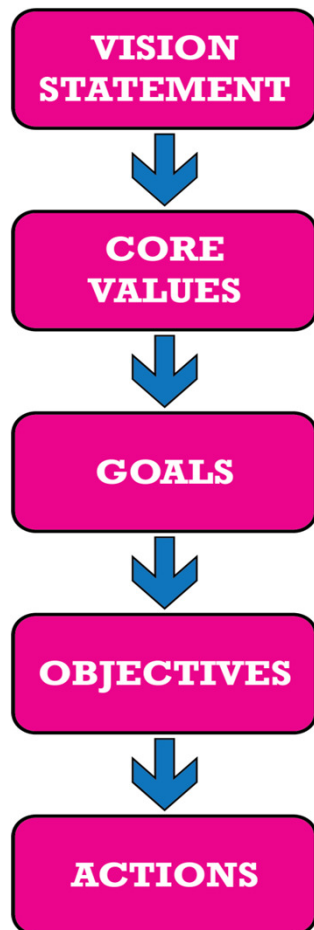
Objective NR-1.5 Ditches

Objective NR-1.6 Regional Cooperation



Water and the Comprehensive Plan

Parts of the Plan



Actions

NATURAL RESOURCES & OPEN LANDS (NR)

IMPLEMENTATION ACTION	RESPONSIBILITY	TYPE	TIMEFRAME
Goal NR-1: Protect, conserve, maintain, and improve the quality and quantity of water available to Greeley.			
IMP NR-1.1 Develop and maintain incentive programs for water conservation.	Water and Sewer	Policies and Programs	Ongoing
IMP NR-1.2 Develop and maintain a water rate incentives for efficient use of water.	Water and Sewer	Policies and Programs	Ongoing
IMP NR-1.3 Review development proposals, within the Cache la Poudre, Big Thompson, or Upper Colorado watersheds which may impact Greeley's water quality.	Community Development & Water and Sewer	Policies and Programs	Ongoing
IMP NR-1.4 Audit water use of City facilities and convert to xeric landscapes	Water and Sewer & Culture, Parks and Recreation	Policies and Programs	Near-Term
IMP NR-1.5 Develop incentives to encourage use of non-potable water where appropriate.	Water and Sewer & Community Development	Policies and Programs	Near-Term
IMP NR-1.6 Implement and periodically update the City's <i>Water Master Plan</i> .	Water and Sewer	Plans	Near-Term
IMP NR-1.7 Update Development Code standards to require effective water and irrigation	Community Development	Regulatory Revisions	Long-Term

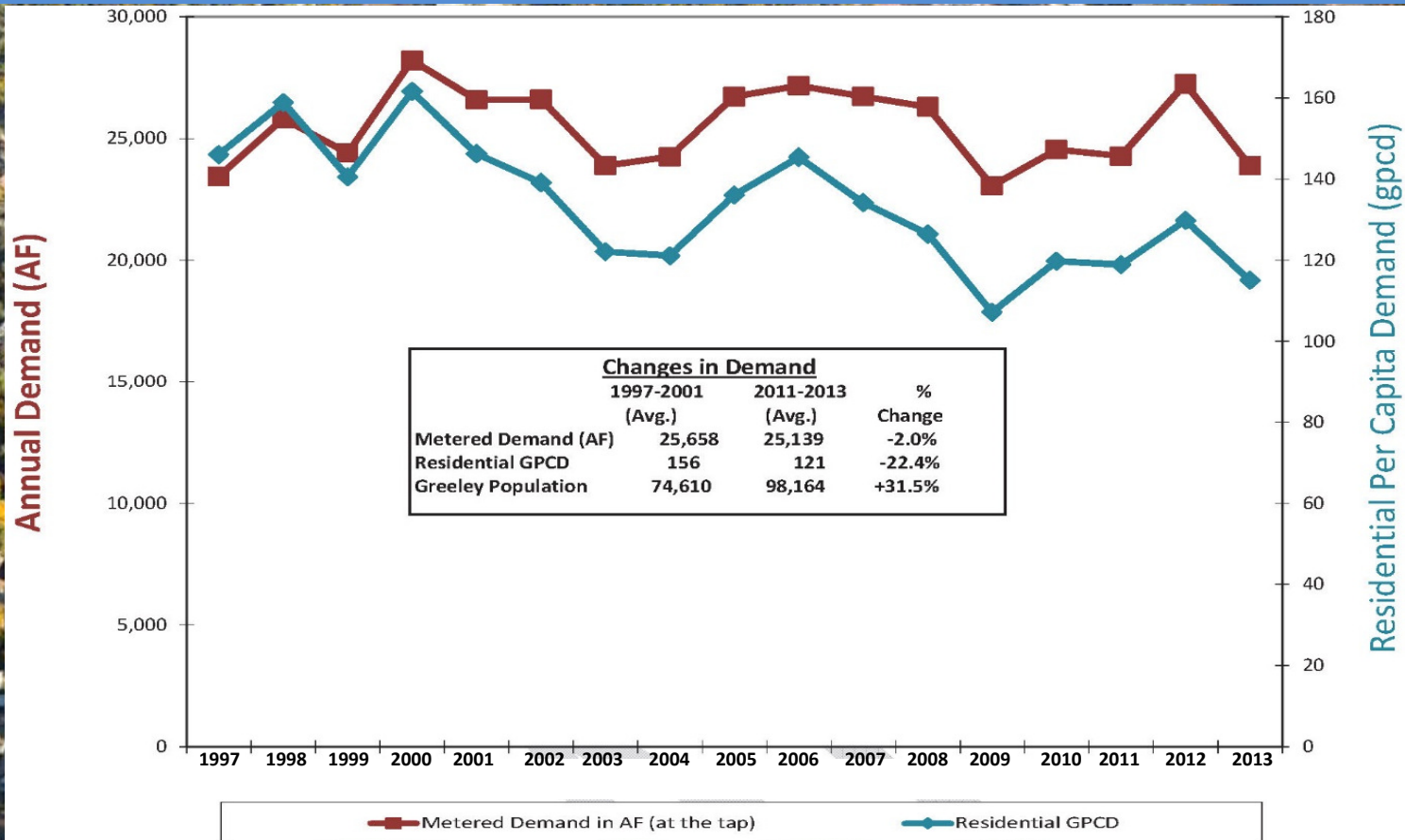


WATER MASTER PLAN: Four Point Strategy

- Improving Conservation
 - Water Conservation Plan
 - Landscape Policy for Water Efficiency
- Strengthening Infrastructure
- Continuing Acquisition
- Expanding Storage



WATER MASTER PLAN: Decline in Per Capita Water Demand





Implementation of the Landscape Policy for Water Efficiency

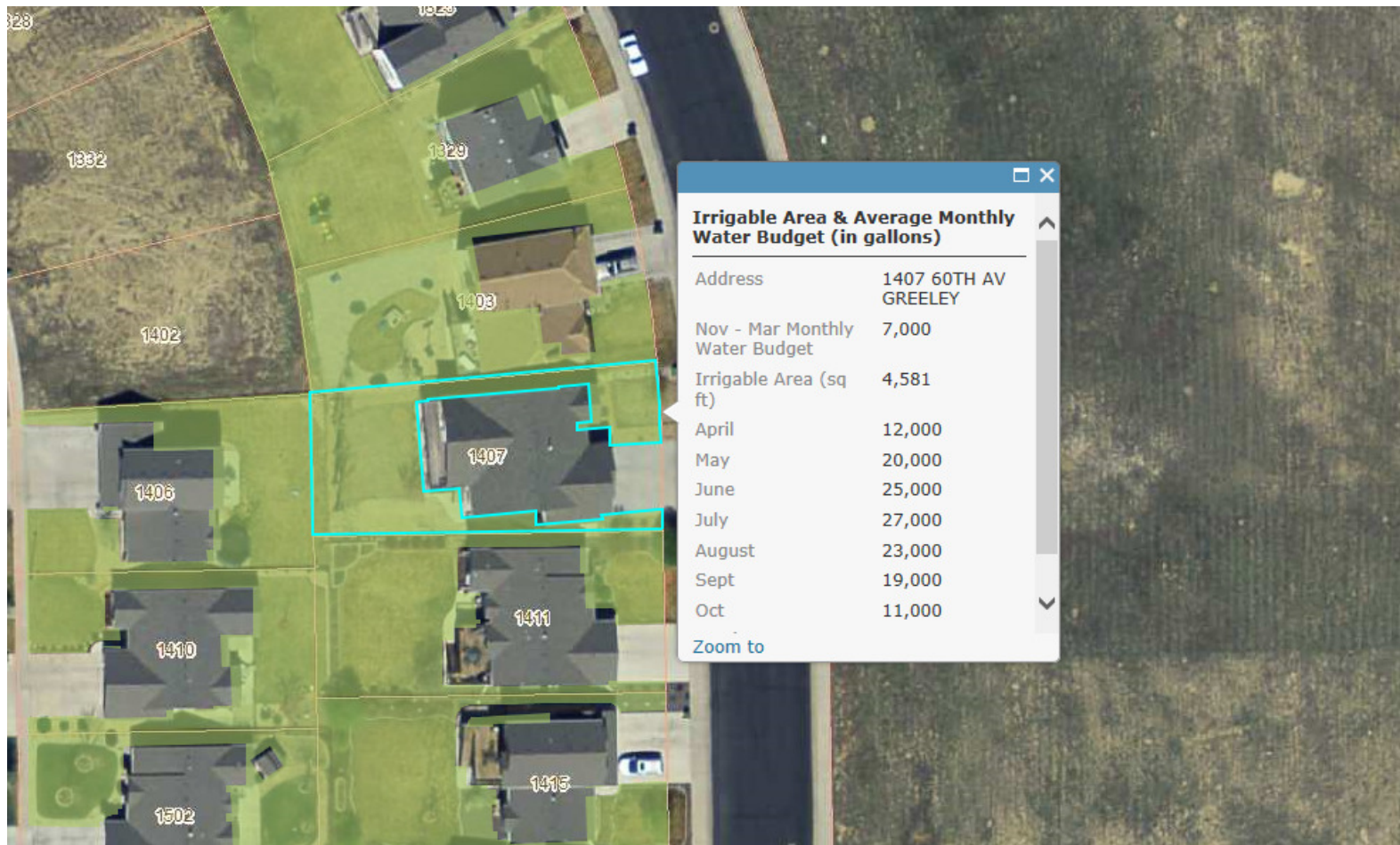
- 
- **Incentives**
 - **Education**
 - **Regulation**
 - **Set and Example**

Very low water use





Water Budget Describes the Irrigation Water Needed for each Home



HYDRO-ZONES

Reset Filter

Plant Search...

+ Plant Form

- Water Requirement

☐ very low

☒ low

☐ moderate

☐ high

+ Sun Exposure

+ Cold Tolerance

+ Growth Rate

+ Attracts Wildlife

- Plant Height

☐ Less than 1 foot

☐ 1 to 3 feet

☐ 3 to 6 feet

☐ 6 to 10 feet

☐ 10 to 15 feet

☐ 15 - 20 feet

☒ 20 feet and up

+ Plant Width

+ Evergreen

+ Flower Season

+ Flower Color

+ Leaf Color



Juniperus virginiana

Hillspire Juniper

Grows in a symmetrical tree with a pyramidal form. Extremely cold hardy. Blue berries appear on female plants. Accepts a wide range of soils. Sometimes sold under the name 'Hillspire'. Canopy coverage: 177 square feet.

[\[Read More\]](#)



Picea abies

Norway Spruce

Norway Spruce is a popular evergreen, often used for windbreaks. It grows at a rapid rate to 60 feet high, sometimes much more. Cones up to 6 inches long are the largest of the Spruces. Form is pyramidal when trees are young, then branches become more horizontal and sometimes droop. 'Pendula', drooping branches shown in photos, has weeping branches that drape downward. It makes an exceptional specimen plant. Accepts sandy to heavy clay soils, and poor soils. Canopy coverage: 707 square feet.

[\[Read More\]](#)



Picea omorika

Serbian Spruce

Serbian Spruce is an excellent conifer and should be placed at the top of the list for residential landscapes.



Picea pungens

Colorado Spruce

Colorado Spruce grows as a broad, pyramidal form with stiff, dense needles that vary from blue-green.



Picea pungens 'Iseli Fastigiata'

Iseli Fastigiata Colorado Spruce

Similar to Colorado Spruce, this selection grows as a broad, pyramidal form that is upright than the species. Accepts sandy to heavy clay soils, and poor soils. Canopy coverage: 177 square feet.

[\[Read More\]](#)

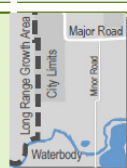
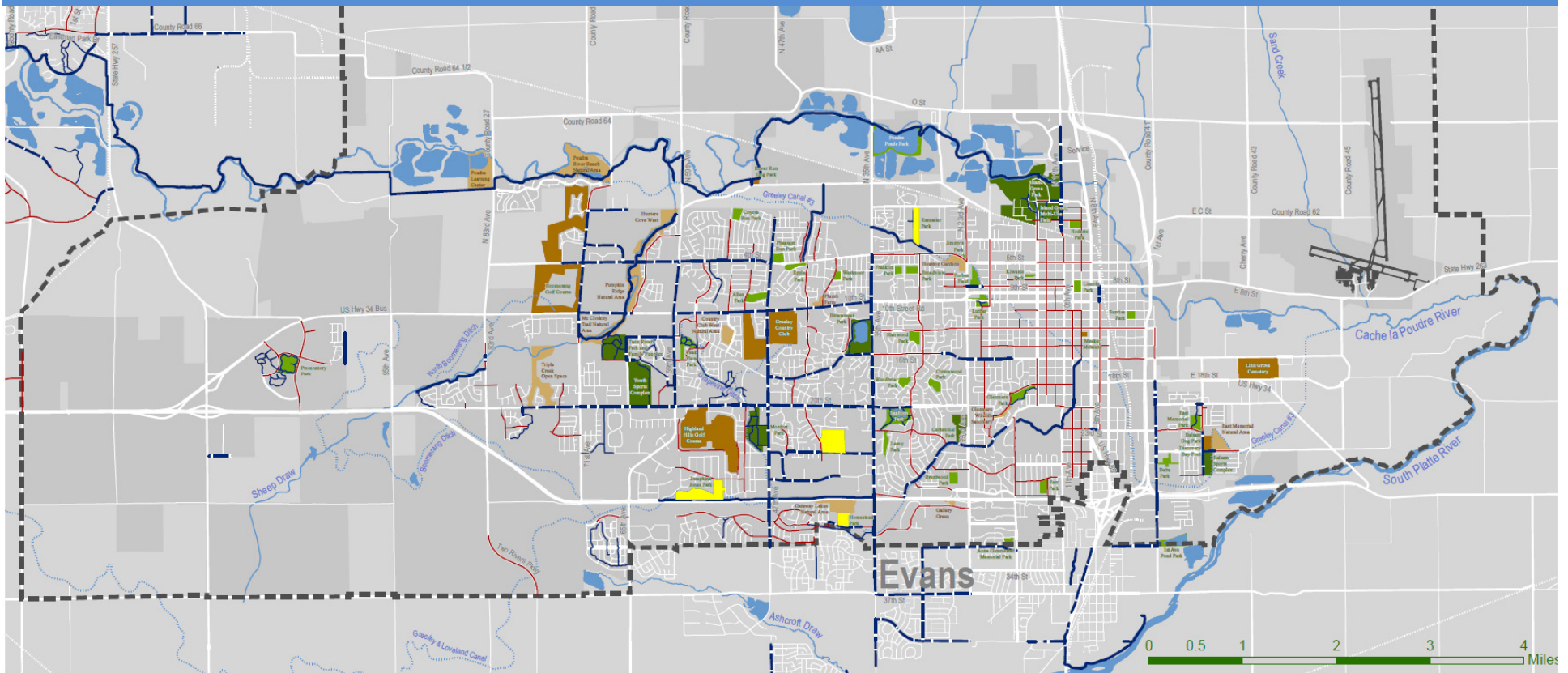


Number of Plants that will Grow in each Hydro-Zone

Water Use Zones	Coniferous Evergreen trees	Coniferous Deciduous trees	Broadleaf deciduous trees	Broadleaf deciduous tree or shrubs	Coniferous evergreen shrubs	Deciduous shrubs	Perennials	Perennial ground covers	perennial vines	perennial grasses
High Water Use			10	11	2	14	30			1
Moderate Water Use	20	3	86	23	4	94	165	15	13	5
Low Water Use	11		18			140	246	37	4	10
Very Low Water Use	5				5	16	27	3	1	2

High water use does not add that many more plants

Xeriscaped Parks



- Xeriscaped Parks
- Specialty Parks (Golf Courses, Dog Parks, Museums, Pools)
- Neighborhood Parks
- Regional & Community Parks, Sports Complexes
- Natural Areas

Existing Parks & Trails

Existing parks include all developed, developing (Poudre Ponds, Ramsier), and undeveloped (1st Ave Ponds Park, Triple Creek OS).

Existing bike facilities includes all infrastructure included in City GIS databases and plans confirmed on 2012 aerial photography. On-Street infrastructure shown for connectivity purposes only.