

# Understanding Irrigation

September 14<sup>th</sup>, 2017

COLORADO CITIES & TOWNS WEEK  
SEPTEMBER 11-17, 2017



**FRUITA**  
COLORADO

COLORADO CITIES & TOWNS  
[www.coloradocitiesandtowns.org](http://www.coloradocitiesandtowns.org)



# Irrigation Terminology

## Potable Water

- Treated
- Drinkable
- “House water”
- “Domestic water”
- “City water”  
(Provided by Ute Water Conservancy District)

## Non-Potable Water

- Not treated, “Dirty”
- Not safe to Drink
- Primarily for Irrigation
- “River water”
- “Canal water”  
(Various irrigation providers in Fruita)

# Domestic Water Provider



## *RULES AND REGULATIONS: § D (5)*

In keeping with its high quality water conservation objectives, **the District will not sell taps that are primarily for irrigation or landscape maintenance purposes.**

Exceptions may be made by the Board of Directors of the District when irrigation water is not available. When granted, tap fees and water rates for irrigation or landscape maintenance purposes will be three (3) times the domestic rates.

# Irrigation Providers

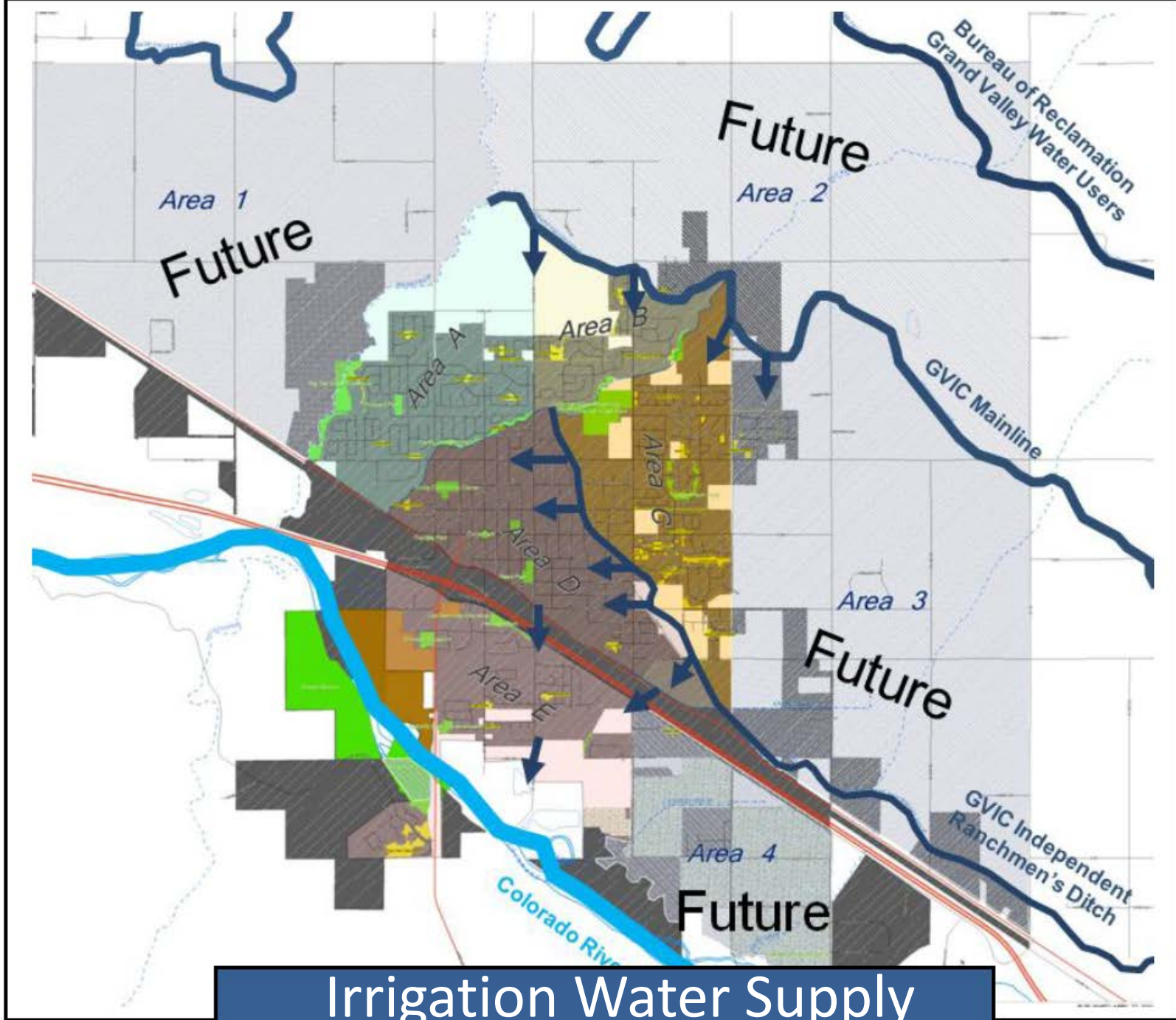
## **Grand Valley Irrigation Company**

688 26 Road  
Grand Junction, CO 81506  
970-242-2762  
[gvic@sprynet.com](mailto:gvic@sprynet.com)

## **Grand Valley Water Users' Association**

1147 24 Road  
Grand Junction, CO 81505  
970-242-5065  
[gvwua@irrigationprovidersgv.org](http://gvwua@irrigationprovidersgv.org)

“GVIC is responsible for delivering water in canals and headgates. After water leaves the canal right-of-way (into ditches, laterals, pipelines), it becomes the responsibility of landowners.”



Irrigation Water Supply

# Municipal Irrigation Water



## FRUITA MUNICIPAL CODE 13.12.040

The water provided by the municipal irrigation system shall be used only for the purpose of watering lawns and gardens of city residents. It shall not be used for any of the following uses:

- A. For use in evaporative water coolers;
- B. For use in any refrigerated air conditioning system;
- C. For any industrial, commercial or business use.

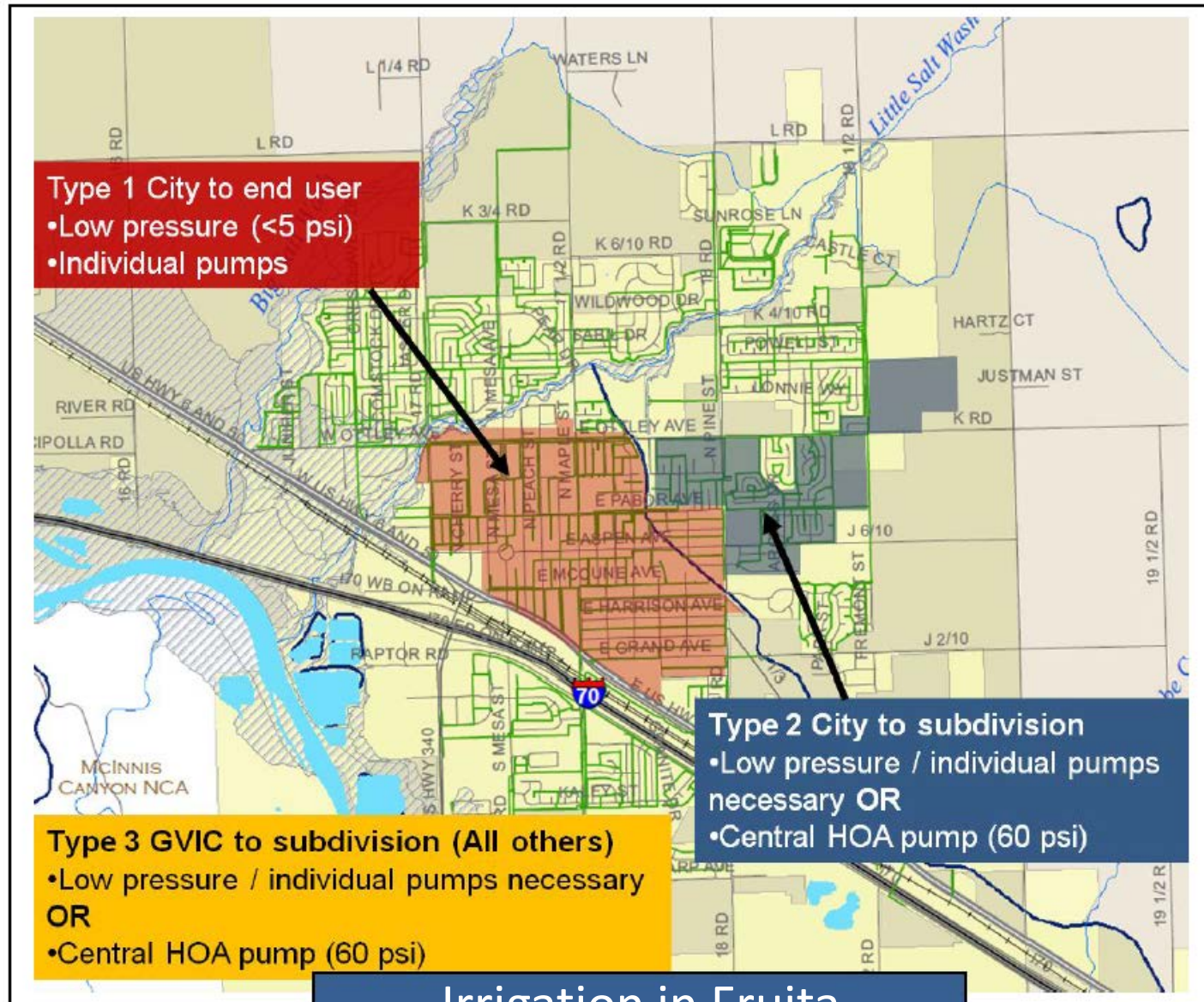
(Ord. 1983-16, S4, part)



## Municipal Irrigation

- 758 Customers
- Delivery: \$130/yr
- Shares: \$25/yr
- Tap Fee: \$500

Maintenance  
Mondays!



Irrigation in Fruita

# Types of Irrigation Systems


## Open Ditch

- Earthen or Concrete-Lined
- Private Laterals
- Mainly Agricultural or some older subdivisions

## Common Issues:

- Cleaning
- Flooding

**Colorado State University**  
Extension  
**Irrigation Ditches and their Operation**  
Fact Sheet No. 6.701      Natural Resources Series | Water



by R. Waskom, E. Marx, D. Wolfe, and G. Wallace\*

### Water Laws and Regulations

Current western water law originated during the California gold rush in 1848. Back then miners would divert water from streams while mining for gold. Just like the claim on a mining stake, a rule was established stating that the first miner to use the water had the first right to it. After the first miner's right was established, the second miner's right was recognized, and so on. Claims left abandoned were available to others. Miners brought this system to Colorado during the gold rush of 1859. This system became known as the Doctrine of Prior Appropriation (also called the Colorado Doctrine because it first became law in Colorado with the writing of the state constitution in 1876).

Water in Colorado is still administered according to the Doctrine of Prior Appropriation. The basis of this doctrine is the concept of first-in-time, first-in-right. Water rights are established when water is put to beneficial use. The person or organization that is beneficially using the water may request the water court to officially recognize the right by decree. This judicial process is called adjudication. In Colorado, water courts have jurisdiction over all applications for decree of absolute water rights, conditional water rights, changes of use, exchanges, and augmentation plans.

A new water user can no longer appropriate water by simply going out to the stream and digging a diversion ditch. Water projects now involve a complex process of planning, permitting, and engineering to prove that unappropriated water is available for use. If the water court approves a conditional decree, the project must be carried on with due diligence

until its completion. Otherwise, the water right is forfeited. In addition to a priority date, a water right is recorded based on the location where the water will be diverted or withdrawn, the amount to be withdrawn, and the beneficial use to which it will be put.

In Colorado, water rights are considered a private property right. Water rights can be sold or inherited and prices may vary according to supply and demand. The consumptively used portion of a water right may be transferred to another area or use with approval of the water court, with the stipulation that other water rights are not injured.

The value of a water right is based on its amount and availability. It is important to understand that the priority of water use is based on seniority. "Senior" water rights are the oldest and hence have first priority in times of shortage. Senior rights holders are entitled to receive all available water in their ditch or diversion before any junior water rights holders. During times of water shortage, a senior water right holder may place a "call on the river." When a call is established, any upstream junior right holder must stop diverting water until the senior user receives their full decreed entitlement. This call system is applicable to waters that are a natural part of the stream system.

### Ditch Operations

Ditch companies and associations exist to acquire water rights, develop storage, and deliver surface water to their members for irrigation and other purposes. Early on, farmers and landowners realized that the value of their property was directly related to a common system bringing water to their land. Even today, it's the water that makes land productive, stable, and aesthetically pleasing.


Ditch companies generally own and maintain ditches from their headgates to an established point where the individual

### Quick Facts

- Water rights in Colorado are considered a private property right. Water rights can be sold or inherited, and prices may vary according to supply and demand.
- Ditch companies coordinate the use, ensure proper maintenance and efficient operation of surface water irrigation systems and conveyances.
- Ditch companies have the right to enter your property to maintain the ditch and ditch banks and perform "reasonably necessary" operations.

\*R. Waskom, Colorado State University Extension water resources specialist and director, Colorado Water Institute; E. Marx, former agricultural specialist, Larimer County; D. Wolfe, Office of the State Engineer; and G. Wallace, Colorado State University professor, natural resource recreation and tourism. 12/2014

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(handout available)



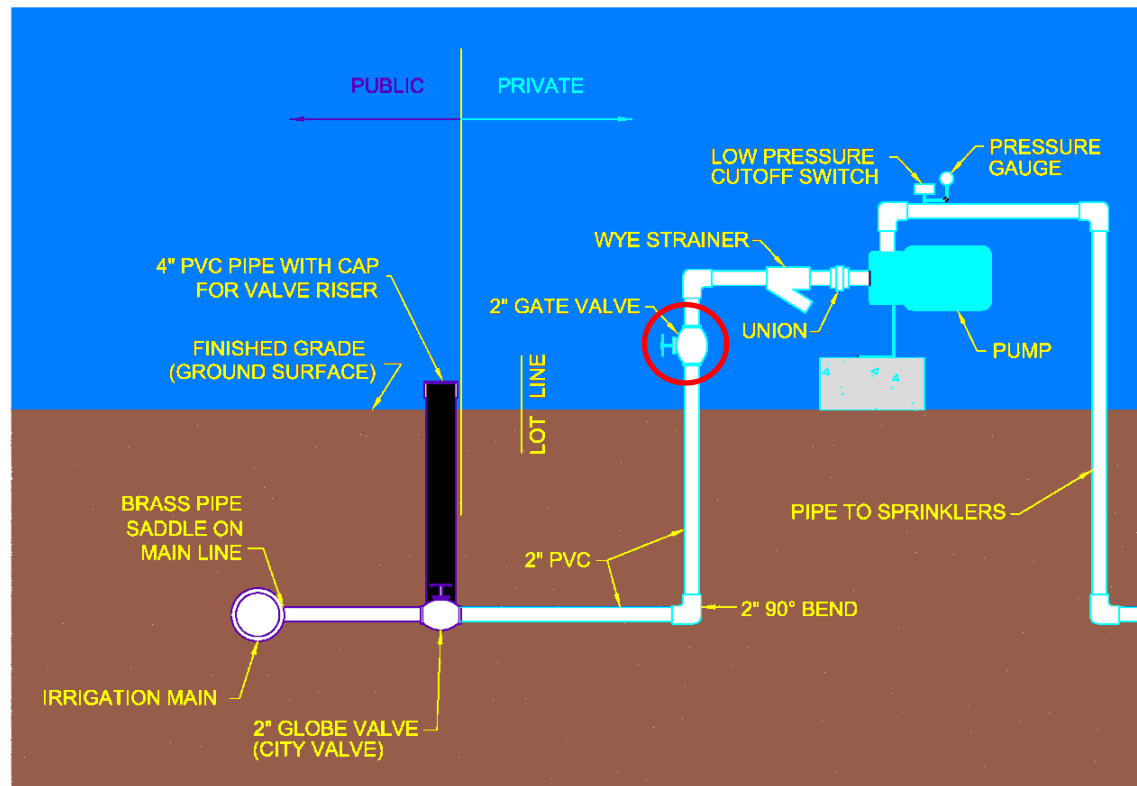
# Types of Irrigation Systems

## Non-Pressurized

- Low pressure (<5 psi)
- Individual pumps

## Common Issues:

- City valve operation
- System not designed for non-potable water
- Start-up & Winterization  
(Close valve by April 1)



TYPICAL IRRIGATION TAP/SERVICE LAYOUT

# Types of Irrigation Systems



## Pressurized System

- Central HOA Pump
- $\pm 60$  psi
- Newer Subdivisions

## Common Issues:

- Supply not consistent
- HOA maintenance  
(systems can be complicated)  
(turnover of people)



# *Sharing* Irrigation Water

1. Use of water can impact amount of water available for others.
2. Urban water needs differ from agricultural.

# Development Approvals

City requires new subdivisions to:

- Secure adequate water shares (1.5 shares/acre)
- Provide irrigation to each lot (>15 gpm/lot)
- Provide Storage if supply is not consistent
- System designed & certified by Engineer
- HOA established to maintain system

# Other Irrigation Issues

- Watering Schedules recommended:
  - Monday (Maintenance)
  - Even # Lots (Tues, Thurs, Sat)
  - Odd # Lots (Wed, Fri, Sun)
- Seasonal Issues: Moss, Algae, trash in canal
- Flooding → Not covered by home owners insurance  
→ Know who to call

# Who to call with Irrigation Issues

Threat to Life, Health, or Safety?  
Unknown Flooding Emergency?

YES

**CALL  
911**

NO

Issue with City Irrigation System?  
Source of Irrigation unknown?

YES

**CALL Fruita Public Works**  
970-858-9558 (7:00-3:30 M-F)  
970-250-7835 (after hours)

NO

Irrigation issue in area served  
by Home Owners Association?

YES

**CALL HOA  
or Property  
Manager**

NO

Issue with irrigation canals?  
Need to shut headgate on canal?

YES

**CALL GVIC**  
970-242-2762

NO

You might have a private irrigation lateral or system.  
If you need help determining your responsibilities or have  
an emergency, feel free to call the City at 970-858-9558.



Questions?