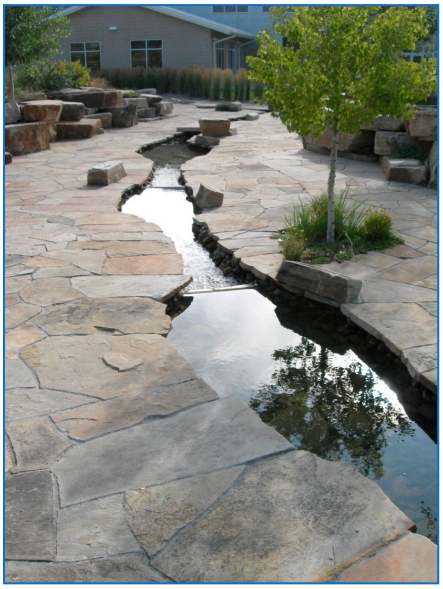
Project: Northern Colorado Water Conservancy District
Location: Berthoud, Colorado

Project Purpose

Provide irrigation, irrigation pumping system, and water feature mechanical construction documents to the new headquarters site.

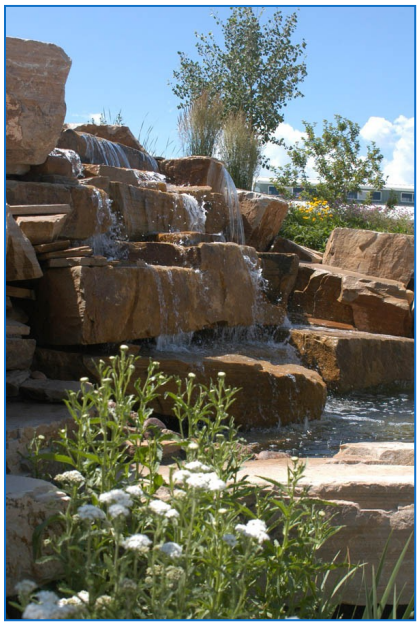


Scope

- ***1.6 acres of intensely irrigated landscape; 6.8 acres of perimeter landscaping; 3.1 acres of turf irrigation system testing/research area; and 12.3 acres of agricultural irrigation system testing/research area.***
- ***Pond, pond liner, pond aeration and irrigation pumping and filtration system design to use a ditch water source that provided water to the site for agriculture.***
- ***Preparation of a water delivery schedule for raw water from the canal.***
- ***Water feature mechanical design for a water feature that represents a miniature but informative depiction of the Colorado Big Thompson Federal Water Project that Northern Water operates.***

Role of Irrigation Consultant

Provided irrigation, irrigation pond, pond liner, pond aeration, irrigation pumping and filtration system engineering services and water-feature mechanical engineering services.



Significance

NCWCD provides agricultural and domestic municipal water to the Front Range of Colorado. Site landscaping is used both for aesthetic as well as research purposes. The design of the irrigation system needed to show demonstration of a commitment to minimal landscape water use, use of a historic water source, and allowance for future research purposes to be implemented by Northern Water.

Findings from the turf testing area have contributed to the irrigation industry's understanding of efficient water use. The water-feature element provides an artistic representation of the Colorado Big Thompson water delivery system, while the recirculating water allows visitors a visual understanding of water delivery system operations.

Special Factors

- ***Allowing for a dual water source: Ditch water for general irrigation, potable water for drip irrigation, and shoulder season watering of intensely planted area around the water feature.***
- ***Combining the different pressure and flow requirements of the landscape and agricultural irrigation systems into a single irrigation pumping system.***
- ***Understanding the canal company's delivery schedule and silt loading of ditch water source.***
- ***Designing within the site spatial and topographic constraints for the irrigation pond and the water feature mechanical system underground vault so the vault is hidden from view, yet accessible for maintenance purposes.***
- ***Designing an underground water storage tank, water feature rill and weirs to support recirculated water flowing through the water feature that allows the appearance of "disappearing" rivers into the ground.***
- ***Developing peak-season turf and agricultural irrigation schedules and a matching ditch-water delivery schedule.***
- ***Irrigating planting pockets between boulders in the water-feature area.***
- ***Providing for future monitoring needs in research areas.***