

# THE NORTHERN PROJECT

ECCV'S RENEWABLE WATER SOLUTION

Prior to the Northern Project, all ECCV water had to be “mined” through deep aquifer wells (several thousand feet below ground). Deep aquifer water is non-renewable, meaning this water source may take decades or centuries to be replenished, or may never replenish.



## Northern Project Infrastructure

### 1 Shallow Wells

Water from the South Platte River flows through a series of ditches and seeps into a shallow aquifer (75 - 100 feet below ground) called the Beebe Draw where it's stored. Nearly a dozen wells are used to pump water out of the Beebe Draw and into the Northern Water Treatment Plant.

### 2 Northern Water Treatment Plant (NWTP)

The plant uses reverse osmosis to process water for consumption. This involves forcing water through membranes that remove naturally occurring salts.

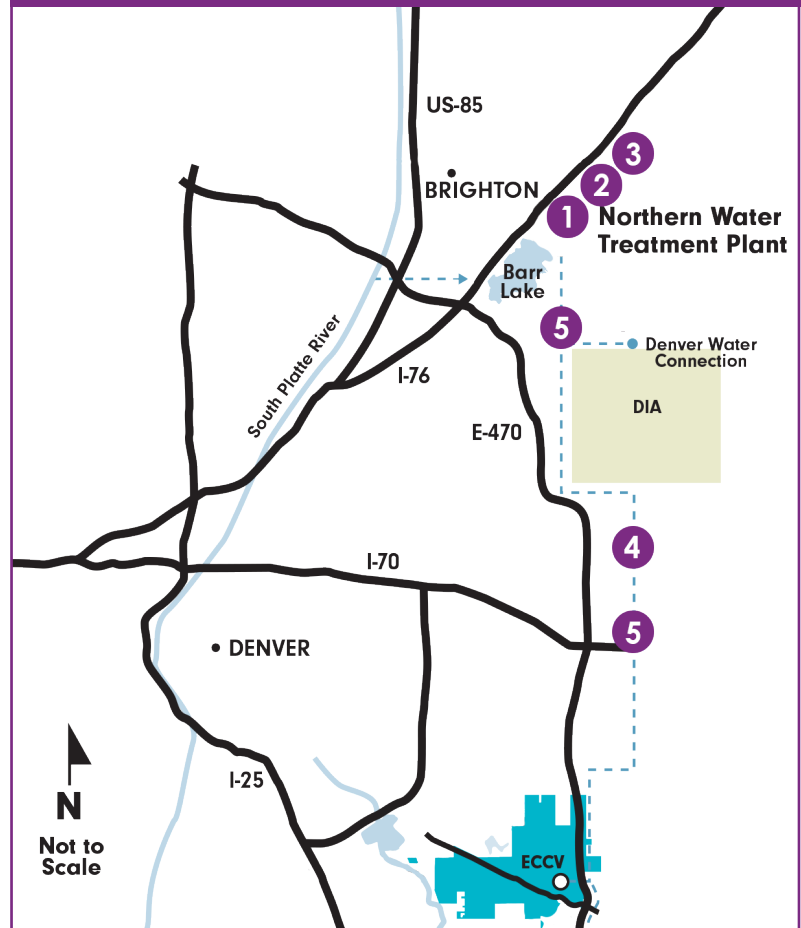
### 3 Deep Injection Wells

Salty water removed during the treatment process is injected more than 10,000 feet underground — below even the deepest usable aquifers.

### 4 Northern Waterline

Treated water is transported through this 31-mile, 48-inch diameter pipeline to reach customers. ECCV also receives its portion of renewable Denver Water through this pipeline via a connection with Denver Water's system near DIA.

The Northern Project provides ECCV customers with a renewable water source. Renewable water supplies are replenished consistently by snow and rain. Since nearly all water in Colorado is legally claimed, ECCV had to purchase rights to take renewable water from the South Platte River near Brighton. The District and its partner ACWWA (Arapahoe County Water and Wastewater Authority) then constructed infrastructure to treat and transport this water to customers. Even without additional growth, the project is necessary in order to ensure customers have a consistent renewable water source.



### 5 Booster Pump Stations

ECCV is roughly 1,000 feet higher than the NWTP. Pumps at the NWTP, and then two additional booster pump stations, are necessary to push the water gradually uphill to District customers.

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## FINANCIAL OVERVIEW

### Phase 1 Infrastructure

Phase I of the Northern Project was completed in 2012. This phase allowed ECCV to provide customers with up to 7.75 million gallons of renewable water each day, reducing dependency on non-renewable wells.

- ✓ Northern Waterline
- ✓ Northern Water Treatment Plant
- ✓ Deep Injection Well I
- ✓ North and South Booster Pump Stations

ECCV Cost: \$85 million

### Phase 2 Infrastructure

Phase II of the Northern Project is underway and is expected to be completed in 2020. This phase will allow ECCV to deliver up to 14.75 million gallons of renewable water to customers each day, reducing dependency on non-renewable wells.




- ✓ Deep Injection Well II (completed 2018)
- ✓ Northern Water Treatment Plant Expansion
- ✓ North and South Booster Pump Station Expansion

ECCV Cost: \$60 million\*  
\*based on project estimates

**Total ECCV Phase I and II Infrastructure Cost: \$145 million**

### Sustainable Water Assurance Fee

To finance construction of Northern Project infrastructure, ECCV issued several series of bonds and instituted a flat fee to generate revenue to satisfy debt payments. This is the Sustainable Water Assurance Fee (formerly the Northern Project Construction Fund Fee).

-  Fee established **1/01/2004**
-  Increased from **\$22/month** to current rate of **\$25/month** in 2010 to reflect actual construction costs
-  **Through Q2 2018, the fee has generated \$82 million** to pay for the bonds that cover the costs of Northern Project infrastructure.

### Water Rights & Tap Fees

In addition to infrastructure, ECCV purchased senior water rights to assure access to a renewable water supply. **These water rights have a total cost of \$76 million.** Revenue generated from tap fees, paid by new development, is used to cover this cost.

### Northern Project Timeline

