

SOUTHERN DELIVERY SYSTEM

MONTHLY REPORT



The Southern Delivery System (SDS) is a regional project to bring water from Pueblo Reservoir on the Arkansas River to Colorado Springs, the City of Fountain, Security Water District, and Pueblo West Metropolitan District. Phase 1 of this multi-phase project includes all of the components necessary to begin delivering water to the partner communities by 2016. This report summarizes accomplishments from the start of construction through August 2015, plans for September 2015, and key performance details for Phase 1.

Water Treatment Plant & Finished Water Pump Station



Pump room activities in finished water pump station

Accomplishments: Completed testing of finished water tank and backfill activities, continued testing chemical storage tanks and chemical piping systems, began testing activities on heating, ventilating, and air conditioning (HVAC) equipment, started construction of the temporary discharge structure (allows discharge of water during testing), and continued final grading and placement of road base material on the site roads; approximately 89 percent of construction is complete through August at the water treatment plant (WTP). **Upcoming:** Complete installation of temporary discharge structure and piping at Sand Creek, continue electrical installation and termination at the finished water pump station electrical room, begin asphalt placement for site roads, progress concrete placement of stormwater channels, and continue commissioning and startup activities for chemical systems.

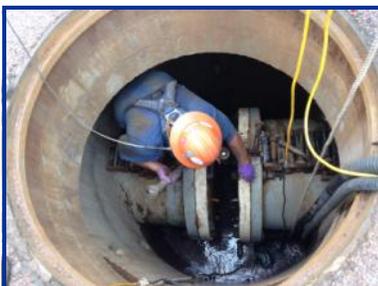
Raw Water Pump Stations

Accomplishments: Continued installation of pipe supports in vaults and pump station and completed testing of surge tank at Juniper Pump Station; continued installation of exterior metal wall panels and progressed installation of conduit and wire for light fixtures at Williams Creek Pump Station; and completed pump performance testing and energized (turn on power to) the electrical room at Bradley Pump Station; approximately 93 percent of construction is complete through August for all three pump stations. **Upcoming:** Complete all mechanical, electrical, and instrumentation system testing at all three pump stations to demonstrate the ability to pump up to 50 million-gallons-per-day (MGD) flow rate to the WTP; continue testing control systems and placing concrete for driveway at Juniper Pump Station; continue installation of conduit and wire in pump room, complete installation of irrigation piping, and continue controls testing at Williams Creek Pump Station; and complete installation of louvers, electrical lighting, and controls testing at Bradley Pump Station.



Pump performance testing at Bradley Pump Station

Commissioning & Startup



Connection between NTM pipeline and finished water pipeline

The SDS team completed individual pump performance testing in August at Williams Creek and Bradley pump stations, meeting or exceeding all factory performance standards. The SDS raw water pump station vendor training began with Colorado Springs Utilities (Utilities) operations staff attending pump motor training with WEG and variable frequency drive (VFD) training with Rockwell Automation. The training was also provided to the SDS WTP staff, Utilities water instrument control staff, and Utilities water distribution operators. The connection between the WTP and Northfield Transmission Main (NTM) was also completed in August with help from Utilities water distribution and water construction operators, who assisted in connecting the NTM pipeline to the finished water pipeline that leads from the SDS WTP.

SPOTLIGHT

Preparing for Water Startup

With five years of construction under its belt, the SDS project is concluding most major construction this year and has begun preparing for startup. “We are approaching the finish line,” said John Fredell, SDS Program Director. “We are transitioning from the construction phase to the fine tuning phase and the end is in sight for Phase 1.”

The team overseeing the \$829 million project, the largest infrastructure project ever undertaken by Colorado Springs Utilities, will continue evaluating the system to ensure it’s ready to deliver water next year. A recent article in the Colorado Springs Gazette, "Eagerly Awaiting Testing," featured key project milestones met to date and what is ahead to bring this project to completion – on schedule and under budget. [Read full story.](#)

Components Completed

- *Pueblo Dam Connection* – Starting point for water to flow into the SDS pipeline; completed June 2012.
- *Pipeline Construction* – 50 miles of underground pipe installed in Pueblo and El Paso counties; completed April 2015.

What’s Ahead

- *Raw Water Pump Stations* – Three raw water pump stations that will transport water 1,500 feet in elevation from Pueblo Dam to the water treatment plant in Colorado Springs will be nearly complete the end of 2015.

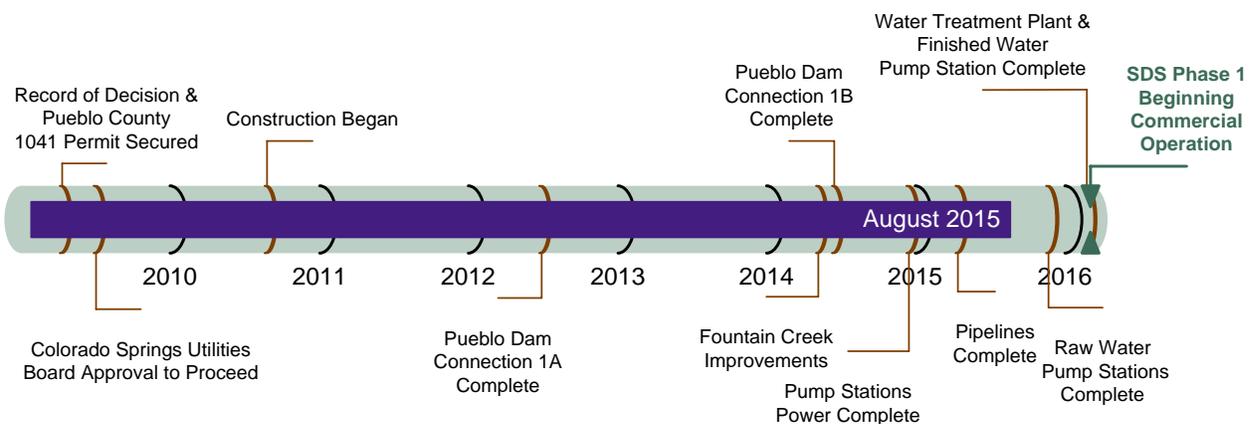


- *Water Treatment Plant* – An 82,000-square-foot water treatment plant capable of treating 50 million gallons of water per day will be complete in early 2016.
- *Preparing for Operations* – Every step of the way, system components are evaluated to ensure they are working properly and all of the elements work together as a unified delivery system.
- *Water Delivery* – SDS will begin delivering water to customers of Colorado Springs, Fountain, Security, and Pueblo West in early 2016.

Schedule Summary

The timeline below summarizes the schedule for completing Phase 1 of the SDS. Colorado Springs Utilities anticipates completing Phase 1 as planned, with full operation by early 2016.

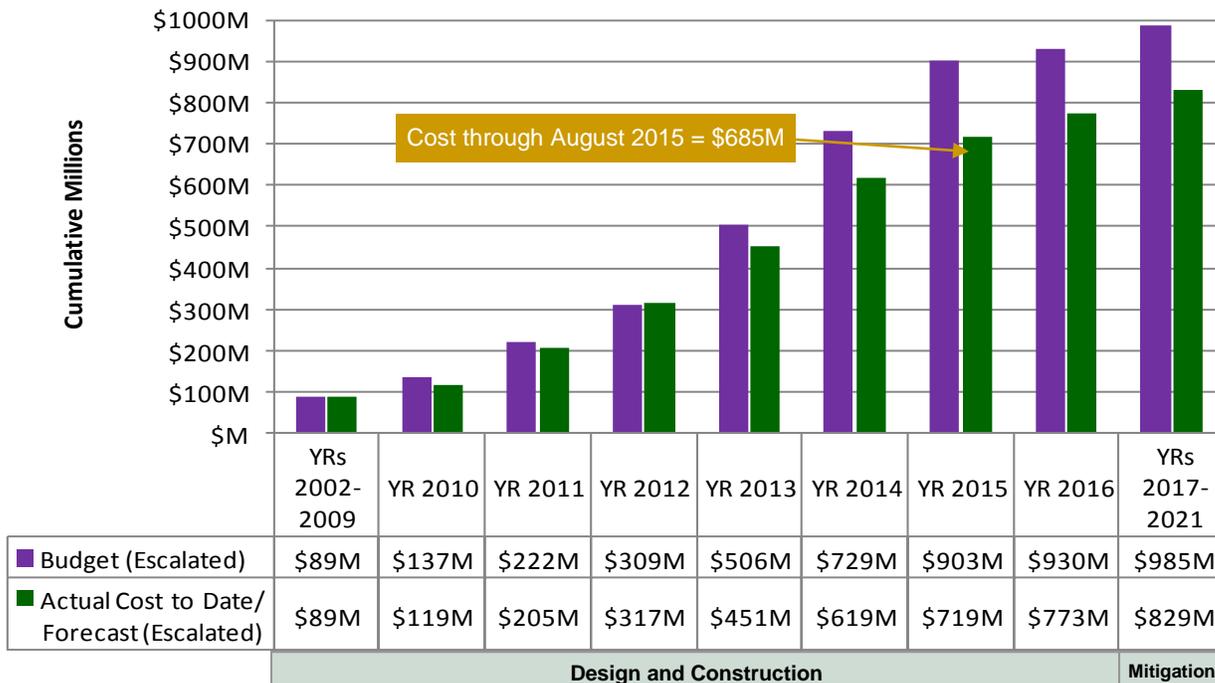
Figure 1 – Schedule Progress for Major SDS Phase 1 Projects



Cost Summary

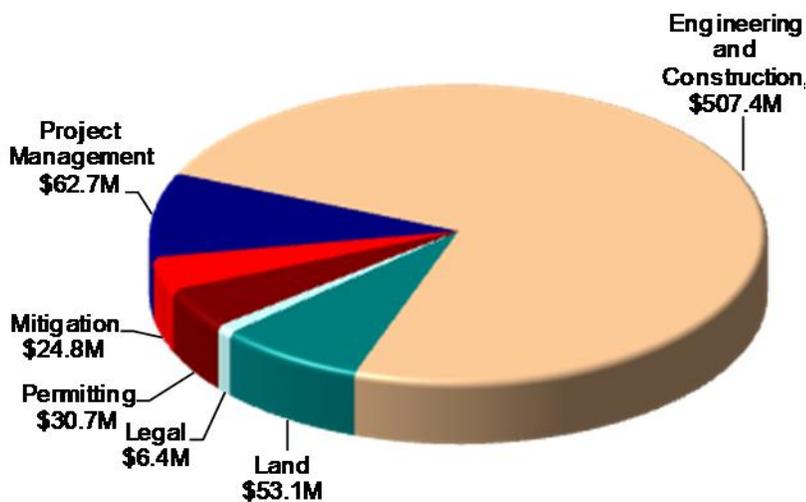
Figure 2 shows the budget for Phase 1, actual costs through August 2015, and forecasted costs for Phase 1. **Figure 3** shows the distribution of the actual costs. Key financial details are summarized below. The budget used to measure progress was established by the Colorado Springs Utilities Board in July 2009 and is \$880 million in April 2009 dollars. Accounting for actual and currently projected escalation in the cost of labor, materials, and equipment, the same 2009 budget equates to \$985 million after all direct project costs (including mitigation) are paid through 2021.

Figure 2 – Phase 1 Budget Progress – Actual Costs through August 2015



Design and construction \$ values include actual and projected cost escalation as measured by Engineering News-Record's national Construction Cost Index. Monetary mitigation payment \$ values (2017 through 2021) include cost escalation as measured by the U.S. Bureau of Labor Statistics Producer Price Index for finished goods. Periodic index forecasts by IHS Global Insight applied.

Figure 3 – Distribution of Phase 1 Direct Costs through August 2015 (\$685M Total)



Key Financial Details

- The budget for Phase 1 is \$985 million, including actual and projected escalation, while the current cost forecast is \$829 million. The project is currently forecasting completion approximately \$156 million below budget. These anticipated savings are accounted for in current water rates and plans for bond issuance.
- Cumulative actual costs to date are \$685 million, with a majority expended on engineering and construction, permitting, land, and management activities.
- Forecasted costs for 2015 are \$100 million with a cumulative expenditure of \$719 million by the end of 2015.

Figure 4 – Phase 1 Projects Status Map



Visit www.SDSwater.org for additional information.

- 9 Finished Water Pipeline (FW)**
Complete: FW1A, FW1B, FW3 (Garney Construction)
Focus: Maintenance
- 8 SDS Water Treatment Plant (WTP) and Finished Water Pump Station (FWPS)**
Ongoing: McCarthy Building Companies, Inc. is constructing the WTP and FWPS located at Marksheffel Rd. and U.S. Highway 24.
Focus: Testing finished water storage tank, painting outdoor piping, continuing final grading, testing sedimentation beds, and testing instrumentation and controls systems
- 7 North Pipeline (N)**
Complete: S4B/N1A/N1B (HCP Constructors), N1C/N2A (Layne Heavy Civil, Inc.)
Ongoing: Garney Construction is finalizing closeout of N2B – a 3.2 - mile pipeline connecting N2A to the WTP.
Focus: Completing administrative closeout activities
- 6 Upper Williams Creek Reservoir (UWCR)**
Ongoing: UWCR is a 30,500 acre-foot raw water storage reservoir that will be developed as part of a future SDS phase and will be located near Bradley Pump Station.
Focus: Acquiring remaining land parcels; conceptual engineering
- 5 Bradley Pump Station (BPS)**
Ongoing: Archer Western Construction, LLC is constructing BPS located in the city of Colorado Springs approximately ¼ mile south of Bradley Rd. and 1.5 miles east of Marksheffel Rd.
Focus: Starting lime stabilization for access road, continuing placement of sidewalks, and testing controls systems
- 4 Williams Creek Pump Station (WCPS)**
Ongoing: Archer Western Construction, LLC is constructing WCPS located in El Paso County 6 miles south of Squirrel Creek Rd. and 5 miles east of Interstate 25.
Focus: Installing control room console, progressing work in communications room to install equipment, and testing controls systems
- 3 South Pipeline (S)**
Complete: S1 (HCP Constructors), S2 (Garney Construction), S3 (Layne Heavy Civil, Inc.), S4A East/West (Garney Construction)
Ongoing: Garney Construction constructed S4A Central – a 1.4 - mile pipeline that tunnels under Interstate 25, two railroads, and Fountain Creek and extends from west of Interstate 25 to east Hanover Rd.
Focus: Completing administrative closeout activities
- 2 Juniper Pump Station (JPS)**
Ongoing: Archer Western Construction, LLC is constructing JPS located in Lake Pueblo State Park near the base of Pueblo Dam.
Focus: Installing stormwater piping, washing brick veneer, painting vaults and pump station, and testing controls systems
- 1 Pueblo Dam Connection (PDC)**
Complete: PDC1A (ASI Constructors)
Ongoing: Garney Construction is finalizing closeout of PDC1B – a 0.3-mile pipeline that connects the new outlet works (PDC1A) at Pueblo Dam to JPS and the Pueblo West Pump Station.
Focus: Completing administrative closeout activities