

Water Resource Planning in Washington County, Utah and the Lake Powell Pipeline

Nevada Water Resource Association
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Corey Cram
Washington County Water
Conservancy District

Washington County Water Conservancy District?

The District is primarily a wholesaler of water to cities. The District is committed to serving its customers in a safe, efficient, and cost-effective manner.



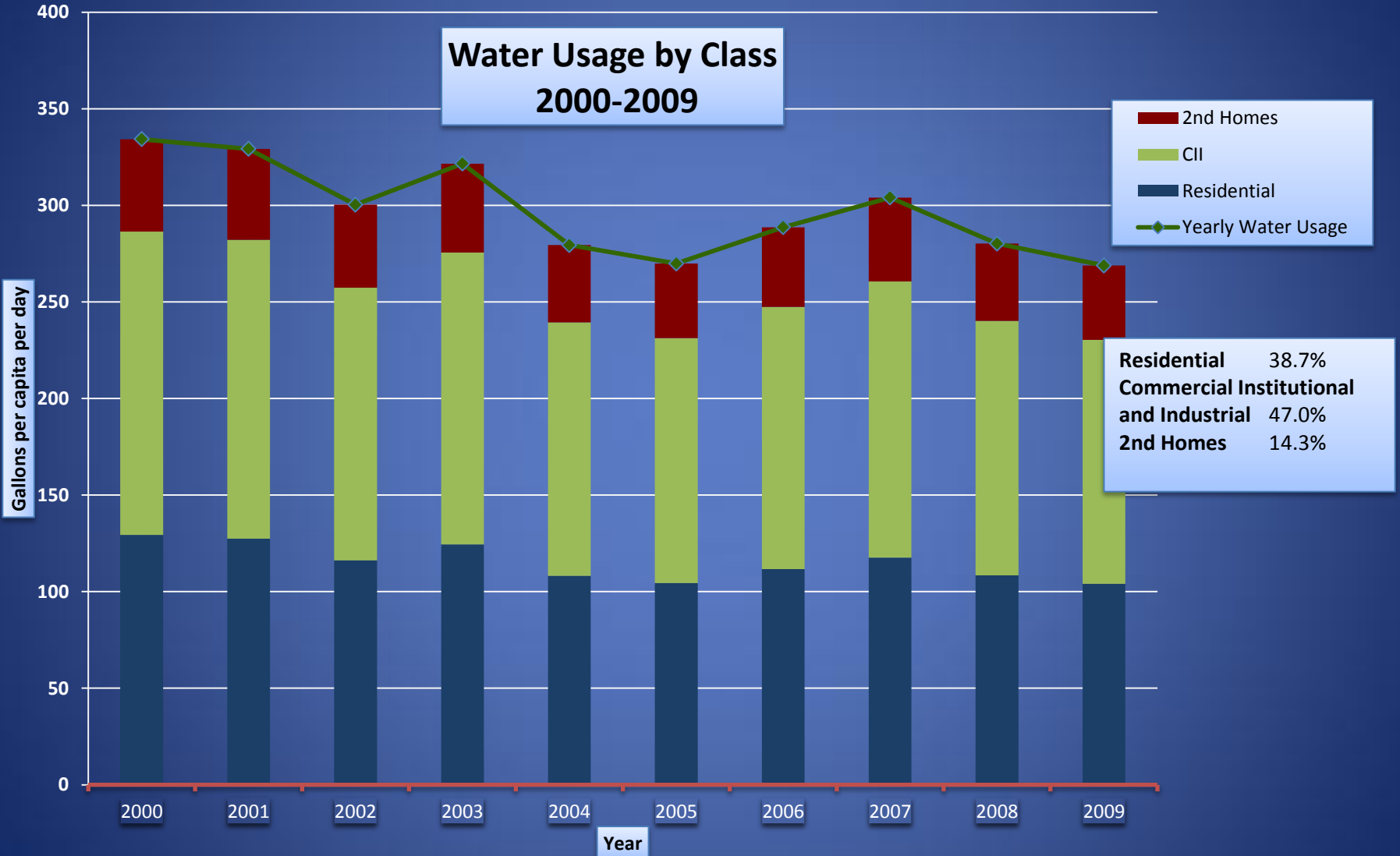
The Water Conservancy District was created after an overwhelming majority of the residents and property owners petitioned for its formation. The District's Board of Directors is appointed by the County Commissioners and includes representation from across Washington County.

The District owns and operates:

- Sand Hollow, Quail Creek, Gunlock, Kolob, Ivins and Ash Creek Reservoirs
- Numerous pipelines
- Well fields at Sand Hollow, Leeds, Kayenta and Anderson Junction
- Quail Creek Water Treatment Plant
- The District also provides or participates in secondary water systems in Hurricane, LaVerkin, Toquerville, Washington, St. George and Santa Clara.

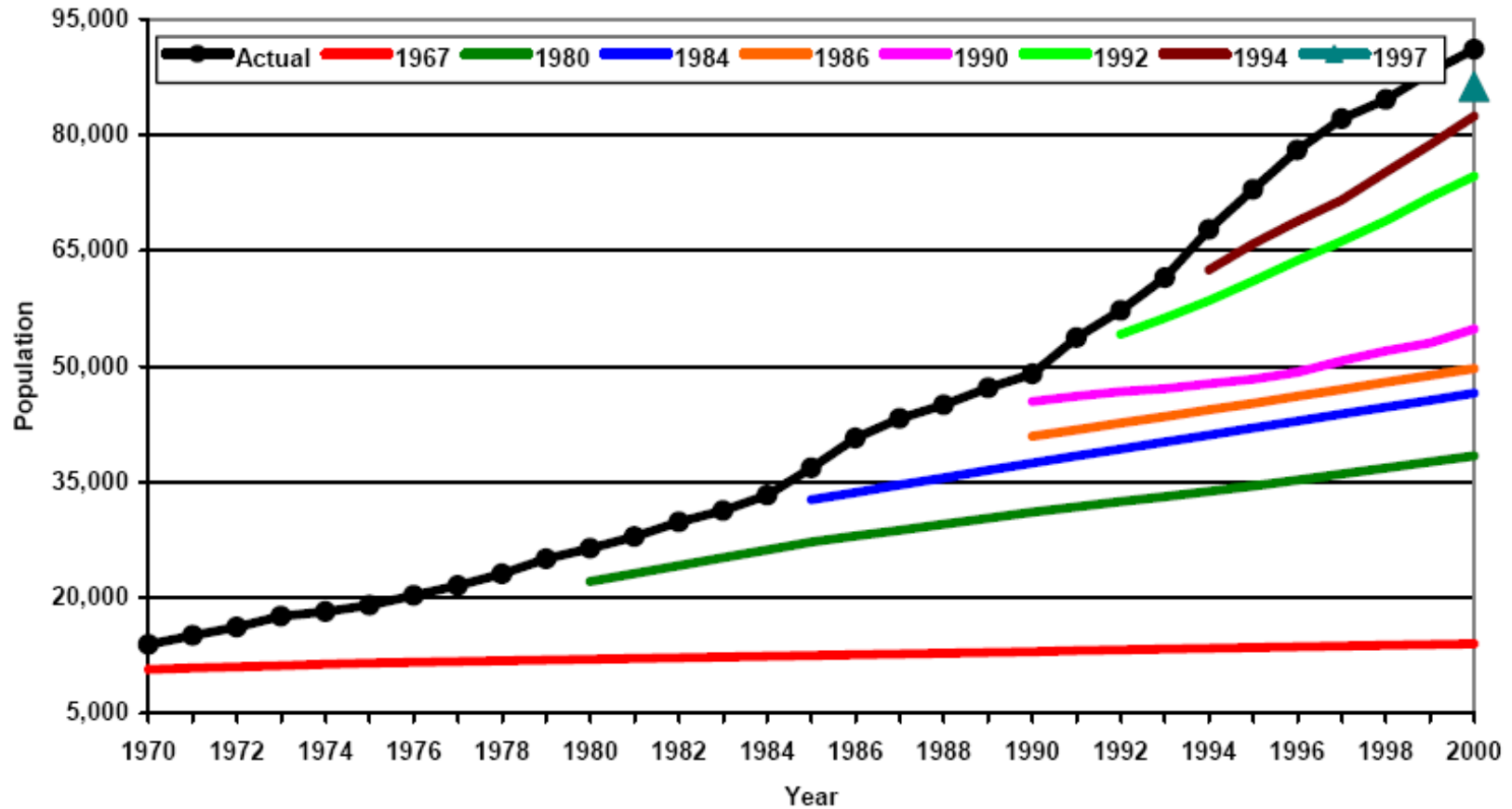
Water Use in Washington County

**Water Usage by Class
2000-2009**



Historical Population Projections

Figure 3-1
Washington County Historical Population Projections Comparison (GOPB 2007a)

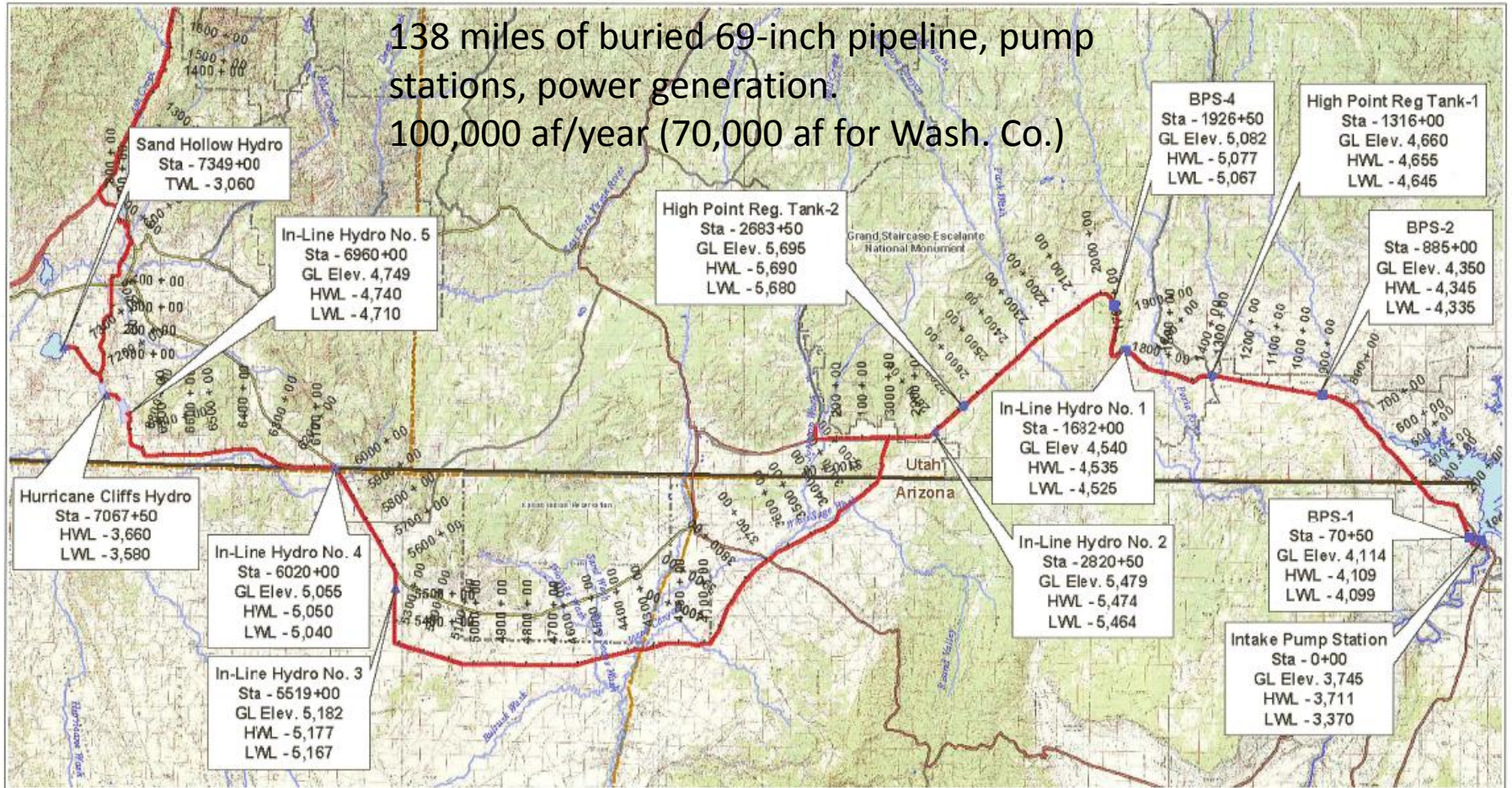


The Lake Powell Pipeline Project

- The project will deliver 100,000 acre feet of water to Washington (70,000), Kane (10,000) and Central Iron (20,000) Counties.
- The water will be pumped from the Colorado River at Lake Powell and delivered to the three counties.
- The buried pipeline would be 69 inches in diameter and 138 miles from the intake to where it ends at Sand Hollow Reservoir.
- A separate 30-inch pipeline would extend to the Cedar Valley.
- Requires an initial pumping station and four booster pump stations.
- Will include up to six in-line Hydros, a peaking facility at the Hurricane Cliffs and possibly a pumped storage facility.

Lake Powell Pipeline Proposed Alignment

138 miles of buried 69-inch pipeline, pump stations, power generation.
100,000 af/year (70,000 af for Wash. Co.)



Legend

- Project Pump Station
- Project Regulating Tank
- ▲ Project Hydro Station
- Project Alignment
- Major Rivers & Streams
- Interstate
- US Highway
- ST Highway
- Hwy
- Major Road
- Hurricane Cliffs Forebay/Atterbay
- ▭ National Park Monument
- ▭ geomon-boundary
- ▭ Tribal Lands
- ▭ State Boundaries
- ▭ County Boundaries
- ▭ Lakes & Reservoirs

GL Elev - Ground Level Elevation
HWL - High Water Level in Tank or Reservoir
LWL - Low Water Level in Tank or Reservoir
TWL - Tailwater Level



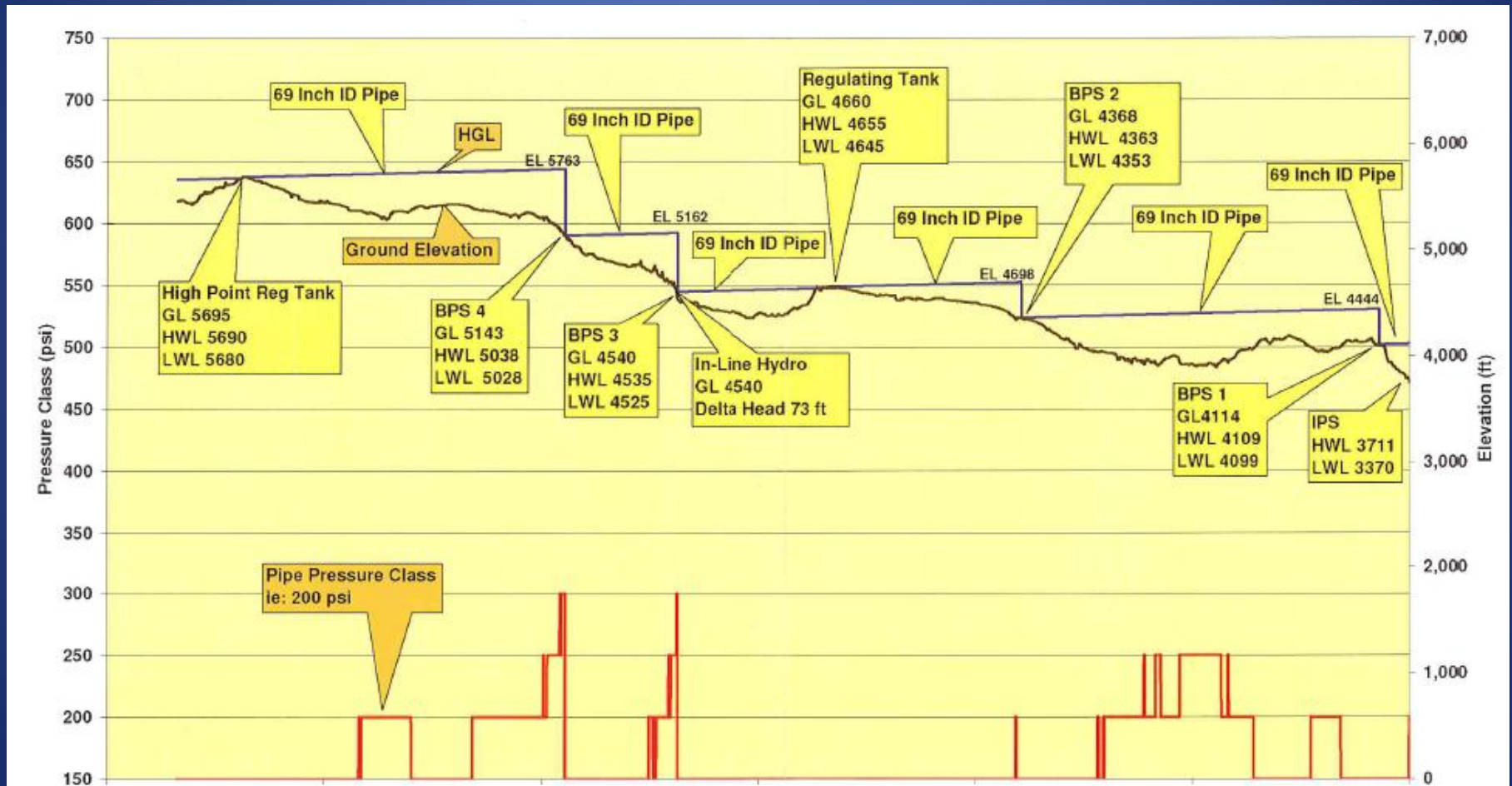
Lake Powell Pipeline Project

Scale Reference: 1:50,000

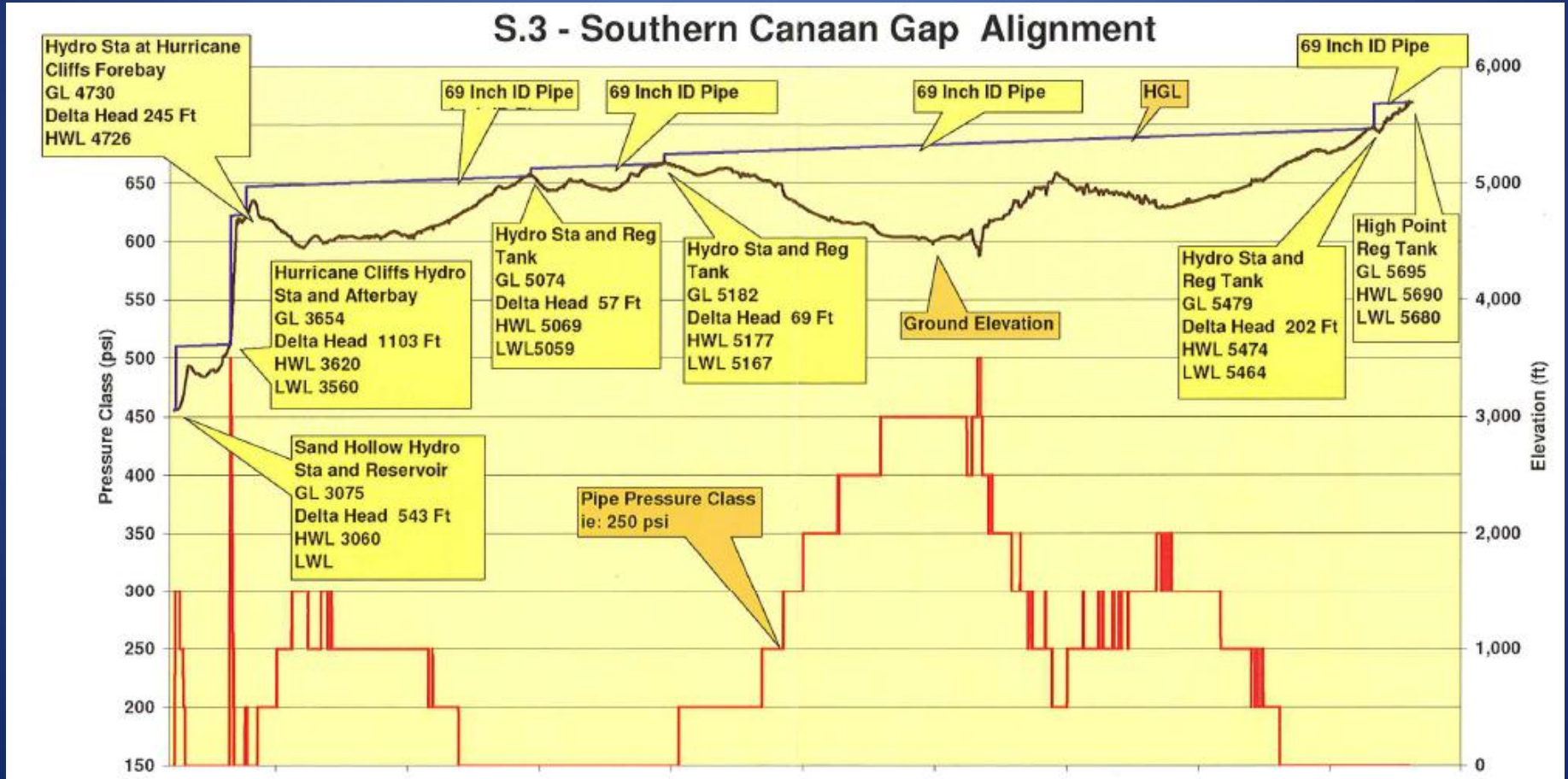
UDWR Figure 5.8.24 MWH

Preferred Alignments and Hydropower Features

Intake to High Point Hydraulic Grade Line



High Point to Sand Hollow Hydraulic Grade Line



Financing the Project

- The State of Utah will build the project and finance it at 3-4% interest.
- The three water districts will pay the state back for their respective portions of the project.
- The Washington County Water Conservancy District's Capital Facilities Plan is structured to use impact fees on new development to cover the cost of new capital water projects (smaller projects in the short term and later the LPP).
- The District's Capital Facilities Plan, including development of future projects (LPP and others) and financing through impact fees has been adopted by the WCWCD after multiple public hearings reviewed through city council public meetings and approved by St. George, Washington, Ivins, Hurricane, LaVerkin and Toquerville.

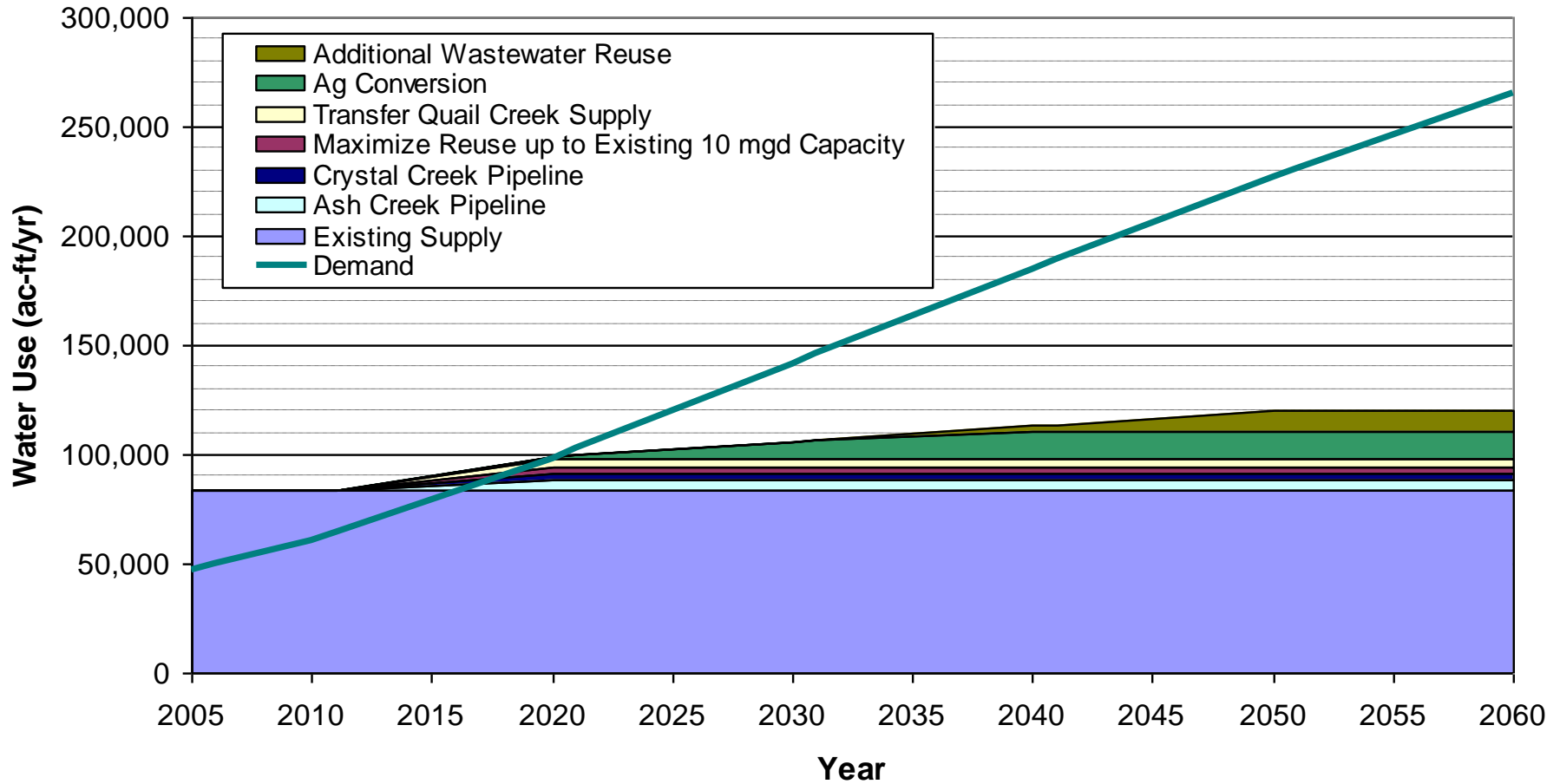
Cost of the Lake Powell Pipeline

	Total Project Cost	WCWCD Portion
Total Project Cost in 2008 dollars	\$1,064,829,923	\$694,534,828
Project Cost per 1,000 gallons	\$1.52	\$1.42 Will be paid with impact fees
Cost of Water from Bureau of Reclamation per 1,000 gal.	\$0.23	\$0.23 Subject to negotiation
Cost to pump LPP water (\$0.04/kW-hr) per 1,000 gal.	\$0.40	\$0.40
Typical O&M per 1,000 gal.	\$0.03	\$0.03
Typical Repair and Replacement per 1,000 gal.	\$0.03	\$0.03
Hydropower per 1,000 gal.	(\$0.20)	(\$0.20)
Hydropower with pump storage per 1000 gal		(\$1.64)
Probable cost per 1,000 gal.	\$1.94	\$0.49
Total Cost per Acre-Foot	\$10,155	\$9,371

Who Pays for the Project?

- The Water District's philosophy is that **new growth should pay the costs of developing the water to meet the needs of that growth**. Existing residents do not pay the costs of developing new water supplies.
- An impact fee is required of each new home or business to cover the cost of developing and supplying water to that home or business.
- The Impact Fee Cost in 2011 is \$5,535.
- Impact Fees collected today go toward projects being developed and constructed now.
- Future Impact Fees will go toward the Lake Powell Pipeline and other projects.
- User Fees (water bills) cover the cost of distribution (through your city) operation, maintenance and replacement.

The Future Without the Lake Powell Pipeline



The Lake Powell Pipeline diversifies our local resources.

- Virgin River
- Wells and Springs
- Reservoir Storage
- Aquifer Storage and Recovery
- Conservation
- Wastewater Reus
- Lake Powell Pipeline



The Lake Powell Pipeline Timeline

- Project was conceived by Utah's Division of Water Resources in 1991.
- Water rights acquired for project in 1999.
- Feasibility reports completed (1995, 2003).
- Lake Powell Development Act passed in 2006 (with only one dissenting vote in the Utah Legislature).
- Bureau of Reclamation studies (1995, 2006).
- Project approved by two governors.
- Project formally approved by local cities as part of Capital Facilities Plan.
- Public meetings held with landowners in 2008.
- Public scoping meetings held in 2008.(St. George, Washington, Ivins, Hurricane, LaVerkin and Toquerville).
- Preliminary Application filed with the FERC in 2008.
- Preliminary Engineering and Environmental Studies 2009-2011.
- Formally begin FERC's NEPA process 2011.
- Record of Decision and permits in 2013.
- Litigation
- Legislative Funding
- Final Design 2014.
- Construction 2015-2020
- Project Operation 2020