

**DRAFT Annual Report to the City of Austin Balcones Canyonlands Preserve
November 2011**

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Abstract

Monitoring is being conducted in the Bull Creek watershed to determine effects, if any, of shaft construction and tunneling associated with the construction of the Jollyville Transmission Main (JVTM) for Water Treatment Plant #4 (WTP4). Monitoring includes City of Austin, Travis County, and private preserves and generally consist of evaluating water levels and taking water quality samples from stream, springs, and groundwater wells. This data will be used in adaptive management during the construction of the JVTM.

Issue

Infrastructure related to Water Treatment Plant 4 will be constructed near and below the Sam Hamilton Memorial Reserve and Balcones Canyonlands Bull Creek Preserve. The design of both the JVTM and WTP4 have been subject to the Environmental Commissioning process (EC) conducted by the City of Austin's Watershed Protection Department. The EC process integrates environmental review and oversight into the design process to meet defined environmental goals that generally exceed minimum regulatory requirements. The City's EC process includes environmental monitoring along the length of the transmission main to detect environmental impacts from JVTM construction.

The monitoring program is designed to meet these objectives from the relevant Environmental Commissioning documents for WTP4:

- Document baseline hydrology, and stream and spring water quality prior to construction;
- Monitor during and following construction to detect possible changes from baseline conditions; and
- Identify changes from baseline conditions attributable to WTP4 from other changes that are observed in the watershed.

Methods & Data Analysis

The study area includes in the COA Bull Creek Preserve Franklin tract, the upstream Lanier tract, the original Bull Creek plant site, the WTP4 site, points along Bull Creek and associated tributaries, and a number of wells along Spicewood Springs Road including one on the Jollyville Reservoir site.

At surface and spring sites, water levels are calculated via installed TROLL and flow-meter and water quality parameters measured both in the field with a multi-meter sonde and in the lab.

Water quality samples are analyzed by DHL labs for the suite of parameters noted above. Water levels and environmental conditions such as rainfall and probe readings are noted and analyzed by staff.

Results

The data collected in the BCP are attached in excel files from the sites and methodologies listed below:

Site	Water Quantity	Water Quality
JT-107 well cluster	TROLLs	None planned
JT-108	TROLL	None planned
Bull Creek @ Trib 7	TROLL	Planned, but none taken
Lanier Spring	TROLL	Planned, but none taken
B8, B9, B10	Vibrating wire piezometers	None Planned

Conclusions

All BCP data collected to this point has been part of the baseline monitoring phase. No JVTM construction has occurred beneath the BCP as of yet, so no conclusions may be drawn regarding impact. In groundwater wells, levels are essentially stable or declining slightly. There has been no surface flow to speak of in the preserve in our monitoring period, with the exception of a small amount of flow just after the rain event that occurred over the Oct 8th weekend. As this study examines baseflow conditions, water quality data was not collected at that time.