

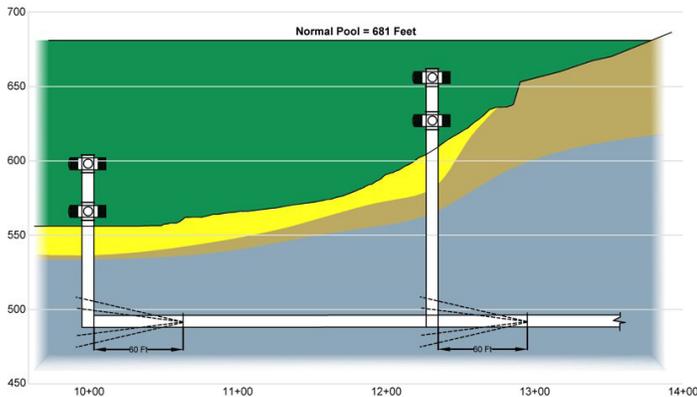
Tapping Lake Travis, Texas

Lewis Yates, PE
 Kevin Mandeville, PG

Created after the construction of the Mansfield Dam on the Colorado River, Lake Travis serves as an important water resource for the growing population of central Texas. Water purveyor, Brushy Creek Regional Utility Authority (BCRUA) is a local government partnership formed in 2005 by the Cities of Cedar Park, Leander, and Round Rock, all located just north of Austin.

BCRUA has embarked on a multiple year program to increase capacity and manage concerns associated with historic low water levels of Lake Travis experienced during the September 2013 through September 2015 timeframe. During an eight year planning effort by BCRUA, several options for new lake intakes, pump stations and conveyances were examined. Ultimately a program was agreed upon to construct:

- A multiple level-screen deep water intake assembly and shaft extending about 70-ft below lake bottom
- Approximately 10,000-ft of 96-in diameter tunnel to convey water by gravity from the intake to a new on-shore pump station.
- The on-shore pump station will have multiple raw water wet wells extending about 300 feet below grade.
- 3,000-ft of 84-in diameter pressurized transmission tunnel



Brierley Associates, under a sub-consultant agreement with HDR, is providing a vast array of geotechnical and geological engineering services; assessment of tunnel alignments; preliminary shaft design, cost estimates and risk assessment. Lewis Yates of our Austin Office is Project Manager who is assisted by Kevin Mandeville – Project

Geologist. Other Brierley Team Members are Gregg Sherry, Kyle Hinds, and Texas Regional Manager Nancy Nuttbrock.

Both land based and marine borings were completed during the preliminary design phase. The deepest land borings were terminated at about 450-ft. and the marine explorations went to a depth of 150-ft below the mudline of Lake Travis. As design moves into the next phase additional borings will be planned and completed by Brierley Associates.



Of course all subsurface investigation programs have challenges, but the initial marine borings were a bit unusual. As Kevin Mandeville recalls “As soon as the drilling barge was positioned on the lake, record storms hit the central Texas area causing lake levels to rise almost 40 feet within a few weeks. Needless to say, many sleepless nights were had monitoring the rising lake levels from the frequent storms entering the region. The rising lake level also resulted in the opening of long dried out boat ramps and happy boaters, which hampered drilling activities due to increased waves”.

Final design phase investigations and engineering are scheduled to take place in 2017 or 2018 in order to meet a construction completion date around 2025.

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