



MEMORANDUM

To: Mayor and Council Members
From: Marc Ott, Austin City Manager
Date: September 24, 2010
Subject: Jollyville transmission main

As you know, the Austin Water Utility (AWU) has been moving forward with the design and construction of Water Treatment Plant 4 (WTP4), as per the direction of the Austin City Council.

WTP4 will supplement Austin's aging water infrastructure, safeguard against any failure of our two current water treatment plants, diversify our community's water sources by drawing water directly from Lake Travis, and meet our citizens' projected future demands for water for decades to come.

WTP4 is a complex project which requires constructing water intake infrastructure and a pump station at Lake Travis; a treatment plant at RM 620 and FM 2222; and a transmission main to carry treated water from the plant to the Jollyville reservoir at Hwy. 183 and McNeil Drive.

As the design and construction process has gotten underway, the consistent goal of the Austin Water Utility has been to deliver the entire project on time and on budget, with minimal impact on the environment and minimal inconvenience to our citizens.

One of the most complex components of the WTP4 project has been the transmission main connecting the treatment plant to the Jollyville reservoir, a distance of approximately 6.5 miles. Laying this massive underground pipe – roughly seven feet in diameter – requires construction of a tunnel and a series of shafts of different types along the tunnel route. “Working shafts are the busiest and used for excavation as well as other tunnel construction. Retrieval shafts are less active and are primarily used for removing machinery, installing pipe and grouting. All shafts are used for ongoing maintenance and operation.

Because every feasible transmission main route from the treatment plant to the reservoir passes through at least one existing Austin neighborhood, the impact of the tunnel and shaft construction on nearby homes and schools has been a top concern.

Over the last several years, our engineering team has carefully considered various possible routes and shaft locations for the Jollyville transmission main. AWU's tentative plan proposed taking the most direct route from the treatment plant to the reservoir, with working shafts located in the

Spicewood Springs / Old Lampasas Trail area and Four Points area, and retrieval shafts located at the treatment plant and reservoir sites.

Our initial plan located a working shaft in the Spicewood Springs / Old Lampasas Trail area primarily because it was at the lowest elevation point along the proposed transmission main route and would thus require the shortest shaft to gather a significant amount of excavated material. This working shaft location would also provide for uphill tunneling, the preferred method.

However, upon presenting our initial proposed route alignment and shaft locations to the community, serious concerns were raised, primarily by neighbors in the Spicewood Springs area, regarding 1) the impact of the construction process on the adjacent neighborhood; and 2) the close proximity of the proposed working shaft site to a tributary of Bull Creek.

In keeping with AWU's goal of minimizing the environmental and community impact when constructing WTP4, we then agreed – with strong encouragement from the Mayor and Council – to give additional consideration to alternative tunnel routes and shaft locations. This included consideration of a new route proposed by Spicewood Springs neighbors and others, referred to as the “Hybrid-West-of-620” route. Our resulting analysis of alternate alignments and shaft location schemes is attached to this memorandum for your review.

Based on that analysis, AWU cannot recommend the “Hybrid-West-of-620” route as a viable alternative, for a host of reasons outlined in the attachment. Perhaps most importantly, our analysis shows that pursuing the “Hybrid-West-of-620” route would increase the cost of constructing the transmission main by as much as \$50 million over the current estimate.

However, as a result of the concerns expressed by the community, AWU now recommends changing the shaft in the Spicewood Springs / Old Lampasas Trail area from a working shaft to a retrieval shaft. This change will dramatically reduce the impact of tunnel construction on Spicewood Springs area neighbors, without increasing the impact on any other residential neighborhood.

We expect this change to reduce total truck traffic at this shaft site from 11,500 trucks to less than 800 trucks – a decrease of more than 90 percent. Further, we expect the duration of construction-related activity at this site to decrease from roughly 36 months to roughly 13 months. This change will also reduce the potential environmental impacts to Bull Creek.

Please note that this recommended change is expected to be cost-neutral primarily because work crews will no longer be limited to working hours of 9am – 3pm which is what would have been the case with the initial plan for the Spicewood Springs / Old Lampasas Trail shaft.

AWU greatly appreciates the neighbors in Spicewood Springs area – as well as those along 620 and in the Jollyville reservoir area – for sharing their input. Moving forward, we will continue to work with neighbors to minimize any disruption related to construction. As the design process continues and concludes, our team will re-commit itself to both working and communicating effectively with neighbors and businesses at each of the shaft sites and the plant itself.