Metropolitan St. Louis
Sewer District
2350 Market Street
St. Louis, MO 63103

MEMORANDUM

TO: **All Employees**

FROM: **Jeff Theerman, Executive Director**

DATE: **Tuesday, December 13, 2005**

SUBJECT: **Additional Appropriations for the Lower Meramec Program**

Last Thursday, at it's regular monthly meeting, the Board of Trustees approved for introduction two agenda items that reflect $7.0 million in additional appropriations for the Lower Meramec Program. Specifically, the agenda items are requests for additional appropriations of $4.5 million and $2.5 million, respectively, for the tunnel and lift station that are a part of the Lower Meramec Program. The program, being constructed primarily at the site of the District's Meramec Wastewater Treatment Lagoon in south St. Louis County, is comprised of the Lower Meramec Wastewater Treatment Plant, the associated tunnel and lift station, and related sewer work. The Board will vote on adoption of these agenda items at it's January meeting.

The $4.5 million appropriation is being requested to address additional structural integrity and safety issues that have occurred during the excavation of the tunnel, shafts, and gravity sewers. Approximately $1.7 million of the $2.5 million appropriation is being requested to address issues related to the delay in the tunnel being turned over to the contractor that is responsible for the lift station, and to reestablish a contingency fund for the lift station project. The remaining $0.8 million is being reserved to meet potential fire safety requirements that have arisen since the lift station was designed.

Over the past year, the existence of a layer of water at the depth the project is being constructed at, has necessitated that extensive grouting work be done in advance of the boring machine that is excavating the tunnel. This grouting work has caused delays in the excavation of the tunnel and additional costs for its overall construction. Additionally, the contractor working on the tunnel has, for safety reasons, been installing extra reinforcement, beyond that which was planned, for the roof of the tunnel. This extra reinforcement has also been a source of additional cost in constructing the tunnel.

Geotechnical studies that were conducted prior to the start of the tunnel did not show the extensive presence of the water. The water is present in a layer of rock approximately 200 feet deep that is between the two types of rock strata that are being bored through by the tunnel-excavating machine. When visually examined up close, this layer of rock has been very difficult to detect. Various tests performed on the sample boring holes also did not identify this rock layer. The District is reviewing all the geotechnical work that was conducted in advance of the tunnel's construction, to determine if this feature should have been identified before the project began. If it is determined that this feature should have been identified in advance by the studies, the District will hold the firm responsible for the design engineering work accountable.

Regardless of what the geotechnical studies should or should not have been able to identify, water infiltration into an underground excavation project presents a very real danger not only to the structural integrity of the project, but also to the safety of the workers that are underground. We will not risk the lives of those that are doing the underground excavation, nor will we risk losing this tunnel. As such, the additional grouting and tunnel roof reinforcement was done – and associated costs were incurred – to ensure the safety of the workers and the soundness of the tunnel.

With the tunnel project taking longer than planned, the construction of the lift station has also been delayed. This has caused the contractor that is responsible for that project to incur additional labor and material costs due to inflation during the delay period. Additionally, enhanced fire safety features beyond what was planned for the lift station maybe required by the local fire district. While we believe that what was planned meets the fire safety needs of the lift station, we are in discussions with the local fire district to ensure that we are meeting all necessary requirements.

The history of Lower Meramec Program goes back several decades. In 1977, the District developed a facility plan for the Lower Meramec River Basin. This plan envisioned the construction of the existing Meramec and Baumgartner Wastewater Treatment Lagoons, and the Fenton and Grand Glaize Wastewater Treatment Plants, as interim facilities that would eventually be replaced by a single regional treatment facility located at the site of the current plant construction. The wastewater treatment plant, tunnel, lift station, and associated sewer work that are currently being constructed, are the first phase of a planned multi-phased program that will lead to the construction of a single regional facility. This first phase will result in the deactivation of the Baumgartner and Meramec Wastewater Treatment Lagoons by December 31, 2006. Later phases of the program plan for the eventual elimination of the Fenton and Grand Glaize Wastewater Treatment Plants. The December 2006 date is part of an administrative agreement that the District entered into with the State of Missouri in July 2002. As such, the Lower Meramec Program must continue unhindered. If it is not completed by the deadline, the District will risk paying monetary penalties to the state, and a possible moratorium maybe placed on development in the watershed served by the Baumgartner Lagoons.

The wastewater treatment plant that is a part of this first phase of the Lower Meramec Program has been the subject of past intense public scrutiny. The plant, originally projected to cost $61 million, is currently being constructed for $80.5 million. The difference between the projected cost and the current actual cost was due to an estimation error made by the engineering firm that

designed the plant. (The firm was sanctioned for this error and was made to pay for verification of the plant's current costs, in addition to other penalties.) When plant construction began in 2003, the cost for the entire first phase of the Lower Meramec Program was $217 million. Tunnel grouting work done earlier this year – for the same safety related reasons that the additional appropriations were asked for last week – raised this cost to $223 million. With the requested additional appropriations, the cost for the first phase of the Lower Meramec Program is currently set at $230 million.

The Lower Meramec Program's history is long and complex. It is difficult to explain all the different plans that have been envisioned over the years, their costs, and how they all link together. As an example, in 1997 the District proposed an interim solution to the elimination of the Baumgartner Lagoon. This involved only the construction of a smaller treatment facility, and replacement of the Baumgartner Pump Station and Force Main. No features were planned to allow for future expansion. The cost of these facilities in 1997 totaled $63 million ($79 million in 2006 dollars) - $46 million for the plant, and $17 million for the pump station and force main. The District's proposal of this solution to the Missouri Department of Natural Resources was rejected, and we were directed to proceed with the eventual construction of a single regional facility that is reflected in today's Lower Meramec Program. Unfortunately, the cost of this rejected interim solution has been at times incorrectly characterized by some as part of the cost history of the program that is currently under construction.

We have been working to publicly communicate facts on these issues in the most concise ways possible. We have also been working to communicate the steps we have taken to responsibly manage this program. The District has been open and transparent on all facets of the program's history - and we will continue to be so. When unanticipated issues arise – such as those that created the need for the additional appropriations – we will diligently review our actions and be accountable to public.