

# MADISON METROPOLITAN SEWERAGE DISTRICT

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Protecting Public Health and the Environment

June 1, 2005

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Mr. Kamran Mesbah  
Dane County Community Analysis and Planning Division  
30 West Mifflin Street, Suite 402  
Madison, WI 53703-2558

Subject: **Long-Range Plans in the Sugar River Basin and  
Expansion of the Verona Urban Service Area**

Dear Mr. Mesbah:

I am writing in response to comments and questions from the Dane County Executive's office concerning a proposed addition to the Verona urban service area and the potential water quality impacts related to wastewater effluent discharges to Badger Mill Creek and the Sugar River.

The District's long-range vision for providing regional wastewater collection and treatment includes a new treatment plant located south of the City of Verona. There are several drivers that make this approach a reasonable long-term service configuration:

1. Much of the current and future growth on the west side of the District's service area is and will be in the Sugar River basin. Growth in this basin began in the 1960's. Initially, this growth was served by small local pumping stations that pumped wastewater over the drainage divide between the basins to City of Madison sewers that were tributary to the Nine Springs plant. In 1969 the District completed construction of the Mineral Point Extension of the Nine Springs Valley Interceptor. This major regional sewer provided gravity sewer service to the Upper Badger Mill Creek watershed above US Hwy 18 and 151 (Verona Road). Today, approximately 2.3 million gallons per day (mgd) of wastewater are generated in this area and pumped to the Nine Springs plant for treatment. In 1996 the City of Verona's treatment plant was abandoned and all wastewater from the city was pumped to the Nine Springs plant for treatment. Today, that flow amounts to 800,000 gallons per day. In order to preserve the option of discharging clean water in the Sugar River basin in the future, in 1998 the District constructed facilities and began pumping clean water back to the Upper Badger Mill Creek basin with a discharge to the creek in Badger Prairie Park on the south side of Verona Road. Initially 2.2 mgd of clean water was returned to support the



base flow in this stream. Today, 3.1 mgd is being returned. The capacity of the return facilities is about 4.5 mgd, but the District's current permit limits the return rate to 3.6 mgd. Based on the current rate of growth in the Sugar River basin, the permit limit flow could be reached by 2015. If the permit was not modified to allow a higher daily discharge rate, the construction of a satellite plant at that time would be one option to maintain the base flow in Badger Mill Creek and the Sugar River. To date the District has spent \$7.2 million for facilities that pump wastewater from the City of Verona to Nine Springs and that pump clean water **back to Badger Mill Creek.**

2. The interceptor sewers from the western and southern portions of the District's service area will reach their design capacities in the period between 2015 and 2030. The construction of a Sugar River treatment plant could delay the need to construct relief sewers or replacement sewers for several decades and reduce the ultimate size of these sewers when they were built.
3. The Nine Springs treatment plant will reach its current design capacity in the period of 2015 to 2025. The construction of a Sugar River treatment plant could delay the need to expand the Nine Springs plant for a decade or more.
4. The Nine Springs plant site is not infinite in area and the corridors in which to construct pipes to transmit wastewater to this plant will continue to become more congested and more costly to build in over time. The construction of satellite treatment plants in the Sugar River basin and at other locations in the Yahara River basin will preserve area at the Nine Springs plant site for future facilities to service the growth in the Central Urban Service Area. The earlier a decentralization strategy is implemented, the less difficult it will be to procure suitable sites for these satellite plants.

Concerning maintenance of **the base flow in Badger Mill Creek**, the District fully expects that the public will want to continue the **Badger Mill Creek clean water discharge** at its current location to assure maintenance of base flow. We would expect to pursue one of two options in conjunction with the construction of a Sugar River treatment plant:

1. The current interceptor configuration in the Upper Badger Mill Creek watershed would be maintained and would continue to direct flows from this area to the Nine Springs plant for treatment. The existing clean water return line could then be used to pump flow back to the current discharge location. This would require larger capacities in the interceptors flowing to the Nine Springs plant and more treatment capacity at Nine Springs. However, it would avoid the need to construct a new interceptor to divert flows from this basin to the new Sugar River plant. The new Sugar River plant would also be smaller since it would only be handling flows from the City of Verona and other areas in the Lower Badger Mill Creek basin and the Sugar River basin.

Kamran Mesbah, CAPD  
Sugar River Basin Service and  
Verona Urban Service Area Expansion  
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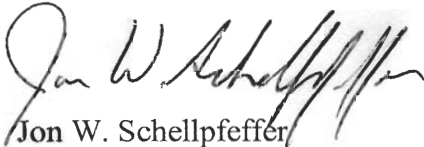
2. If all Sugar River basin flows are directed to the new treatment plant, a portion of the discharge from that plant could be pumped to the current discharge location in Badger Prairie Park.

The preferred option will be decided after a facilities plan is prepared that evaluates the costs and other impacts of the alternatives.

As you are aware, the District **intends** to begin work on a long-term (50 year) master plan next year. The concept of **decentralizing** treatment will be a major issue addressed in this plan.

If you have any questions concerning the information in this letter, please call me.

Sincerely,



Jon W. Schellpfeffer  
Chief Engineer and Director

Cc: Topf Wells, Dane County Executive's Office  
MMSD Commissioners

