Section 5: PLANNING CONSIDERATIONS

INTRODUCTION

A wide variety of alternative approaches to managing wastewater were considered in the development of the Metro Water District Plans. Building upon the plans adopted in 2003, this update reevaluated the existing facility plans in the context of emerging regional and state perspectives on water resources management. This evaluation looked back at the full range of options and evaluations considered in 2003, and looked forward to other possible scenarios and practices. As most of the major wastewater management infrastructure is already in place within the Metro Water District, future alternatives rely upon continued investment in expanding and upgrading existing facilities to meet increasingly stringent water quality treatment requirements. For growing and newly developing areas of the Metro Water District, the alternatives include new facilities and management approaches that emphasize maximizing returns to surface waters where possible, and minimizing interbasin transfers.

EXISTING EVALUATION CRITERIA

The evaluation criteria used for developing the 2003 Long-term Wastewater Management Plan included maximizing the use of existing facilities, centralizing and consolidating existing facilities, and minimizing consumptive losses. While most of these alternatives are still appropriate, there are a few adjustments that are outlined below to address existing conditions in the Metro Water District.

- **Maximizing the use of existing facilities.** Wastewater treatment facilities are a major investment for local wastewater providers, therefore maximizing their use is cost-effective.
- **Consolidation of existing facilities**. While facility consolidation is appropriate for some communities in the Metro Water District, there are distinct advantages to smaller, localized wastewater treatment facilities in other communities. With rising energy costs, placing wastewater treatment facilities closer to the population they serve will decrease pumping requirements. These smaller facilities may also be more appropriate for smaller receiving streams or streams with limited assimilative capacity. Additionally, better treatment technologies are now available for both new smaller treatment facilities as well as retrofitting existing smaller treatment facilities.
- **Minimizing consumptive losses.** While septic systems and LAS contribute to consumptive losses, these treatment methods are no longer considered 100% consumptive. A portion of wastewater treated through septic systems and LAS is returned, however the volume available for contemporary uses and users is reduced. While septic systems and LAS are a viable treatment option for portions of the Metro Water District, they must be carefully planned, installed, and maintained to protect water quality. Long-term wastewater treatment methods must balance each community's need for wastewater returns to local waterways. The Metro Water District was given planning guidance from Georgia EPD to return 58% of the water withdrawn in the Chattahoochee basin (basin wide goal). Section 6 shows how this Plan meets

the 58% target. Other basins may receive planning guidance as part of the Comprehensive State-wide Water Management Plan.

ADDITIONAL EVALUATION CRITERIA

Maximizing the use of existing facilities and minimizing consumptive losses are still important criteria and are accompanied by several additional criteria. These evaluation criteria identify emerging issues or challenges from the first 5 years of Plan implementation.

- **Continue to protect water quality**. Protecting surface water quality is especially important in the Metro Water District because many of the streams in the region are headwaters for other communities. Surface water in the Metro Water District is heavily used for drinking water supply and recreation, thus their quality must be safeguarded. Management measures identified in the Metro Water District's Watershed Management Plan, action items to improve the management of septic systems, and a high level of treatment at wastewater facilities are designed to work collaboratively to protect water quality.
- **Maximize reuse opportunities**. With limited drinking water supplies in the Metro Water District, highly treated effluent is viewed as an amenity to replenish drinking water supplies. Reuse is becoming more common in the Metro Water District, either as indirect potable reuse or non-potable reuse. Greywater, another form of reuse, is currently being evaluated by the State and in the future may provide additional reuse opportunities. Georgia EPD provided the Metro Water District with a planning goal to reuse 10% of the water withdrawn for potable or non-potable purposes. This Wastewater Management Plan exceeds this goal, as shown in Section 6, using a District-wide approach. There is a strong focus on indirect potable reuse, as it also supports the region's water supply and includes returns to Lake Lanier and Lake Allatoona. With this goal in mind, maximizing return flows to local water supplies is encouraged where it is safe and practical.
- **Advanced treatment technologies**. As the use of indirect potable reuse to augment water supplies increases, it will likely be accompanied by upgrades to treatment technologies at local wastewater facilities. Membranes and other advanced treatment technologies provide additional barriers against chemicals of concern entering receiving waterbodies.
- **Limited Assimilative Capacity**. There are several receiving streams and waterbodies that do not meet State water quality standards and have a total maximum daily load (TMDL) for one or more parameters. To increase the volume of wastewater treated, local wastewater providers may need to upgrade their facilities to provide additional removal of nutrients or other critical parameters. In some instances, local wastewater providers may need to perform watershed improvements to free assimilative capacity or may not be allowed to discharge. Local wastewater providers, in some communities, have turned to LAS or other wastewater treatment methods when a discharge permit was not available. Water quality concerns should be carefully considered when siting and designing new facilities.
- **Decentralized systems**. As the number of decentralized systems in the Metro Water District rises, there is greater concern regarding the long-term maintenance and viability of these systems. For some communities, decentralized systems will economically provide public wastewater treatment outside of existing sewer service areas. As many decentralized systems use LAS treatment, their use must be balanced with other consumptive uses and water quality concerns within the community.

- **Wastewater influent variability**. Dramatic changes in influent can cause challenges at wastewater treatment facilities, especially smaller facilities. Strong pre-treatment programs and FOG (fats, oils, and grease) programs can help reduce the variability. Sewer use surcharge fees for unusual wastewater influent are also recommended. Proper planning for septic system usage and septage disposal is also critical for addressing wastewater influent variability and protecting the wastewater treatment facility.
- **Maximize energy efficiency**. A growing interest in energy efficiency has revised previous thinking regarding consolidation of smaller treatment facilities into larger facilities. Although treatment costs may be lower at larger wastewater treatment facilities, the long-term operation and energy costs may be lowest at regionally located facilities. The pumping of wastewater from one side of a community to another should be minimized, unless it avoids an interbasin transfer.
- **Minimize interbasin transfers**. The Metro Water District has always supported the minimization of interbasin transfers. Currently, interbasin transfers are a key element in supplying water throughout the Metro Water District. The Comprehensive State-wide Water Management Plan will perform more detailed analysis on the impacts to specific donor and receiving basins.
- **Return flow to the Chattahoochee River**. The Chattahoochee basin extends far downstream from the Metro Water District. Downstream communities want to benefit from this resource, just as the Metro Water District benefits. It is crucial to return reclaimed water to the river so that it can be used as the water supply.
- **Enhance reliability of wastewater treatment plants and pumping stations.** Many wastewater treatment plants and pumping stations in the Metro Water District are located adjacent to waterbodies, therefore consistent and uninterrupted performance is essential. Appropriate measures should be taken to ensure sufficient reliability and redundancy to protect local waterbodies.

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