

Section 12

Plan Flexibility

Section 11 presented an action plan for developing local plans to implement the Water Supply and Water Conservation Plan (WS Plan). The purpose of local plans is to address local needs and site-specific issues, to refine and improve the WS Plan, and to demonstrate consistency with the WS Plan. Local plan development will give local jurisdictions an opportunity to negotiate modifications to the WS Plan. In addition to local plan development, the updating of the WS Plan every five years will provide local jurisdictions with an opportunity to modify the WS Plan, based upon updated projections and the most recent information on matters impacting the WS Plan. This section presents guidance regarding the extent to which local jurisdictions can change the WS Plan, while remaining consistent with its essential elements.

Essential Elements of the WS Plan

The water resource constraints faced by the District over the next 30 years do not allow unlimited flexibility in meeting local water needs. It is apparent from the assessment of projected 2030 demands and available and anticipated supplies within the District that some water sources, particularly the Chattahoochee River/Lake Lanier system, will probably be overtaxed if local jurisdictions are granted unlimited flexibility in developing local plans.

Though unlimited local flexibility is not a viable option for the District, some aspects of the WS Plan can be changed in ways that remain consistent with the fundamental goal of meeting 2030 demands with available District water resources.

The remainder of this section provides a discussion of the WS Plan's essential elements, and the flexibility that can be accommodated regarding each element. These elements are critical to reliably meeting 2030 water demands. The essential elements discussed in this section under separate headings are:

- Reallocation of Lake Lanier and Lake Allatoona for water supply
- Intensification of water conservation efforts
- Construction of at least five new reservoirs
- Sharing of water resources within the District to meet local needs
- Reclamation of water by indirect potable reuse through Lake Lanier
- Interconnection of District systems to provide reliability for emergencies

These essential elements correspond to the critical strategies listed in Section 2 with the addition of *Interconnection of District systems*.

It is anticipated that refinements and adjustments to the WS Plan will be made over the 30-year planning period, based on new information (i.e. new projections or more detailed local information) and local preferences. The discussion presented here of the WS Plan's essential elements will give guidance regarding the limitations that should be placed on local refinements of the WS Plan.

Reallocation of Lake Lanier and Lake Allatoona for Water Supply

Local jurisdictions within the District must advocate the reallocations for the District. Dependence on the Chattahoochee/Lake Lanier and Etowah/Lake Allatoona systems as either routine or emergency water sources extends to every county of the District. Reallocation of these sources for water supply is vital to accommodating anticipated growth in District water demands. Of the critical strategies identified in Section 7, the reallocation of these two lakes provides the single largest addition to current water supplies.

Intensification of Water Conservation Efforts

The water conservation savings goal for the District is 136 MGD. Comparing this conservation goal to the WS Plan's margin of 2030 supply over demand (186 MGD) shows the importance of conservation to the WS Plan. Without conservation there is minimal buffer between supply and demand in 2030.

The objective of the WS Plan is to achieve the water savings goal in as cost-effective a manner as possible. The conservation program described in Section 8 resulted from a process that started with the screening of 100 conservation measures, followed by an analysis of the cost effectiveness of 25 potential measures, and culminating in a recommendation of 11 measures. The conservation program represents a well-considered recommendation to the District as to how to achieve the District's water savings goal at a minimum cost.

Local jurisdictions may contend that conservation measures other than those recommended in the program would be more cost-effective or otherwise more appropriate for their particular situation. The District or EPD should provide a forum for negotiating changes from the recommended conservation program. Where the need arises, on a case-by-case basis, changes from the recommended conservation program should be allowed when a local jurisdiction can demonstrate that its proposed changes can be expected to be at least as effective as the recommended program. In other cases, possible exemptions from certain conservation measures should be considered, if a local jurisdiction demonstrates that the measure will probably not be cost effective for its situation.

Construction of at Least Five New Reservoirs

Five new reservoirs, with a total estimated yield for District use of 114 MGD, are included in the WS Plan. Other new reservoirs have been proposed by some District jurisdictions. If such reservoirs prove to be feasible and can be permitted, and they do not diminish the supply of other District water sources included in the WS Plan, they should be viewed as consistent with

the WS Plan. Potential reservoir projects, beyond the five included, can be investigated and, if possible, constructed. However, in order to base the WS Plan on a conservative scenario, only new reservoirs deemed most likely to be constructed were included in the WS Plan's anticipated 2030 water supplies.

A specific example of a reservoir that should be viewed as consistent with the plan is the South Fulton Reservoir currently being planned to serve Union City, Fairburn, Palmetto, and other parts of southern Fulton County. This project, if it proves to be feasible and can be permitted, is a viable way to serve parts of south Fulton County from an alternative Chattahoochee Basin source. For this reservoir or others that can prove to be feasible, new treatment facilities near the new source should also be viewed as consistent with the WS Plan. Hall County's Glades Reservoir would also be consistent with the WS Plan, if it can be permitted and constructed.

In general, new reservoirs that increase the available yield of water resources for the District should be viewed as consistent with the WS Plan.

Sharing of Water Resources within the District to Meet Local Needs

The Chattahoochee River/Lake Lanier system cannot meet the projected 2030 water demands of all the jurisdictions currently expecting to use this water source. The WS Plan proposes to partially remedy this situation by using Lake Allatoona and other Etowah Basin sources to serve some areas currently earmarked for service from Lake Lanier or the Chattahoochee River. The Etowah Basin retains the largest margin of water supply over projected 2030 demand of any of the District basins, in spite of the expansion of areas served from this source.

The increased use of Etowah sources is facilitated within the WS Plan by proposed expansion of the service area of the Cobb County-Marietta Water Authority. Within the WS Plan, water from the Cobb County-Marietta Water Authority would serve part of Fulton County through a wholesale arrangement. It is recognized that this service area change presents challenges with regard to inter-jurisdictional coordination and maximization of the use of existing infrastructure. The WS Plan as it is proposed has been developed to try to minimize these challenges, but the jurisdictions involved will be given the opportunity, through their local planning efforts, to modify the WS Plan to minimize these challenges further based on their own assessments. The essential elements of the WS Plan that need to be realized, regardless of WS Plan modifications or changes, are listed below, along with brief discussions of acceptable changes.

Expansion of Wyckoff WTP

Expansion of treatment capacity for the Cobb County-Marietta Water Authority needs to be concentrated at the Wyckoff WTP, which withdraws from Lake Allatoona. Expansion of the Quarles WTP, which withdraws from the Chattahoochee River, should be limited to the 87 MGD capacity that will result from the next planned expansion.

33 MGD AADD of Water from Cobb County- Marietta Water Authority to Fulton County

Fulton County needs to receive approximately 33 MGD AAD of its 2030 water supply from the Cobb County-Marietta Water Authority. Specific areas of Fulton County to be served by the Cobb County-Marietta Water Authority can be determined by joint local planning.

Reclamation of Water by Indirect Potable Reuse through Lake Lanier

In the WS Plan, planned reclaimed water discharges into Lake Lanier will increase the yield of this water source by 67 MGD. This increased yield equals the amount of reclaimed water to be discharged to Lake Lanier (117 AADD-MGD), minus the amount anticipated in current yield estimates for the Lake (50 AADD-MGD). Planned reclaimed water contributions from jurisdictions around Lake Lanier are described in the Long-Term Wastewater Management Plan.

Without this water reclamation effort, the WS Plan's projected 2030 withdrawals from the Lake Lanier/Chattahoochee River system will exceed the yield of this source by 30 MGD. Without water reclamation the Chattahoochee system will not be able to meet projected 2030 water demands within the context of the WS Plan. Water reclamation within the WS Plan also provides the buffer between supply and projected 2030 demand for the Chattahoochee system. This buffer is essential to making the WS Plan capable of reliably meeting demands. There will be no capability to meet contingencies that may arise over the planning period without the recommended water reclamation. Joint local planning among the jurisdictions in Forsyth, Hall, and Gwinnett Counties can modify the specifics of where reclaimed water comes from, but the amount should not be reduced. Any increases of the amount of reclaimed water discharged to Lake Lanier above the planned amount will need to be accompanied by efforts to ensure that total wasteload limits for Lake Lanier are not exceeded.

Interconnection of District Systems to Provide Reliability for Emergencies

Working together, District members need to determine interconnection reliability targets (IRTs) for each water system and implement the required distribution system improvements to realize these targets. The interconnection program that is described in Section 10 recommends that District members develop District guidelines, and that individual water systems determine their own IRTs, using the guidelines. This program will greatly improve the emergency reliability of District water supplies.

Flexible Elements of the WS Plan

Some elements of the WS Plan are recognized as needing local review and evaluation. Adjustments in these areas will be needed over the course of the planning period to adapt the WS Plan to new information and changing circumstances.

Plant Capacities

Plant capacities listed in Appendix B were determined to match the projected 2030 peak day water demand. It is recognized that plant capacity is added in convenient increments and not to match a specific projected flow. At times, it may be desirable to construct somewhat more capacity than is shown in Appendix B to add a convenient increment of capacity. For example, if a WTP with 5 MGD capacity needs to handle a projected demand of 8 MGD, the most cost efficient plan may be to double the current capacity to 10 MGD. This WS Plan did not determine convenient increments of plant capacity for expansion projects. The local plans need to address this question.

Another topic to be addressed by the local plans is system-specific peaking factors. The projections of plant capacity were based on a District-average peaking factor of 1.6 (peak day/average annual day). This peaking factor was selected as representative of the District, after reviewing flow records for 2001 for all the major WTPs. It is recognized that each utility needs to determine appropriate values for this factor for its system. Systems will differ due to variations in system storage and unaccounted-for-water. The impacts of water conservation measures on future flows must also be considered in local plans.

The effects of any changes in plant capacity will need to be evaluated in light of the essential elements of the WS Plan. It is anticipated that most utilities will need to expand their WTPs in phases, rather than installing all of the proposed 2030 capacity in the immediate future. This phasing will provide the utility and the District time to incorporate the changes in capacity into the planning process. The utilities must recognize that they will receive withdrawal permits based on their projected near-term needs, and that the plant capacity in the WS Plan is not an allocation of withdrawal that is reserved for the utility.

Phasing

The timeframe for phasing the capital improvements shown in Appendix B was developed to provide adequate treatment capacity for the projected water demands, and to make steady progress toward implementing the essential elements of the WS Plan. Within this context, the timeframe is flexible. For example, delaying the date that a plant is decommissioned is generally acceptable. Expanding a plant in more or fewer projects is also generally acceptable. The local plans are expected to delve into the timeframes for capital improvements in greater detail than the WS Plan.

Site Specific Issues

Local planning officials will have advantages in producing their plans that should be realized and appreciated in implementing the WS Plan. Local officials will have the opportunity to focus their attention on their portion of the District, resulting in most cases in a better understanding of:

- Local growth patterns
- Local water demand patterns
- Land availability and pricing
- Capabilities of existing facilities

In many cases, these advantages will produce cost-effective solutions for meeting local water supply needs that may differ from the details of the WS Plan, but are consistent with the essential elements of the WS Plan. In such cases, local jurisdictions should be given discretion to implement their preferred plan as long as the essential elements of the WS Plan are met.