

# HALL COUNTY GOVERNMENT BOARD OF COMMISSIONERS

October 19, 2012

Mr. Richard W. Morgan  
Team Leader, Southern Section, Regulatory Branch  
Savannah District, U.S. Army Corps of Engineers  
PO Box 889  
Savannah, GA 31402-0889

RE: EIS on Hall County's 404 Application

Dear Mr. Morgan:

On June 25, 2012, the Chief Counsel for the U.S. Army Corps of Engineers (USACE) issued a legal opinion regarding Lake Lanier's use for municipal water supply.

In a conference call on September 7, 2012 with USACE Savannah District representatives, AECOM staff, and Hall County representatives, there was discussion on how to proceed with the EIS, given that June 25, 2012 legal opinion.

There are several scenarios affecting how much water the City of Gainesville will be able to expect from Lake Lanier, depending on the ultimate outcome of the USACE's updating of its Water Control Manual for the Chattahoochee River Basin's federal reservoirs. Those scenarios will have different effects on the need for Hall County's proposed Glades Reservoir, and on the yield of that reservoir. Hall County offered in the September 7 conference call to write descriptions of a range of scenarios and operating plans for each. Hall County's response is the enclosed document titled "EFFECTS ON HALL COUNTY'S 404 APPLICATION OF USACE'S 6/25/12 LEGAL OPINION OIN LANIER."

The scenarios assume that the City of Gainesville will continue to get water from its existing two intakes on Lake Lanier. The amounts of water the City would be allocated, and whether or not USACE will issue storage contracts, vary among the scenarios.

Hall County concludes that only in the highly unlikely Scenario 1, would Glades Reservoir not be needed. In the other more likely scenarios, Glades Reservoir is needed.

Hall County has shared this analysis with the City of Gainesville, and is continuing to have productive discussions with City representatives.



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It is our belief that the State of Georgia is analyzing future water needs in the Chattahoochee Basin, and that the State intends to make a formal request to USACE for a Lake Lanier storage contract. Once the State has decided how it wishes to proceed, Hall County will either be covered for moving Glades water through Lake Lanier to Gainesville's intakes by a State-held storage contract, or Hall County will make its own request to USACE for an individual storage contract for moving Glades water to Gainesville.

Please contact me if you have any questions on any of this. We appreciate the opportunity to have input to the EIS process.

Sincerely,

A handwritten signature in cursive script that reads "Jock Connell".

Jock Connell  
Project Manager

## EFFECT ON HALL COUNTY'S 404 APPLICATION OF USACE'S 6/25/12 LEGAL OPINION ON LANIER

In response to the 6/28/11 remand order of the 11<sup>th</sup> Circuit Court of Appeals, the U.S. Army Corps of Engineers (Corps) released its 6/25/12 legal opinion. This opinion found that municipal and industrial water supply is an authorized purpose of Lake Lanier, and that the Corps has the legal authority to adjust operations at Lake Lanier to accommodate the full amounts of water supply withdrawals and returns that Georgia requested to meet projected 2030 needs.

The legal opinion concludes that withdrawals from Lake Lanier (beyond those already authorized under relocation agreements) can be made pursuant to storage contracts with the State of Georgia or other entities. It is understood that prior to making any final decision to reallocate storage for water supply, the Corps must update its water control manuals and evaluate environmental effects and alternatives pursuant to the National Environmental Policy Act. (NEPA)

As a result of the legal opinion, Hall County informed the Corps of a New Preferred Alternative for water supply from the proposed Glades Reservoir by letters from Chairman Tom Oliver on 8/10/12 and 8/23/12. Hall County confirmed that the amounts of water to be generated by the Glades Reservoir project are in addition to the Lake Lanier water allocated by the Corps and permitted by Georgia EPD for direct withdrawals from Lake Lanier by the City of Gainesville.

Given the circumstances described above, the question can be asked as to whether Hall County has justification to continue pursuing a 404 permit for the proposed Glades Reservoir. One approach to answering this question is to analyze four potential scenarios related to the granting of storage contracts for use of storage capacity in Lake Lanier. These scenarios are described below, with an operating plan for each one.

### SCENARIO 1

Description: The City of Gainesville is granted a storage contract sufficient to meet all of the 2060 water needs of Gainesville and Hall County from Gainesville's water intakes on Lake Lanier.

Assumptions:

The Corps will allocate storage contracts for enough capacity to yield 297 mgd on an annual average daily (AAD) basis to the State of Georgia or directly to local water utilities with existing water intakes on Lake Lanier. It is presumed that no more storage can be allocated by the Corps than the 297 mgd modeled in the "Appalachicola-Chattahoochee-Flint (ACF) Remand Modeling Technical Report" which accompanied the June 25, 2012 legal opinion of the Corps.

Gainesville/Hall County 2060 water need is for an annual average daily (AAD) amount of 100 mgd.

Available water:

- 18.0 mgd to Gainesville from Lanier (via amended relocation agreement)
- 7.5 mgd from Cedar Creek Reservoir
- 2.0 mgd from miscellaneous groundwater sources
- 27.5 mgd total

Additional water needed from Lake Lanier would be  $100 - 27.5 = 72.5$  mgd; total from Lake Lanier would be  $72.5 + 18 = 90.5$  mgd.

If 90.5 mgd of additional water is made available to Gainesville from Lake Lanier, the need for Hall County to build a reservoir is terminated.

Under this Scenario, 206.5 mgd (297 – 90.5) would be left for Gwinnett County, City of Buford, City of Cumming/Forsyth County. This is a little less than their 2035 needs projected by the May 2009 water Supply and Water Conservation Plan of the Metropolitan North Georgia Water Planning District (hereafter called the “2009 Metro Water Plan”). That 2035 amount is 209 mgd AAD (144 mgd for Gwinnett/Buford and 65 mgd for Cumming/Forsyth). For Gainesville/Hall to get their full 2060 needs met from Lake Lanier, would require the State of Georgia to allocate to Gwinnett/Buford and Cumming/Forsyth less than their 2035 needs. The likelihood of seems very small.

Operating Plan: The City of Gainesville would pump an AAD amount of 18 mgd + 72.5 mgd = 90.5 mgd from its existing water intakes on Lake Lanier, treat the water at existing water plants (to be expanded as needed), and distribute potable water to its customers throughout Gainesville and Hall County.

## SCENARIO 2

Description: The City of Gainesville and other water utilities currently making direct withdrawals from Lake Lanier are granted the entire 297 mgd available, in some equitable manner determined by the State of Georgia.

### Assumptions:

The Corps will allocate 297 mgd (AAD) yield to the State of Georgia or directly to local water utilities with existing intakes on Lake Lanier.

State of Georgia will allocate all of the 297 mgd yield to Cumming/Forsyth, Gwinnett/Buford, and Gainesville/Hall, proportionately to the 2035 needs shown in the 2009 Metro Water Plan. Total 2035 need for these communities in the Plan is 253 mgd. One method of allocating all of the 297 mgd would be to increase each jurisdiction’s 2035 needs by a factor of  $297/253 = 1.174$  as follows:

	2035 Need, mgd	2035 Need X 1.174, mgd
Cumming/Forsyth	65	76.3
Gwinnett/Buford	144	169.0
Gainesville/Hall	44	51.7
Totals	253	297.0

Gainesville/Hall County 2060 water need is 100 mgd AAD.

Available water: 18.0 mgd to Gainesville from Lanier (via amended relocation agreement)  
 7.5 mgd from Cedar Creek Reservoir  
 2.0 mgd from miscellaneous groundwater sources  
33.7 mgd from new storage contract for Lake Lanier (51.7-18=33.7 mgd)  
 61.2 mgd Total

Hall County’s remaining 2060 water needs would be  $100 - 61.2 = 38.8$  mgd.

Glades Reservoir would be constructed on its 850-acre site with a full pool elevation of 1180 ft. MSL. The proposed pump station on the Chattahoochee River may not be needed to help fill Glades Reservoir, but if it is still needed, it would pump at a lesser maximum rate than originally proposed. The pump station would be sized to allow Glades Reservoir to yield 38.8 mgd AAD. Water would be released as needed from Glades Reservoir into Flat Creek and then to Lake Lanier, where it would be pumped out at Gainesville's water intakes when the Gainesville/Hall County water needs exceed 51.7 mgd.

This scenario would also require the issuance of a storage contract to allow Hall County to use Lake Lanier as a conveyance to Gainesville's water intakes for water released from Glades Reservoir. The amount of storage for this conveyance would be extremely small (less than 120 acre feet), so it is likely that the storage would be allocated for this purpose,

Operating Plan: If the Chattahoochee pump station is needed to produce a safe yield of 38.8 mgd, it would pump river water to Glades Reservoir when that reservoir is not full and when pumping would not reduce river flow downstream of the pump station to less than the annual 7 day/10 year (A7Q10) flow. Pumping capacity would be sized to result in a safe yield from Glades of 38.8 mgd AAD.

The least amounts of water to be released from Glades Reservoir would be the Georgia minimum flow standard for Flat Creek: 3 mgd or inflow, whichever is less.

When Gainesville's withdrawals from Lake Lanier grow to 51.7 mgd and that amount of water is not sufficient to meet the water use in the Gainesville/Hall County service area, water will be released from Glades Reservoir in amounts sufficient to satisfy the needs above 51.7 mgd and up to 90.5 mgd.

Gainesville will draw the additional water needed in excess of 51.7 mgd from its Lake Lanier water intakes in amounts equal to the water released from Glades Reservoir to help meet Gainesville's needs.

### SCENARIO 3

Description: The City of Gainesville is granted no additional storage contract from Lake Lanier and is only allowed to operate under its amended relocation contract, which provides for a yield of 18 mgd AAD.

#### Assumptions:

The Corps decides against issuing additional storage contracts for direct water supply withdrawals out of Lake Lanier, but will provide the necessary storage contract for conveyance of water from Glades Reservoir to the City of Gainesville's intakes.

Gainesville/Hall County 2060 water need is 100 mgd.

Available water:           18.0 mgd to Gainesville from Lanier (via amended relocation agreement)  
                                      7.5 mgd from Cedar Creek Reservoir  
                                      2.0 mgd from miscellaneous groundwater sources  
                                      27.5 mgd total

Hall County's remaining water need is  $100 - 27.5 = 72.5$  mgd.  
Glades Reservoir would be constructed on its 850 acre site with a full pool elevation of 1180 ft. MSL.

The proposed pump station on the Chattahoochee River would be used to fill Glades Reservoir, and would be sized to achieve a safe yield of 72.5 mgd AAD from the system. Water would be released as needed from the reservoir into Flat Creek and then to Lake Lanier, where it would be pumped out at Gainesville's water intakes when the Gainesville/Hall County water needs exceed 18 mgd.

This scenario would also require the issuance of a storage contract to allow Hall County to use Lake Lanier as a conveyance to Gainesville's water intakes for water released from Glades Reservoir. The amount of storage for this conveyance would be extremely small (less than 225 acre feet).

Operating Plan: The operating plan is very similar to that for Scenario 2, except as follows:

- Chattahoochee River pump station would be sized to result in a safe yield from Glades Reservoir of 72.5 mgd.
- When Gainesville's withdrawals from Lake Lanier grow to 18 mgd, then Glades Reservoir will be operated to meet the excess needs above 18 mgd and up to 90.5 mgd.
- Gainesville will draw the additional water needed in excess of 18 mgd from its Lake Lanier intakes in amounts equal to the water released from Glades Reservoir to help meet Gainesville/Hall County's needs.

#### SCENARIO 4

Description: The Corps decides to issue no water storage contracts to Gainesville or any other direct withdrawal of Lake Lanier water, and no storage contracts to allow conveyance of water in Lake Lanier from Glades Reservoir to Gainesville's water intakes. This is unlikely since the federal courts and the Corps' 6/25/12 legal opinion have established that water supply is an authorized purpose of Lake Lanier and that storage can be allocated for water supply withdrawals directly from Lake Lanier.

#### Assumptions:

The Corps will issue no water storage contracts to Gainesville or other entities for any purpose from Lake Lanier. Gainesville will be allowed to operate under its amended relocation agreement which allows for water supply withdrawals from Lake Lanier of 18 mgd AAD. Gainesville/Hall County 2060 water need is 100 mgd.

Available water:           18.0 mgd to Gainesville from Lake Lanier (via amended relocation agreement)  
                                  7.5 mgd from Cedar Creek Reservoir  
                                  2.0 mgd from miscellaneous groundwater sources  
                                  27.5 mgd total

Hall County's remaining water need is  $100 - 27.5 = 72.5$  mgd.

Operating Plan: Glades Reservoir and its associated pumping station on the Chattahoochee River would be built as proposed in Hall County's New Preferred Alternative for the 404 application.

Since no water storage contracts would be issued under Scenario 4, the water yielded from Glades Reservoir could not be conveyed through Lake Lanier to Gainesville's water intakes on Lake Lanier. Instead, a pump station would be constructed to pump water directly from Glades Reservoir to one or

more water treatment plants for treatment and distribution to the Gainesville/Hall County water customers.

The most cost effective alternative for water treatment and distribution would be determined by an engineering study which considers piping raw water from Glades to Gainesville's existing water plants, or to a new water plant near Glades, or some combination thereof.

As with Scenario 3, Chattahoochee River water would be pumped to Glades Reservoir whenever Glades was not full and when pumping would not reduce river flow below the pump station to less than the annual 7Q10 flow.

In both Scenarios 3 and 4, Glades Reservoir and its associated water treatment system would have to be permitted and built as quickly as possible, since Gainesville and Hall County water users would not have access to sufficient water from Lake Lanier even to meet current needs.

### CONCLUSION

There is strong justification for the Corps to proceed with the EIS on Hall County's Section 404 Permit Application. There is virtually no chance that higher allocations of water to the City of Gainesville from Lake Lanier will be large enough to meet the 2060 water needs of Gainesville and Hall County.