



US Army Corps
of Engineers
Wilmington District

Cleveland County Water 1,300 Acre First Broad River Reservoir Cleveland County, North Carolina

Date: 2 January 2009

CE/SAW/RG-A

CONGRESSIONAL DISTRICT: NC- 10

1. PURPOSE

To provide information on the Cleveland County Water's (CCW) proposal to construct an impoundment on the First Broad River, Cleveland County, North Carolina.

2. BACKGROUND

a. A technical feasibility study for constructing an impoundment on the First Broad River, to serve the growing potable water needs of Cleveland County, was published in February, 1997. Four reservoir locations were selected for evaluation. The chosen alternative is to impound approximately 10 miles of First Broad River with a pool elevation of 860' MSL.

b. The proposal received renewed interest due to drought conditions which occurred in the summer of 2002. Whether the project is drought driven, or necessary for future capacity needs, is an important question which needs to be answered by the CCW. CCW is proposing a regional facility to serve Cleveland, Rutherford, Gaston, and Lincoln Counties in NC; and Cherokee County in SC.

c. Several populations of the federally threatened dwarf-flowered heartleaf (*Hexastylis naniflora*) have been identified within the proposed impoundment area. Formal Section 7 consultation with the U.S. Fish and Wildlife Service will be required. State species of concern also potentially exist within the project area.

d. A meeting was held on 14 November 2002, at the CCW office to discuss environmental concerns associated with the proposal. The attendees consisted of CCW's consulting engineers for the project, CCW's environmental consultants, COE, and various state and federal resource agencies.

e. The Regulatory Division received an individual permit application from CCW on June 22, 2005. Based upon comments received from our June 28, 2005 public notice, a determination was made to require the preparation of an EIS pursuant to NEPA. CCW agreed that an EIS is appropriate and has budgeted funds for the preparation of an EIS.

3. CURRENT STATUS

a. Funding for the project has not been obtained. The CCW intends to pursue congressional funding, available grants and/or county funding.

b. The Regulatory Division has approved CCW preferred third party contractor for preparation of the EIS. An interagency/stakeholder group has been developed to assure a more predictable outcome of the EIS process. This group met on November 1 (at CCW's office) and 19 (Netview/teleconference) and December 14, 2007 (Netview/teleconference), to review the draft "Purpose and Need Statement", draft "Alternatives Report" and instream flow models of the First Broad River.

c. A public notice was issued on April 7, 2008 notifying the public of a scoping meeting that was held in Shelby, NC on April 17, 2008. The meeting was attended by about 200 people. The comment deadline on the proposed project ended on May 7, 2008.

d. As a result of the interagency/stakeholder meetings and the scoping meeting, the North Carolina Division of Water Resources performed an Instream Flow Study (completed on June 20, 2008) on the First Broad River to address the amount of water that will be available to CCW for water supply.

e. CCW, the consultants and the Corps are presently drafting responses to resource interagency comments on the draft "Purpose and Need Statement" and "Alternative Report". The North Carolina Division of Water Resources Instream Flow Study has helped address many of the interagency comments.

f. We have recently learned that Kings Mountain, a nearby city, wants to construct a similar water supply reservoir project. We have sent a letter to Kings Mountain requesting more information. If both CCW and Kings Mountain want to construct water supply reservoirs we will have to consider them both in determining the purpose and need and the alternatives for regional water supply in the NEPA process.

g. Presently, an interagency/ stakeholder meeting is scheduled for January 21, 2009 in Mooresville to review and discuss the updated purpose and need and alternatives report.



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

June 1, 2009

Regulatory Division

Action ID No. SAW-2003-30194

Mr. Butch Smith
Cleveland County Sanitary District
Post Office Box 788
Lawndale, North Carolina 28090-0788

Dear Mr. Smith:

Please reference our May 7 and 18, 2009 teleconferences discussing Cleveland County Water's (CCW) preferred project and other alternatives to be developed and studied in the Environmental Impact Statement (EIS). As you are aware, we continue to believe that there are alternatives to the proposed project that may satisfy the purpose and need, but with less damage to the aquatic environment; the purpose of this correspondence is to elaborate on those alternatives.

The purpose of the teleconferences was to continue developing alternatives to be studied that meet the requirements found in the purpose and need statement and which the Corps and CCW developed together. The purpose and need for your project is "to ensure a dependable water supply for Cleveland County Water that meets projected long-term (2060) needs. A "dependable" water supply will provide the district's needs and maintain required in-stream flows (assuming water conservation measures are implemented in accordance with an approved drought management plan)."

CCW's preferred 1,200 acre water supply reservoir alternative would impound areas below 860-foot msl, on the First Broad River, near Lawndale. This would provide an estimated safe yield of 26 MGD. The estimated safe yield CCW will need by the year 2060 is 7.91 MGD; thus the proposed project provides more than three times the amount of water CCW needs in 2060. An earthen dam would be constructed across the First Broad River upstream of the existing CCW raw water intake. Initial feasibility studies indicate that the dam would be approximately 83 feet high and 1,245 feet wide at the base. The associated emergency spillway, located south of the dam, would be approximately 1,000 feet wide.

Along with your preferred alternative we are also reviewing the following alternatives in order to develop a reasonable range of alternatives as required by the National Environmental Policy Act (NEPA):

- No action
- Development of a partnership to purchase water capacity from an existing public water supply system. Potential systems to be considered are:
 - City of Shelby
 - City of Kings Mountain
 - Town of Forest City
 - Construction of a New Raw Water Intake on the Broad River

Reservoirs

- Development of a 1200 acre Reservoir on the First Broad River
- Knob Creek Reservoir with a full pool elevation of 860' and pumped storage from the First Broad River at a rate of 10.0 MGD.
 - Knob Creek Reservoir with a full pool elevation of 860' and pumped storage from the First Broad River at a rate of 15.0 MGD.
 - Upper Crooked Run Creek Reservoir with a full pool elevation of 960' and pumped storage from the First Broad River at a rate of 10.0 MGD.
 - Upper Crooked Run Creek Reservoir with a full pool elevation of 960' and pumped storage from the First Broad River at a rate of 15.0 MGD.
 - Lower Crooked Run Creek Reservoir with a full pool elevation of 880' and pumped storage from the First Broad River at a rate of 15.0 MGD.

After an evaluation of the potential alternatives, a determination will be made as to the reasonable range of alternatives to be fully evaluated in the EIS.

Issues of Concern

In the teleconference, we identified three main issues that CCW needs to be aware of with respect to the required alternatives analysis:

- 1) the viability and potential of partnerships and purchasing water supply capacity from nearby cities or towns;
- 2) the safe yield of the proposed project is more than three times what CCW needs by the year 2060; and
- 3) the required evaluation of the permit request in accordance with the 404 b (1) Guidelines.

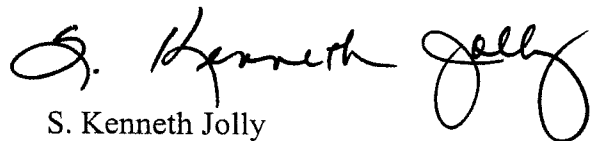
During the teleconference, we suggested that, as an alternative to a reservoir, CCW might be able to purchase 4.0 MGD of capacity from the City of Shelby, the Town of Forest City, or Kings Mountain Water Plants to meet future demands. CCW would then enter into an inter-local agreement with one of the Towns for the purchase of water on an as needed basis with the cost for water being equal to the cost for treatment and delivery of finished water to the CCW metered connections. The costs for water would be based upon the approved budget for the Town's Water Plants and the budget would be open to review by CCW on an annual basis. CCW would only pay for water purchased on an as needed basis. Based on the information available to us, it appears that purchasing additional water supply capacity from the adjacent Towns may satisfy the purpose and need of the proposed project and have less impact to wetlands and waters of the US than the preferred alternative. For the purposes of our regulations, including the 404(b)(1) Guidelines, if we make a finding that the purchase of water supply capacity represents the Least Environmentally Damaging Practicable Alternative (LEDPA), we would have no choice but to deny your request to construct a reservoir on the First Broad River.

As you are aware, our primary concern with the proposed project is that it provides more than three times the safe yield that CCW has identified that it needs by the year 2060. CCW should strongly consider reducing the size of the project to make it commensurate with the actual safe yield needed for the year 2060 if the above "purchase" alternative is not deemed practicable.

Although we will continue with the review and evaluation of your proposal in the most expeditious manner, we believe it is our responsibility to inform you of our concerns relative to our ability to render a favorable permit decision regarding the proposed reservoir.

If you have any questions or comments regarding this correspondence, please do not hesitate to contact Henry Wicker, in the Wilmington Regulatory Division Office, at 910-251-4930.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Kenneth Jolly". The signature is fluid and cursive, with the first name "S." and last name "Jolly" clearly distinguishable.

S. Kenneth Jolly
Chief, Regulatory Division



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

October 1, 2009

Regulatory Division

Action ID No. SAW-2003-30194

Mr. Butch Smith
Cleveland County Water
Post Office Box 788
Lawndale, North Carolina 28090-0788

Dear Mr. Smith:

This letter is in reference to Cleveland County Water's application to build a 24-mile run-of-the-river reservoir on the First Broad River in Cleveland County, North Carolina, and the ensuing process that the U.S. Army, Corps of Engineers (Corps) has engaged in to review the application. As you know, the Corps is the lead federal agency preparing an Environmental Impact Statement (EIS) that will be required for issuance or denial of a permit for the reservoir under the Clean Water Act (CWA). The Corps has continued to work with your organization, affected stakeholders, the North Carolina Divisions of Water Quality (DWQ) and Water Resources (DWR), as well as other local, state, and federal agencies, in the review of your request. As a result of our ongoing investigation and review, we are concerned that we may not be able to permit your proposed project, in light of the other available alternatives outlined below.

Please reference our June 1, 2009 letter to you in which we identified several significant issues of concern with your proposal to construct a water supply reservoir on the First Broad River in Cleveland County, North Carolina. To date, we have not received an adequate reply from you regarding the issues addressed in our June 1 letter. We continue to have serious concerns regarding the viability of your proposed project in light of several potential alternatives that would appear to meet Cleveland County Water's (CCW's) projected needs, have fewer environmental impacts than your proposal, and cost less than a reservoir. Specifically, it appears that the purchase of treated water supply capacity from nearby cities or towns, and/or the construction of a new raw water intake on the Broad River, would satisfy the purpose and need for water supply with much less adverse impacts than the proposed reservoir. In addition, we remain concerned that the safe yield of the proposed project appears to be more than what CCW projects to need by the year 2060. As we discussed in our June 1 letter, the Corps may issue Clean Water Act permits only for the alternative or alternatives found to be the Least Environmentally Damaging Practicable Alternative (LEDPA). Given that a number of identified alternatives appear to be both practicable to CCW and less environmentally damaging than your proposed project, unless we receive specific information regarding the impracticability of all of these less damaging alternatives, we will have no choice but to deny your permit request.

Revised Safe Yield of CCW Preferred Reservoir Alternative.

Recently the North Carolina Division of Water Resources (DWR) reviewed the methodology used for calculating the downstream flow requirement for CCW's preferred 1,200-acre water supply reservoir alternative and provided guidance on correcting previous safe yield calculations. Under the revised method for determining downstream flows, CCW's 1,200-acre preferred alternative will now have a safe yield of 8.9 MGD. While this provides a safe yield closer to what CCW needs by the year 2060 (7.91 MGD), the Corps continues to have concerns about the substantial impacts to the aquatic environment from the proposed project.

CCW's preferred alternative is to construct a 1,200-acre water supply reservoir that would impound areas below 860 feet msl, on the First Broad River, near Lawndale, North Carolina. An earthen dam would be constructed

across the First Broad River upstream of the existing CCW raw water intake. Initial feasibility studies indicate that the dam would be approximately 83 feet high and 1,245 feet wide at the base. The associated emergency spillway, located south of the dam, would be approximately 1,000 feet wide. The resulting dam would cause the subsequent upstream flooding of 24 miles of the First Broad River, as well as an undetermined length of associated tributaries. The conversion of these waters, and the loss of associated functions, would likely result in a requirement to provide mitigation to compensate for these losses. According to the best available information concerning mitigation costs, it may require the expenditure of approximately \$22 to \$43 million, or the removal of an existing dam on another river within the watershed, to provide the necessary compensatory mitigation for these flooding impacts.

We have identified many significant environmental impacts associated with the reservoir alternative that will have to be addressed before we can render a final decision. These impacts include, but are not limited to, the potential take of endangered species, impacts to existing fish and wildlife resources, and substantial adverse impacts and loss of aquatic resources associated with the First Broad River, its associated tributaries, and adjacent wetlands. As discussed in our previous letter, potential alternatives to the proposed reservoir include the purchase 4.0 MGD of treated water supply capacity from the City of Shelby or the Town of Forest City to meet future demands.

The City of Shelby

The City of Shelby, like CCW, depends on the First Broad River as the supply for the City's water system. A raw water intake located just north of West Grover Street in the northwestern part of the City supplies water to the city's water treatment plant. The treatment plant has a design capacity of 12.0 MGD and components include three (3) off-stream raw water reservoirs for the storage of water prior to treatment. Current average daily water demands for Shelby are 4.2 MGD. The City of Shelby also provides water on a wholesale basis to the Town of Boiling Springs. The contract amount in 2002 was 1.0 MGD.

Based on the City of Shelby's 2002 Water Supply Plan, average daily water demands for the city's service area are projected to be 8.7 MGD by 2050, including the contract sales of 1.0 MGD. Assuming an average day to peak day multiplier of 1.25, approximately 10.88 MGD would be needed in 2050. The City of Shelby is permitted to withdraw up to 18.0 MGD from the First Broad River raw water intake once the water plant is upgraded and expanded, provided stream flows are adequate to permit the 18.0 MGD withdrawal and also maintain a downstream flow of 25 cfs in the First Broad River.

To prepare for future drought conditions, the City of Shelby installed a 30-inch raw water line from the Grover Street Water Plant to the Broad River immediately following the 2002 drought. CCW provided approximately \$1.1M in funding to help with the construction of this line. The Corps assumes that, given this expenditure, that CCW could claim some right to the water supplied by this intake. The project was planned to include a future raw water intake and pump station but these facilities have not been constructed to date. A temporary diesel driven pump has been installed to withdraw water from the Broad River and pump to the Grover Street plant during those periods when low stream flows in the First Broad River dictate the need to utilize this additional source. The Broad River has been reclassified for future use as a raw water source and is currently classified as WS-IV by NCDENR, DWQ.

Available water supply from run-of-river type intakes is typically based upon the 7Q10 flow of the river. Based upon the Corps discussions with North Carolina Department of Environment and Natural Resources (NCDENR), Department of Water Resources (DWR) water suppliers are normally allowed to withdraw up to 20% of the 7Q10 flow without the need for special environmental studies and permitting. Based upon these criteria the estimated available supply at the City of Shelby proposed Broad River intake location is 42 MGD. A review of flow information for the Broad River during the drought period from 2001 to 2008 shows that during certain periods stream flows have decreased. In an e-mail dated March 3, 2009, USGS estimates that the 7Q10 flow for the Broad River is 306 cfs (197.8 MGD) at the Boiling Springs gauging station including flow data through 2008. Utilizing the 20% rule from DWR a withdrawal of 39.5 MGD is possible.

Given the current design capacity of the City of Shelby water plant and their projected growth demands, the City of Shelby appears to have adequate capacity to meet their demands as well as the required future demands of CCW, provided improvements are made to their water infrastructure. In order to meet these demands the City of Shelby will be required to expand their water plant. A part of the water plant expansion would include the

construction of a raw water intake and pump station on the Broad River to provide adequate raw water capacity for the plant during periods of reduced stream flow in the First Broad River. Under current demand conditions it appears that the City of Shelby has adequate water to supply the additional needs of CCW, and could easily accommodate future demands through expansion of its plant. It is our understanding that the City of Shelby has agreed to discussions necessary to consider an agreement of water supply capacity with CCW. The Corps notes that this alternative would require little or no additional work in waters of the United States to accomplish, and appears to be significantly less expensive than construction of a reservoir.

Town of Forest City

The Town of Forest City utilizes the Second Broad River as its water source with an intake located north of the town. The Town has an 8.0 MGD water treatment plant with many of the components in place for the expansion of the WTP to a capacity of 12.0 MGD. The town's system includes elevated tanks with a storage capacity of 2.5 MGD. The town's distribution system extends outside the city limits to serve outlying areas and other communities. Forest City sells water, under contract, to the towns of Bostic, Ellenboro, and the Concord Community Water System.

CCW does not currently have a connection in place with the Town of Forest City. Current average daily demand in the Forest City service area is approximately 3.0 MGD. During the 2002 drought, the available yield of the Second Broad River at the city's intake was less than 4.0 MGD. In planning for future growth and in anticipation of increased water demands the Town of Forest City has planned to develop the Broad River as an additional water source. The Town owns a site on the Broad River in the southern part of Rutherford County and has plans to construct a new raw water intake and pump station with a capacity of 12.0 MGD to supplement the existing Second Broad River intake and to provide additional raw water capacity for their system. The estimated available supply at the Town of Forest City proposed Broad River intake location is 25.0 MGD based upon the criteria for run of the river type intakes and available withdrawal discussed in the City of Shelby section above. The purchase of treated water supply from the Town of Forest City appears to be a readily available alternative.

Improvements to the Town of Forest City water system infrastructure will be required to allow the Town to meet the projected demands of CCW. These improvements include the expansion of the existing WTP and the construction of a new raw water pump station and transmission line to utilize the Broad River as an additional source of raw water. With these improvements in place, the Town of Forest City should have the additional capacity to supply the needs of CCW. Major improvements to the distribution system would be required to transport the water to the CCW system. The purchase of water on a wholesale basis from the Town of Forest City appears to have potential as an acceptable alternative provided that the major improvements to their water treatment and distribution system described are made. These improvements, however, are expected to cost far less, and have much less environmental impact, than a new reservoir.

Inter-local Agreements

Once CCW has worked out the details of purchasing capacity with either Shelby or Forest City it could then enter into an inter-local agreement with one of the Towns for the purchase of water on an as-needed basis with the cost for water being equal to the cost for treatment and delivery of finished water to the CCW metered connections. The costs for water would be based upon the approved budget for the Town's Water Plants and the budget would be open to review by CCW on an annual basis. CCW would only pay for water purchased on an as-needed basis. Based on the information available to us, it appears that purchasing additional water supply capacity from the adjacent Towns would satisfy the purpose and need of the proposed project and have vastly less impact to wetlands and waters of the US than CCW's preferred alternative.

CCW use of Broad River

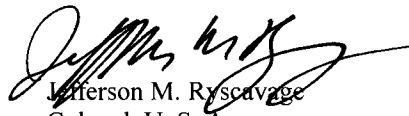
An option that also appears to be readily available to CCW is an intake on the Broad River, which appears to have adequate flows through drought events to meet all anticipated needs. As mentioned above, CCW has already contributed significant funds to build a pipeline from the Broad River to Shelby, and could potentially draw water directly from this pipeline, if necessary. Even if this is not possible, CCW needs to explore an alternative that would involve pumping water directly from the Broad River. While this may involve some minor impacts to waters and

wetlands, it would still appear to be less environmentally damaging and far less costly than the construction of a reservoir.

All of these alternatives appear to be to fully meet CCW's purpose and need, have significantly less environmental impact than a new reservoir, and be far less costly than the construction of a new reservoir. Unless CCW can provide information as to why these alternatives are not available to you, and also demonstrate that the reservoir is the LEDPA, the Corps will have no choice but to deny your request to construct a reservoir on the First Broad River. Accordingly, we feel that continued efforts toward the preparation of an EIS document are an unwise use of the resources of both CCW and the Corps. In the light of these other, feasible alternatives, we strongly urge CCW to reconsider its desire to pursue the reservoir alternative at this time. We believe that consideration of one or a combination of the alternatives outlined in this letter will potentially save CCW significant effort and costs, while meeting the purpose and need for the proposed project.

If you have any questions or comments regarding this correspondence, please do not hesitate to contact Henry Wicker, in the Wilmington Regulatory Division Office, at 910-251-4930, or Ken Jolly, Regulatory Chief, at (910) 251-4630.

Sincerely,



Jefferson M. Ryscavage
Colonel, U. S. Army
District Commander

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REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
69 DARLINGTON AVENUE
WILMINGTON, NORTH CAROLINA 28403-1343

May 25, 2010

Regulatory Division

Action ID No. SAW-2003-30194

Mr. Clyde Smith, Jr.
Cleveland County Water
Post Office Box 788
Lawndale, North Carolina 28090-0788

Dear Mr. Smith:

Thank you for the March 24, 2010 letter you sent in response to our October 1, 2009 and June 1, 2009 letters, discussing our continued concerns with your plan to build a 24-mile run-of-river water supply reservoir on the First Broad River in Cleveland County, North Carolina. The U.S. Army, Corps of Engineers (USACE) continues to have serious concerns about the environmental impacts of your project when compared to other, less environmentally damaging practicable alternatives to meet your water supply needs. These alternatives include purchasing, or right to purchase, finished potable water from the City of Shelby or the Town of Forest City, and/or the construction of an intake and associated infrastructure on the Broad River to supplement or meet your water supply needs.

We have reviewed your response, and have asked both HydroLogics, Inc., and the N.C. Division of Water Resources (NCDWR) to comment on the results of the flow study conducted on the Broad River. In short, we remain concerned that the environmental impacts associated with your proposed reservoir are substantial; we believe that binding agreements to provide water in all situations can be obtained from Shelby or Forest City; and, as further explained in the enclosed letters, we believe that a Broad River intake would meet all projected needs of Cleveland County Water (CCW). Based on the information available, it is unlikely that your proposed project is the least damaging alternative available to you. If that is the case, our regulations preclude us from issuing a permit. The cost, time and effort of completing an Environmental Impact Statement to your organization will be significant. The purpose of this letter is to ensure you understand the difficulty your organization faces before you make the decision to expend those funds in pursuing this project.

Environmental Issues Associated with Reservoirs

You have stated that until the environmental evaluation of the proposed reservoir is completed, we would not know the impacts the proposed reservoir would have on the aquatic environment. We have identified and discussed with you several direct impacts associated with the construction of a run-of-river reservoir, including the potential take of endangered species,

impacts to existing fish and wildlife resources, and substantial adverse impacts and loss of aquatic resources associated with the First Broad River, its associated tributaries, and adjacent wetlands. Run-of-river reservoirs can significantly alter both aquatic and terrestrial habitat. The conversion of the First Broad River to a reservoir will result in the loss of natural stream functions, alter the hydrology, and affect native ecosystem processes within and downstream of the proposed reservoir site. The majority of native aquatic species are adapted to stream conditions (flowing, highly oxygenated water and coarse sand, gravel and rocky bottoms). The impoundments created by the construction of the dam eliminate spawning and foraging habitat. Water depth increases, flow decreases, and silt accumulates on the bottom. Impoundments not only destroy riverine habitat within the impounded portion of the river, but also alter the quality and stability of the upstream and downstream reaches by adversely affecting water flow regimes, velocities, temperature, chemistry, and nutrient cycles. The effect of impoundments results in changes in fish and macroinvertebrate communities, often favoring non-indigenous species; species that require clean gravel and sand substrate are lost. In addition, dams result in fragmentation and isolation of populations of species, acting as effective barriers to the natural upstream and downstream expansion of fish species. The reduction in range and isolation of the populations greatly increase the vulnerability of a species to extirpation. It reduces the species' ability to respond to changes (natural and manmade) within its environment and to recover from impacts (large and repeated small scale impacts) to its numbers that a species with widely dispersed, interconnected healthy populations would likely be able to overcome. Although habitat will remain in an aquatic state, the fauna and ecosystem functions associated with rivers are not alike and cannot be replaced with associated fauna and functions of a reservoir.

The conversion of these waters, and the loss of associated functions, would result in a requirement to provide mitigation to compensate for these losses. According to the best available information concerning mitigation costs, it may require the expenditure of tens of millions of dollars, or the removal of an existing dam on another river within the watershed, to provide the necessary compensatory mitigation for the fill for the dam and the subsequent upstream flooding impacts.

Purchasing Capacity from City of Shelby and/or the Town of Forest City.

Our earlier correspondence has thoroughly explained the possibility of water purchase from the municipalities of Shelby and Forest City, each of which has a documented and published plan to expand capacity to a degree satisfactory to meet CCW's needs. In your letter of March 24, 2010, you conclude that "CCW does not expect that Shelby or Forest City would give CCW any 'guaranteed right' to draw water..." We are unclear what this assumption is based upon. Other municipalities, including the City of Hickory, utilize Potable Water Service Agreements which can indeed give an entity like CCW the guaranteed right to draw water. In his letter to USACE of April 23, 2010, NC Division of Water Resources (DWR) Director Tom Reeder noted, in reference to your discussion of water purchase, that "[t]his letter may not fully address the concept of actually purchasing permanent capacity from either Shelby or Forest City. Such an agreement would include costs for CCW's 'share' of the infrastructure and possibly a portion of O&M costs. Under such an agreement, CCW would be able to get water whenever they choose up to the capacity they own, but would only pay for the water when they use it." Until the issue of purchased capacity from other systems is addressed more thoroughly, USACE will continue to

assume that such alternatives are available to CCW, at much less cost and substantially fewer aquatic impacts than a new reservoir.

Broad River

North Carolina Division of Water Resources Instream Flow Determination.

Based on the information available to us at this time, the USACE continues to believe that a run-of-river raw water intake on the Broad River is a viable alternative to your proposed project. According to the North Carolina Division of Water Resources (NCDWR), and codified at 15A NCAC 01C.0408(2)(b), if the requested withdrawal amount (total instantaneous withdrawal rate) is less than 20% of the 7Q10 flow established for a specific intake location, then no additional studies are required to determine minimum instream flows ("flow-bys") below the intake. This review has already been conducted for Shelby's existing intake and the intake planned by Forest City, and both are substantially less than 20% of the 7Q10. In fact, even if 7.9 MGD (CCW's projected water demand in 2060) is considered in addition to either the Forest City or Shelby withdrawal (as opposed to being part of their capacity), the threshold of 20% of the 7Q10 flow is still not reached. If the withdrawal capacity is less than 20% of the 7Q10 flow, a public water supply can withdraw water at any given river flow condition up to its approved capacity. This includes periods when flows in the river are below the 7Q10. Environmental review documents would still need to be prepared for any new or added capacity that is greater than or equal to 1.0 mgd, and consultation with the NC Division of Water Quality would be required to determine if any downstream wastewater discharges would be affected by the upstream withdrawal.

In its evaluation of your response on this issue, NCDWR confirmed that adding a CCW withdrawal on the Broad River, either separately or as a part of other approved municipal withdrawals, would not exceed the threshold for establishing "flow-by" requirements. DWR also noted that "a new water source for CCW from the Broad River could likely be implemented much more quickly than a new reservoir. Completing the EIS is no guarantee that a new reservoir on the First Broad River would receive permit approval."

Water Supply Model for the Broad River

USACE asked Mr. Brian McCrodden, P.E., of HydroLogics to review your letter with respect to the modeling of the Broad River, and we offer the following information from his response, which we have enclosed in full. Specifically, Mr. McCrodden indicates that "there is insufficient evidence to eliminate the Broad River as an alternative to CCW's proposed reservoir." He states that, so long as existing state water usage policies remain in place, "there would be adequate water in the Broad River every single day in the 59-year hydrologic record to satisfy CCW's entire projected demand. This is true even if one assumes no conservation measures on the part of CCW or any other users in the basin."

A key assumption in CCW's analysis is the possibility that State water withdrawal policies might change, making the Broad River a less secure water supply option. To our knowledge, no changed policies have been proposed, and none is reasonably likely to be implemented in the near future. Both Mr. Reeder, whose Division is in charge of such policy, and Mr. McCrodden

believe that it is likely that, were such usage policies to change, provisions would be made to exempt, or at least protect, existing users. We understand that while the State may change water intake policies at some time in the future, it also has the authority to change the minimum release from a reservoir, with similar effects on the user. Given that no change in policy is imminent, it would be exceedingly difficult for USACE to grant a permit which relied heavily on the assumption that these rules would change, and that existing uses would not be protected in any way. In making a permit decision, USACE will focus on existing policies, or those that are reasonably foreseeable within the planning timeframe.

CCW also states that, in formulating its model, some provision should be made for potential demands for water downstream in South Carolina. While USACE does understand that it is important to consider all users in the watershed when developing water usage plans, this agency will rely heavily on the existing policies of the NC Division of Water Resources when considering downstream users. Regarding the ongoing matter with South Carolina, Mr. Reeder states that "CCW is in an enviable position where regional approaches will not involve approval of an Interbasin Transfer (IBT) certificate. The ongoing lawsuit by South Carolina in the Catawba River Basin pertains to IBT issues." Absent a State position regarding an adjustment of minimum flows for downstream users in other states, USACE cannot concur that adjusting or imposing instream flow minimums for South Carolina water usage is appropriate.

Finally, it is important to note that the water usage numbers used to run the models for the Broad River include no substantial conservation measures. As recent droughts have confirmed, and the Environmental Protection Agency has stressed in comments on this project, reasonable conservation measures will need to be considered and applied to any projections of water needs within CCW's planning horizon. Reasonable measures will reduce consumption at all times, but particularly in times of drought, potentially alleviating a considerable amount of need during low-flow periods. While we note that current policies would allow for Broad River withdrawals at any flow condition, we strongly support, and any reservoir alternative must include, substantial conservation measures to reduce consumption and thereby reduce impacts.

Corps Conclusion on Continuing EIS Process

In short, CCW asks USACE to continue its investigation of a 24-mile run-of-river reservoir, and the associated environmental impacts, based upon the assumptions that:

1. Binding agreements for purchase of water capacity are not possible with either the City of Shelby or the Town of Forest City;
2. State water withdrawal policies, which currently would allow for all of CCW's projected needs to be met through a Broad River intake, will change;
3. Changed water withdrawal policies would not provide any relief or protection for existing users;
4. Specific allocations should be made for downstream water usage in South Carolina.

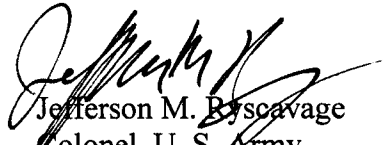
The USACE cannot, at this time, agree with any of these assumptions.

All of the alternatives to a reservoir described above appear to fully meet CCW's purpose and need, have significantly less environmental impact than a new reservoir, and be far less costly than the construction of a new reservoir. Unless you can show otherwise, your project fails to comply with the requirements of the Clean Water Act 404 (b)(1) Guidelines, which state, in part, that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." (40 CFR 230.10 (a)).

If CCW requests that we continue the permit process, USACE will do so. Upon receipt of a request to proceed, USACE will consider the information at our disposal, and either re-initiate the EIS process or make a permit decision with the information in hand.

If you have any questions or comments regarding this correspondence, please do not hesitate to contact Henry Wicker, in the Wilmington Regulatory Division Office, at 910-251-4930, or Scott McLendon, Acting Regulatory Chief, at (910) 251-4630.

Sincerely,



Jefferson M. Ryscavage
Colonel, U. S. Army
District Commander

Enclosures

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North Carolina Department of Environment and Natural Resources
Division of Water Resources

Beverly Eaves Perdue
Governor

Thomas A. Reeder
Director

Dee Freeman
Secretary

April 23, 2010

Henry Wicker
Project Manager, Regulatory Division
U.S. Army Corps of Engineers
69 Darlington Avenue
Wilmington, North Carolina 28402

Dear Mr. Wicker:

On March 10, 2010 Division of Water Resources (DWR) staff met with you, other agencies, and Cleveland County Water (CCW) and their consultants to discuss the modeling of the Broad River in the context of a potential water supply withdrawal. This is a follow-up to that meeting and your request that we confirm DWR's position regarding this water supply alternative.

DWR must follow existing rules and guidelines when reviewing any proposal to develop a new or expanded water supply. A letter from DWR to CCW dated 12/9/09 is attached which explains the minimum threshold for establishing "flow-by" requirements associated with run-of-river withdrawals. Withdrawals from the Broad River by Shelby and Forest City do not exceed this threshold. Adding a withdrawal by CCW – either separately or as part of either of the two approved municipal withdrawals – also does not exceed this threshold.

It is impossible to predict when or if the rules affecting water withdrawals might be changed by the General Assembly. However, it is also possible that if additional withdrawal rules are enacted, existing or approved projects might be exempt from new requirements.

HydroLogics has performed extensive modeling of the Broad River under existing and projected withdrawal scenarios to determine the effects of withdrawing water for CCW when its needs cannot be fully supplied by the First Broad River. Based on the information presented by HydroLogics at the 3/10/10 meeting, additional water withdrawn from the Broad River for CCW would have little effect on downstream flows.

A new water source for CCW from the Broad River could likely be implemented much more quickly than a new reservoir. Completing the EIS is no guarantee that a new reservoir on the First Broad River would receive permit approval.

Our Department supports regional solutions to meet water supply needs, particularly when those needs are most prominent during drought. CCW is in an enviable position where regional approaches will not involve approval of an Interbasin Transfer (IBT) certificate. The ongoing lawsuit by South Carolina in the Catawba River Basin pertains to IBT issues.

Thank you for providing a copy of the letter you received from CCW dated 3/24/10 with regards to alternatives being evaluated during preparation of the EIS for a new water supply source. This letter may not fully address the concept of actually purchasing permanent capacity from either Shelby or Forest City. Such an agreement would include costs for CCW's "share" of the infrastructure and possibly a portion of O&M costs. Under such an agreement, CCW would be able to get water whenever they choose up to the capacity they own, but would only pay for the water when they use it.

We hope this helps clarify the conclusions from the 3/10/10 meeting. Please contact me if you have any questions.

Sincerely,

Tom Reeder
Director

attachment

cc: Tom Fransen & Jim Mead- DWR



North Carolina Department of Environment and Natural Resources
Division of Water Resources

Beverly Eaves Perdue
Governor

Thomas A. Reeder
Director

Dee Freeman
Secretary

December 9, 2009

Mr. Butch Smith
Cleveland County Water
Post Office Box 788
Lawndale, North Carolina 28090-0788

Dear Mr. Smith:

I am writing to follow up on a recent meeting between the Division of Water Resources (DWR) and consultants for Cleveland County Water (CCW). McGill and Associates was represented by Keith Webb and Forrest Westall, and HydroLogics, Inc. was represented by Brian McCrodden.

The purpose of the meeting was to discuss a request that DWR establish a minimum flow to be maintained downstream of a potential withdrawal from the main Broad River. Such a withdrawal is an alternative being considered by CCW as a means to ensure adequate water availability during periods when sufficient water is not available at the existing intake on the First Broad River. A withdrawal from the main Broad River might be made directly by CCW, or through an interlocal agreement with either Shelby or Forest City.

The first step in DWR's review of this type of intake is to determine whether the withdrawal amount is less than 20% of the 7Q10 low flow. This review has already been conducted for Shelby's existing intake and the intake planned by Forest City, and both are substantially less than 20% of the 7Q10. CCW's projected total demand for the year 2060 is about 7.9 mgd, and some of this need could still be met by the First Broad River intake. Even if this entire amount of 7.9 mgd is considered in addition to either the Forest City or Shelby withdrawal (as opposed to being part of their capacity), the threshold of 20% of the 7Q10 flow is still not reached.

If the requested withdrawal amount (total instantaneous withdrawal rate) is less than 20% of the 7Q10 flow established for a specific intake location, then no additional studies are required to determine minimum instream flows ("flow-bys") below the intake. This policy is codified in the NC Administrative Code under 15A NCAC 01C.0408(2)(b).

If the withdrawal capacity is less than 20% of the 7Q10 flow, a public water supply can withdraw water at any given river flow condition up to their approved capacity. This includes periods when flows in the river are below the 7Q10. Environmental review documents (EA or EIS) would still need to be prepared for any new or added capacity that is greater than or equal to 1.0 mgd, and consultation with the NC Division of Water Quality would be required to determine if any downstream wastewater discharges would be affected by the upstream withdrawal.

Please contact Jim Mead (919/715-5428 or jim.mead@ncdenr.gov) if you have any further questions.

Sincerely,

Tom Reeder

cc: Jim Mead, Fred Tarver, Linwood Peele, Steve Reed – DWR
Britt Setzer - PWS
Chris Goudreau – WRC
Henry Wicker - USACE
Keith Webb – McGill and Associates
Brian McCrodden - HydroLogics

May 10, 2010

Mr. Henry Wicker, Special Projects Manager
U.S. Army Corps of Engineers, Wilmington District
69 Darlington Street
Wilmington, North Carolina 28403

Dear Mr. Wicker:

You asked that I review both the March 10, 2010 PowerPoint presentation related to modeling results for the Broad River and also Cleveland County Water's March 24, 2010, letter in response to the Corps' letter of October 1, 2009, and provide my opinion as to whether there is adequate water in the Broad River to meet Cleveland County Water's year 2075 demand.

Based solely on the availability of raw water, I concur with the conclusion in the PowerPoint presentation that there is insufficient evidence to eliminate the Broad River as an alternative to CCW's proposed reservoir. Second, there is nothing in the CCW letter of March 24 that would cause me to alter my opinion. The NC Division of Water Resources has stated repeatedly (see, for example, the Director's letter to CCW dated December 9, 2009) that so long as an aggregate withdrawal does not exceed 20 percent of the 7Q10, a permit to build or expand a water treatment plant will not be denied based on the availability of water. That is, once a permit is issued, withdrawals up to the permitted limit are allowed even when flows in the river are below the 7Q10. Put another way, if there is enough water in the river, the permittee can always withdraw up to the limit of the permit. Our modeling showed that so long as this policy is in place, there would be adequate water in the Broad River every single day in the 59-year hydrologic record to satisfy CCW's entire projected demand. This is true even if one assumes no conservation measures on the part of CCW or any other users in the basin. The minimum daily flows at Forest City and Shelby are 44 and 34 cfs, respectively. In my mind, the only relevant question is whether it is actually possible to withdraw water at these flows, which is a question I am not qualified to answer.

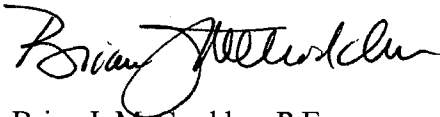
CCW hypothesizes that these rules could change and that a minimum streamflow requirement might be imposed in the future. Even if this should happen, I am confident that the State would seek a way to implement the change without imposing an onerous burden on current permit holders. CCW asserts that only a reservoir will provide adequate assurance of a reliable source of water. What they do not say, however, is that it is that the State also has the authority to change the minimum release from a reservoir and thereby alter its reliability.

In my view this is as likely as the possibility that the State might impose minimum flows in the Broad River.

Hydrology is a statistical science, and there is always some risk that there may not be adequate water to satisfy all needs. If there is no minimum flow requirement in the Broad River, however, the risk to CCW is almost infinitesimal and is probably less than the risk associated with any reservoir that CCW could get permitted.

Feel free to contact me if you have additional questions or concerns.

Sincerely yours,
HydroLogics, Inc.

A handwritten signature in black ink, appearing to read "Brian J. McCrodden". The signature is fluid and cursive, with a large loop at the end.

Brian J. McCrodden, P.E.
Vice President