City Of Raleigh
NORTH CAROLINA

January 30, 2013

Mr. George Vital, Area Director
USDA-Rural Development
253 S. Beckford Drive, Suite A,
Henderson, North Carolina 27536

Mr. Bruce Pleasant
Acting Director, Community Programs
USDA – Rural Development
4405 Bland Road, Suite 260
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Re: City of Raleigh Comments- NEPA Environmental Assessment for Wastewater Collection and Treatment system Improvements, City of Creedmoor, Granville County, North Carolina, December 2012

Gentlemen:

Attached please find comments submitted by the undersigned on behalf of the City of Raleigh in response to the noticed *NEPA Environmental Assessment for Wastewater Collection and Treatment System Improvements, City of Creedmoor, Granville County, North Carolina, December 2012.*

It is our opinion that the Environmental Assessment noticed for comment by the Rural Utilities Service fails to conform with the Environmental Policies and Procedures, as set forth by the US Department of Agriculture, in Part 1794 of Title 7 of the United State Code of Federal Regulations (CFR) and the National Environmental Policy Act and the implementing regulations adopted by the Council on Environmental Quality. The failures are substantial and the City of Raleigh respectfully requests that the Environmental Assessment be withdrawn by the Rural Utilities Service, revised and re-issued for public comments.

Our technical and legal liaisons on this subject are, respectively, Kenneth Waldroup, Assistant Public Utilities Director, and Dan McLawhorn, Associate City Attorney. Kenny can be reach at 919-996-3489 and Dan can be reached at 919-996-6623. Please feel free to contact them with questions or concerns. Thank you for your time and consideration of this matter.

Respectfully submitted,

J. Russell Allen

J. Russell Allen,
City Manager

Cc: Raleigh City Council
Thomas A. McCormick, City Attorney
John R. Carman, Public Utilities Director
Dan McLawhorn, Associate City Attorney
Kenneth Waldroup, Asst. P.U. Director

Comments by the City of Raleigh on the "NEPA ENVIRONMENTAL ASSESSMENT FOR WASTEWATER COLLECTION AND TREATMENT SYSTEM IMPROVEMENTS" City of Creedmoor, Granville County, North Carolina, December 2012

The Environmental Assessment (EA) noticed for comment by the Rural Utilities Service (RUS) fails to conform with the Environmental Policies and Procedures, as set forth by the US Department of Agriculture (USDA), in Part 1794 of Title 7 of the United State Code of Federal Regulations (CFR); the National Environmental Policy Act (NEPA); and the implementing regulations adopted by the Council on Environmental Quality (CEQ). The failures are substantial and require that the document be withdrawn, revised, and reissued for public comment. The EA fails to provide the "hard look" required by the NEPA. Instead, by ignoring relevant information and relying on misstatements of fact, the EA attempts to justify a preferred alternative that would not rise to the preferred status if the required hard look had been taken.

"An agency's hard look should include neither researching in a cursory manner nor sweeping negative evidence under the rug." *National Audubon Society v. Department of Navy*, 422 F.3d 174, 194 (C.A.4 (N.C.), 2005). "To take the required "hard look" at a proposed project's effects, an agency may not rely on incorrect assumptions or data in an EIS. 40 C.F.R. § 1500.1(b)." *Native Ecosystems Council v. U.S. Forest Service, an agency of U.S. Dept. of Agriculture* 418 F.3d 953, 964 (C.A.9 (Mont.),2005). "NEPA requires that the Environmental Impact Statement contain high-quality information and accurate scientific analysis. 40 C.F.R. § 1500.1(b). If there is incomplete or unavailable relevant data, the Environmental Impact Statement must disclose this fact. 40 C.F.R. § 1502.22." *Lands Council v. Powell* , 395 F.3d 1019, 1031 -1032 (C.A.9 (Idaho),2005). This EA fails to comply with these minimum requirements and its failures demonstrate that it has not taken the required "hard look" at the project.

A. INCOMPLETE AND INACCURATE INFORMATION

Because the EA is plagued with substantial, material flaws, RUS must withdraw it, revise it and reissue it for public comment once RUS provides an accurate scientific analysis of the many wrongly stated facts upon which it relies. The EA relies on incomplete or inaccurate information for the following subject areas:

1. Status of Biological Assessment and impact on protected species.
2. Impact on Raleigh's water supply, including cumulative impacts.
3. Extent to which Falls rules impinge on the ability of SGWASA to provide 20 year sewer capacity identified by Creedmoor.

4. Extent of additional capacity necessary for Creedmoor to meet its anticipated growth for 20 years.

5. An overestimation of Creedmoor's sewer capacity need for the next 20 years.

6. Incorrect evaluation for the cost of nitrogen and phosphorous allocations from EEP.

A1. Failure to Analyze and Mitigate Impact on Protected Species

In its January 24, 2013 response to the Biological Assessment, the US Fish and Wildlife Service shows numerous misstatements, especially in part 3.5 "Biological Resources" of the EA, and it lists incomplete information. It also establishes that proposed mitigation is not adequate. The US Fish and Wildlife Service finds that "cumulative and secondary impacts are not addressed."

In its EA, RUS relies on flow characteristics at the Tar River as provided by US Geodetic Survey (p. 20). The more relevant and appropriate information on flow characteristics will be shown by the OASIS model, which showed indicates a trend of declining inflows in the upper Neuse Basin. A similar evaluation of the upper Tar River should be undertaken to establish the possible impact on assimilative capacities before a new discharge is allowed. That information is necessary to appropriately analyze the endangered species issues raised by the US Fish and Wildlife Service.

A2. No Consideration of Impact on Raleigh's Drinking Water Supply

The EA fails to recognize or discuss the impact of this additional 1.15 MGD interbasin transfer on Raleigh's water supply or the water quality of Falls Lake, a nutrient impaired water body. The EA completely ignores and provides no analysis of the adverse impacts of the proposed project on the water supply of more than 490,000 people served by the City of Raleigh. At page 18, RUS acknowledged that Raleigh raised the issue of the adverse impacts on its drinking water supply due the proposed transfer of 1.15 MGD of water from the Neuse Basin to the Tar Basin. In other sections of the EA, RUS discusses the critical status of Falls Lake as a nutrient impaired water body for which an aggressive nutrient reduction program has been developed.

This interbasin transfer of 1.15 MGD will be a cumulative impact as that term applies under the North Carolina NPDES permit program. See N.C. Gen. Stat. §143-215.1(b)(2). As such, the NPDES statute limits the authority to issue a permit to those instances which utilize "the practicable waste treatment and disposal alternative with the least adverse impact on the environment." RUS violates its own regulation at 7 CFR §1794.14 when it failed to include in

the EA information on cumulative impacts from the additional interbasin transfer as the information is essential to the State's consideration of the NPDES permit for the preferred alternative. The courts also enforce the requirement that a NEPA document examine the cumulative impacts of the proposed project.

> To determine whether an agency needs to perform an EIS, the agency prepares an environmental assessment ("EA") discussing the need for the proposed action, alternatives, and the environmental impacts of the proposed action and alternatives. 40 C.F.R. § 1508.9; *Hill v. Boy,* 144 F.3d 1446, 1449-50 (11th Cir.1998). In the EA, the agency must consider the direct, indirect and cumulative impacts of proposed activities as well as the significance of those impacts on the human environment. 40 C.F.R. §§ 1508.7, 1508.8, 1508.27(b).
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> *Sierra Club v. U.S. Army Corps of Engineers*, 464 F.Supp.2d 1171, 1221 (M.D.Fla.,2006) [Emphasis supplied]
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> Plainly, it is not sufficient for an agency, when evaluating the impacts of a proposed action on the environment, to gauge the effects of that action in isolation. Rather, the agency must examine the aggregate impacts of the proposed action and any other actions—past, present, or future—regardless of their source of funding.
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> *Coalition to Preserve McIntire Park v. Mendez*, 862 F.Supp.2d 499, 521 (W.D.Va.,2012)

For a proper consideration of cumulative impacts, the proposed interbasin transfer must be added to the transfers already occurring and authorized from Falls Lake. The City of Durham holds a state issued interbasin transfer capacity of 44 MGD. In its interbasin transfer statute, North Carolina's duly adopted policy declares that "the cumulative impact of transfers from a source river basin shall not result in a violation of the antidegradation policy set out in 40 Code of Federal Regulations §131.12 (1 July 2006 Edition) and the statewide antidegradation policy adopted pursuant thereto." N.C. Gen. Stat. 143-215.22L(t). The failure of the RUS promulgated EA to acknowledge or address this limitation of the preferred alternative establishes that the document is fatally flawed and must be withdrawn. That is clearly an issue that is "truly significant to the action in question" and its omission is a fatal flaw. See 40 CFR §1500.1(b).

The scope of NEPA has long been recognized to include impacts on water supply resources. Judicial application of NEPA to agency actions resulting in reductions or diversions of water supply resources date from as early as 1975. See e.g. *City of Davis v. Coleman*, 521 F.2d 661, 671-72 (9th Cir.1975) (allegations in complaint "that the planned industrial

development ... may adversely affect the quality and quantity of the city water supply" established injury in fact within the zone of interests of NEPA); *Olmsted Citizens for a Better Community*, 793 F.2d 201, 205 (8th Cir.1986) (a federal action which "poses a threat to the physical resources of the area because of anticipated ... water supply problems" must be preceded by an EIS); *Environmental Defense Fund, Inc. v. Andrus*, 596 F.2d 848, 851-53 (9th Cir.1979) (holding that an EIS was required "to evaluate the environmental consequences of [the] decision [to divert water to industrial use]"); *Sabine River Authority v. U.S. Dept. of Interior*, 951 F.2d 669, 675 -676 (C.A.5 (Tex.),1992) (". . . the circuit courts, to be sure, are flooded with cases which elucidate that water quality and water supply are prototypically matters of great environmental concern.")

The courts have also recognized that local governments are the appropriate parties to raise this issue since NEPA " ... expressly contemplates that state and local governments are to play an important role in the effectuation of national environmental policy." *City of Davis*, 521 F.2d at 672 (citing 42 U.S.C. §§ 4331(a), 4332(2)(C), 4332(2)(F), 4341(4), 4345(1)). Raleigh finds the EA to be incomplete for its failure to discuss and address the impacts on Falls Lake as a water supply by reducing its inflow due to the transfer of 1.15 MGD to another basin.

Also missing from the EA is any discussion of the long term decline of flow into Falls Lake. This is critical information in establishing the cumulative impact of this proposed additional 1.15 MGD loss of flow into Falls Lake. The City of Raleigh, though water resource planning activities with the consulting firm of Hazen & Sawyer, has determined that the inflows into Falls Lake have continuously declined over an 83-year period of record. Exhibit B, *Estimated Annual Inflow to Falls Lake*, is a graphical representation of the Neuse River OASIS model[1], and it demonstrates an existing and growing problem. Over the period of record, the slope of the inflow trends for Falls Lake is trending downward, equivalent to a reduction of 1 billion gallons per year, every year over the period of record. For the last 30-years, the slope is actually more severe, trending toward a reduction of 2.0 billion gallons per year, every year for inflow to the lake.

A set of reasons adequate to explain the full amount of this reduced flow has not been established, but water removal from the basin before it flows into Falls Lake, changes in land use patterns, increasingly frequent severe droughts, and other changes in climate are among the contributing factors. The preferred alternative in the EA, a Tar River discharge will remove an additional 1.15 MGD, or 420 million gallons per year, from Falls Lake. For comparison, 42.3%

[1] A patented, mass balance, water resources simulation/optimization model will be developed for the Neuse river basin for the North Carolina Division of Water Resources.

or 486,450 gallons per day (.489 MGD) would be removed from the City's water supply pool and 57.7% or 663,550 gallons (.663 MGD) from the water quality pool used to augment flows downstream. The 50-year reliable yield of the Falls Lake water supply pool is 66.1 MGD and the drought of record yield is 63.4 MGD, although both are declining as flow decrease into Falls Lake. The failure to disclose this adverse impact on Raleigh's water supply or to provide any mitigation for its impact on water quality in Falls Lake makes it necessary for this EA to be withdrawn and revised.

Likewise, the failure to discuss this significant environmental impact caused RUS to ignore an obvious alternative which would mitigate the impact of the preferred alternative. The missing alternative is a combination of 550,000 GPD discharge to the SGWASA plant and 600,000 GPD of purchased capacity from Oxford. That alternative reduces by nearly 50% the amount of water removed from the Neuse basin and Falls Lake.

The Congress declared the purpose of NEPA in 42 U.S.C. §4232(c) as a requirement that every Federal agency "include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on-

(i) the environmental impact of the proposed action, [and]

(ii) <u>any adverse environmental effects which cannot be avoided should the proposal be implemented</u> ...."

The courts have frequently interpreted this set of requirements, especially in the context of the "hard look" standard. This EA fails the hard look test articulated by the Fourth Circuit Court of Appeals.

> What constitutes a "hard look" cannot be outlined with rule-like precision. At the least, however, it encompasses a thorough investigation into the environmental impacts of an agency's action and a candid acknowledgment of the risks that those impacts entail. *See Robertson,* 490 U.S. at 350, 109 S.Ct. 1835 (agencies must assure that "the adverse environmental effects of the proposed action are adequately identified and evaluated"); *Hughes River Watershed Conservancy v. Johnson,* 165 F.3d 283, 288 (4th Cir.1999) (*Hughes River II*) (same); 40 C.F.R. § 1502.14(a) (<u>agencies shall "[r]igorously *explore* and objectively *evaluate* all reasonable alternatives"</u>) .
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> *National Audubon Society v. Department of Navy,* 422 F.3d 174, 185 (C.A.4 (N.C.),2005) [Emphasis supplied]

A3. Falls Rules Impact on SGWASA Capacity Wrongly Stated

The EA also engages and relies on assumptions that are refuted by other sources. These assumptions drive the selection of the Preferred Alternative. To the extent that RUS continues to engage its questionable assumptions, the EA will remain deficient until it identifies that contrary information and explains the rationale for rejecting it. See 40 CFR §1502.22. An example of these problems is the assumption that the Stage 2 Falls Lake rules will effectively bar SGWASA from providing the 1.15 MGD capacity that Creedmoor seeks. *See* pp 9-15 of the EA. While RUS cites to and lifts information from the relevant part of the Falls Lake rules for point sources in an effort to show that SGWASA cannot provided the requested amount of capacity, RUS ignores the critical part of the rule at 15A NCAC 2B .0279(6)(b) and (d) in the EA.

> (b) Beginning with calendar year 2036, **except as provided in Sub-item (d) of this Item**, each existing discharger with a permitted flow greater than or equal to 0.1 MGD shall limit its total nitrogen and phosphorus discharges to its active, individual Stage II allocations as defined or modified pursuant to this Rule.
>
> (d) Not later than January 15, 2027, each existing discharger with a permitted flow greater than or equal to 0.1 MGD shall submit to the Division a plan for meeting its Stage II mass limitations. The plan shall describe the discharger's strategy for complying with the limitations and shall include a schedule for the design and construction of facility improvements and for the development and implementation of related programs necessary to the strategy. **If a discharger determines that it cannot meet its limitations by calendar year 2036, the discharger may include its findings in the plan and request an extension of its compliance dates for the nitrogen and phosphorus limitations.** This alternate plan shall document the compliance strategies considered and the reasons each was judged infeasible; **identify the minimum loadings that are technically and economically feasible by 2036**; and propose intermediate limits for the period beginning with 2036 and extending until the Stage II limitations can be met. Within 180 days of receipt, the Division shall approve the plan as submitted, which could include intermediate limits, or inform the discharger of any changes or additional information needed for approval. The Division shall incorporate the approved nitrogen and phosphorus mass limitations and compliance dates into the discharger's NPDES permit upon the next renewal or other major permit action following plan approval. If the Division extends the dates by which a discharger must meet Stage II limitations, the discharger shall update and submit its plan for Division approval every five years after the original submittal, and the Division shall take necessary and appropriate action as with the original plan, until the Stage II limitations are satisfied. 15A NCAC 2b .0279.

By omitting these parts of the relevant and controlling state rule, RUS has violated a cardinal principle of NEPA recently enforced by the Fourth Circuit Court of Appeals in a case

arising from North Carolina. "Accordingly, agencies violate NEPA when they fail to disclose that their analysis contains incomplete information." *North Carolina Wildlife Federation v. North Carolina Dept. of Transp.* 677 F.3d 596, 603 (C.A.4 (N.C.),2012). Just as in the *NC Wildlife Federation* case, the facts as stated by RUS provide the public with erroneous information which is used to mischaracterize an alternative that avoids the environmental harm from an interbasin transfer to Raleigh's water supply and the environmental harm to the overall water quality of Falls Lake, an impaired water body.

A4. RUS Wrongly Found That SGWASA Cannot Meet 20 Year Sewage Capacity Need

The EA's finding that SGWASA cannot meet Creedmoor's 20 year sewer need is inconsistent with the Determination of Minor Construction Activity (DMCA) for the SGWASA Wastewater Treatment Facility Improvements and the prior assurances provided by SGWASA to Creedmoor in the EA development process. The North Carolina Division of Water Quality (DWQ) issued the DMCA on December 1, 2012. By its approval, DWQ determined that the Preliminary Engineering Report (PER) and Environmental Reports for the proposed improvements to the SGWASA facility will provide sufficient nutrient removal for SGWASA to meet the capacity needs shown by Creedmoor for the 20-year planning window addressed in the EA. SGWASA's comments on the EA provide further evidence that the opposite conclusion in the alternative analysis in the EA is fatally flawed. See SGWASA comment dated January 15, 2013 and attached as Exhibit A.

In the Preliminary Engineering Report (PER) for the wastewater Collection and Treatment Systems Improvements (November 1012) developed to support the EA, section 4.0 NEED FOR PROJECT evaluates the capacity of the SGWASA wastewater treatment facility to meet the 20 year projected need by Creedmoor. SGWASA is the current discharge and treatment point for wastewater generated by the City of Creedmoor. The PER finds that 3.0 mg/L of Nitrogen and 0.2 mg/L of Phosphorus are the lowest achievable effluent concentrations using Best Available Technology (BAT)[2]. Relying on the capacity available from this BAT, RUS then finds that the SGWASA facility cannot meet the projected needs of Creedmoor. See Purpose and Need for the Project[3] and the Alternatives Analysis[4]. This set of assumptions is

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[2] Preliminary Engineering Report Wastewater Collection & Treatment System Improvements, November 2012, The Wooten Company, p.42-44

[3] City of Creedmoor: USDA Environmental Report Wastewater Collection & Treatment System NEPA Environmental Assessment, December 2012, p. 4-6.

[4] City of Creedmoor: USDA Environmental Report Wastewater Collection & Treatment System NEPA Environmental Assessment, December 2012, p. 7, 9-15.

refuted by past performance of similar systems in the Neuse Basin and thus is not the appropriate standard to apply.

The reference nutrient concentrations are not the lowest achievable effluent concentrations using BAT as demonstrated in multiple facilities in the Neuse River basin. As detailed in Exhibit C, *Neuse River Compliance Association Total Nitrogen Concentration Report Summary 2006-2012*, Nitrogen concentrations below 2.0 mg/L are regularly and repeatedly achieved by members of the Neuse River Compliance Association (NRCA). A total of nine (9) facilities regularly exceed the limits of technology for Nitrogen as identified by the EA and PER. As detailed in Exhibit D, *NRCA Total Phosphorous Annual Concentration Average (mg/L) Summary*, Phosphorus concentrations below 0.2 mg/L are regularly and repeatedly achieved by members of the NRCA. A total of five (5) facilities regularly exceed the limits of technology for Phosphorus as identified by the EA and PER. The majority of the facilities achieving 2.0 mg/l and lower Nitrogen discharge concentrations and 0.2 mg/L and lower Phosphorus discharge concentrations utilize Five Stage Biological Nutrient Removal (BNR) similar or identical to the upgrades currently underway at the SGWASA wastewater treatment facility. At least one orbital ditch three stage facility (Little Creek Wastewater Treatment Plant) is also regularly achieving 2.0 mg/L and 0.2 mg/L Nitrogen/Phosphorus discharge concentrations. Exhibit E, *A Summary of Tertiary Phosphorus Removal* notes the successful compliance record of two facilities in Oregon with .07 mg/L permit limits since the early 1990s. From Exhibit F, *NRCA Total Phosphorous (TP) Reduction Methods by Facility*, there is a strong correlation between facilities with low Phosphorus discharge concentrations and chemical addition within the collection system.

Consequently, as noted in SGWASA's comments on the EA dated January 15, 2013, RUS and the PER incorrectly estimate the available treatment capacity of the existing facility because of several factors, including the incorrect assumptions on nutrient removal found in the PER. Using the formulas found on p. 50 of the PER and the data provided there, the actual proven limits of technology for Nitrogen and Phosphorous yield the following results:

Permitted Flow to Comply with State I Total Nitrogen (TN) limits and Effluent TN = 2.0 mg/L

Permitted Flow MGD = 22,420 lb TN/year ÷ (2.0 mg/L TN x 8.34 lb/gal x 365 days/year
Permitted Flow MGD = 3.683 MGD

As noted in the PER, the required Effluent TP, mg/L for Stage I is 0.148 mg/L, well within the limits of technology as demonstrated by Exhibits D, E and F, thus the limiting factor appears to TN. The average annual flow at the SGWASA wastewater treatment facility in 2012 was 1.963

MGD of which, the metered discharge of Creedmoor was 291,413 gpd. From this evaluation, it is evident that capacity exists within the SGWASA facility to meet the needs of Creedmoor within the 20-year planning period used by RUS in the EA. In fact, SGWASA showed in its comments that it can provide capacity for Creedmoor's anticipated growth up to 2060. A revised evaluation, considering factors such as influent wastewater, characteristics of the existing discharge option, and a more robust evaluation of the treatment potential of the SGWASA facility must be included before this less expensive and more environmentally appropriate alternative can be rejected.

A5. RUS Overestimates the Need for Creedmoor's 20 Year Sewage Capacity

The 20 year sewage treatment capacity need for Creedmoor relies on a substantial overstatement of need. This overstatement of need arises from two primary sources. First, the wastewater flows projected in the EA are inconsistent with the more recently applied methodologies for analyzing future needs for water and sewer. Secondly, Creedmoor documents in the PER that a substantial part of its peak flow demand comes from inflow and infiltration. The estimated wastewater infiltration is **35%** (111,798/317,360 gpd) of the Average Flow at the pump station which is equivalent to **54%** (111,798/205,562 gpd) of the actual wastewater generated by Creedmoor. The EA fails to analyze the reduced demand that will arise from using the best scientific information as well as the most environmentally responsible solution to the Purpose and Need as set forth by RUS in the EA.

In the PER prepared by Creedmoor to support the EA, the City evaluates the population and growth trends within the planning area and region[5]. The methodologies assume past growth trends and water/wastewater use patterns are accurate predictors of future needs. Recent experience with State and Nationals trends demonstrate that this assumption is no longer a reliable means to predict future needs. Cities across the Nation and State are seeing declines in potable water demand even as population continues to rise. Population growth itself has been impacted by the recent record economic downturn. As an example, the most recent five year trend for the City of Raleigh is stagnant or declining annual average water use despite an increase in population. Several factors contribute to this observed phenomenon, including declining per capita water demand, changes in residential home fixture and appliance efficiencies, rising costs for water and wastewater services and changing customer using patterns as the customer base becomes better educated regarding water efficiency. These factors are illustrated in the following graphics.

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[5] Preliminary Engineering Report Wastewater Collection & Treatment System Improvements, November 2012, The Wooten Company, p.25-30

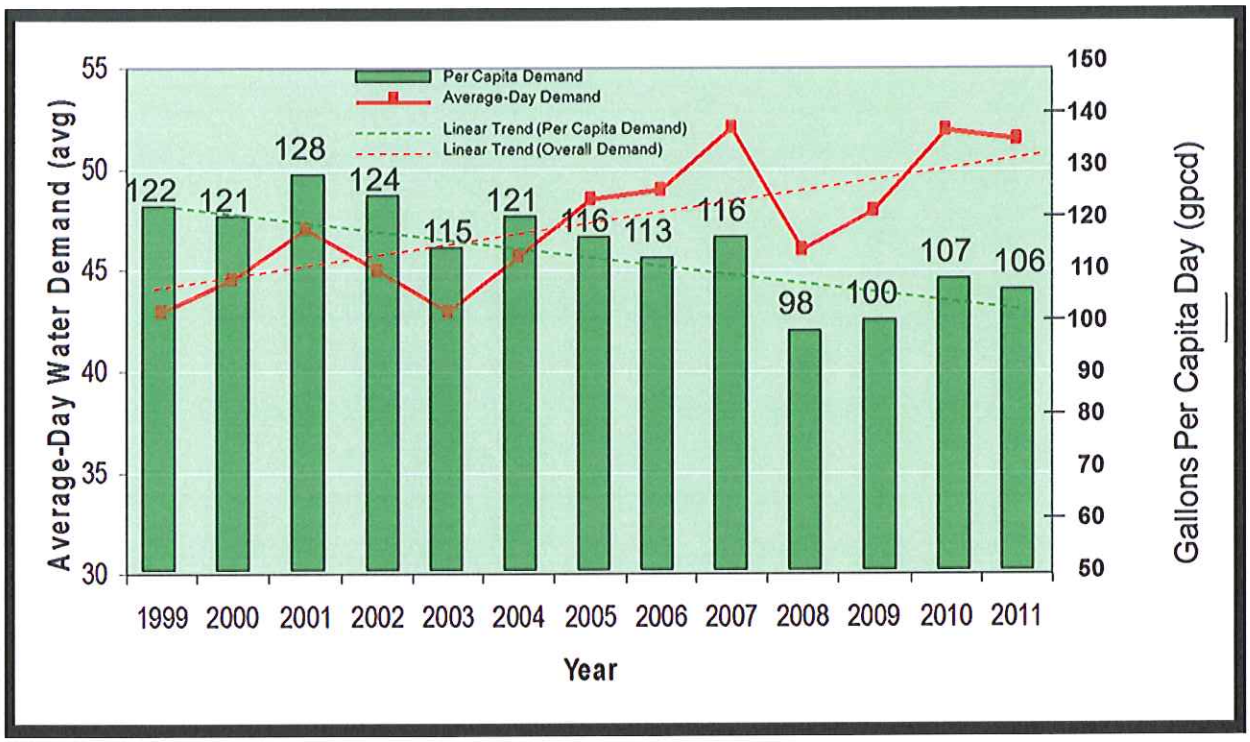

Figure 1: Average Daily Water Demand and Per Capita Water Use Trends

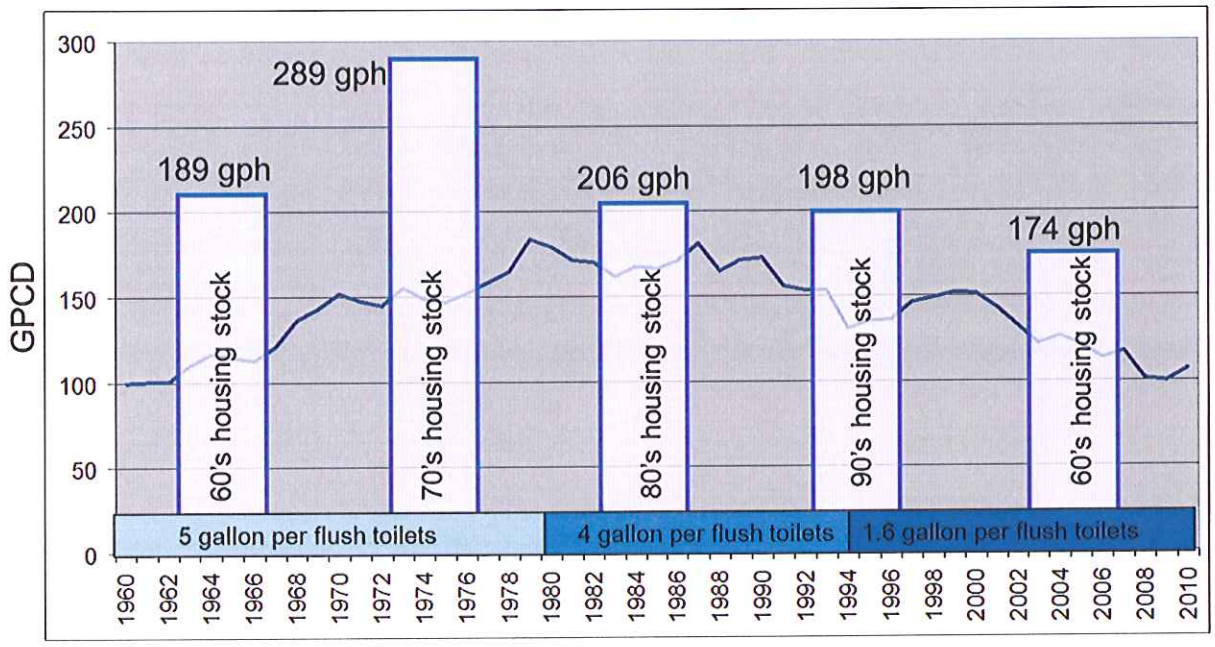

Figure 2: National Trends- Average gallons per capita and gallons per household

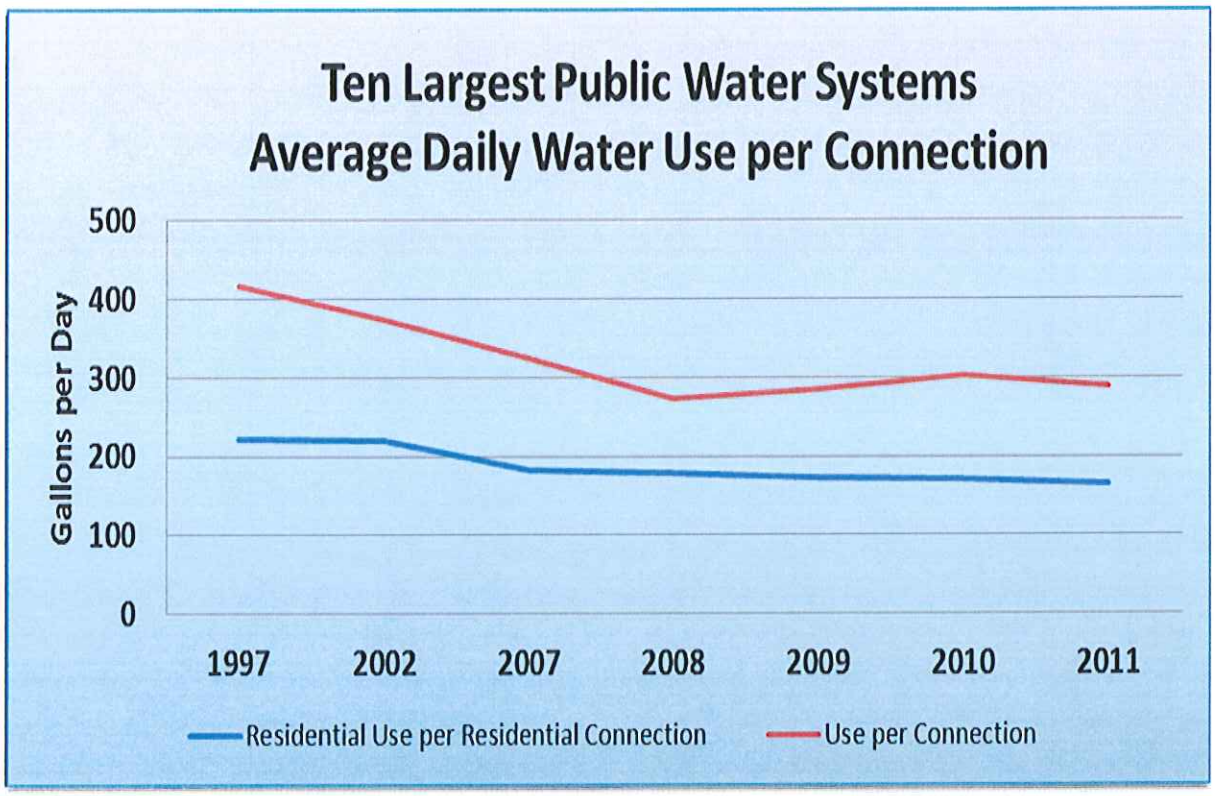

Figure 3: State Trends- Average gallons per connection

These data were sourced from the City of Raleigh and the North Carolina Division of Water Resources. This change in potable water use trends directly impacts wastewater demand projections. As noted in the comments provided by the SGWASA regarding the EA, a similar decline has been observed by SGWASA in its service area and in particular, the City of Creedmoor. Although declining water use trends are generally expected to stabilize in communities that continue to add population, the period of such a decline could last for decades. As an example, the Orange Water and Sewer Authority (OWASA) has experienced thirteen (13) years of declining water and wastewater demand as population increased and the City of Greensboro experienced seven (7) years of decline before water demand stabilized. Because the PER fails to consider this State and National trend, the PER's assumed demand increase of 4.094% is overly unreliable and must be revised. The potential growth rate should also be reconsidered in light of the dampening impact on growth which will result due to the additional costs of complying with the severe restrictions imposed on new development in the Falls Lake basin by the nutrient reduction rules now in force and effect. The implementation for the new development part of the program is handled locally and the City of Creedmoor has adopted controls on new development that meet and exceed the State requirements. At a

minimum, it has been estimated that the stormwater Best Management Practices will double in cost as compared to areas outside of the Falls Lake basin.

The PER analyzed the Creedmoor's existing wastewater collection system. Estimated volumes for *Infiltration*, defined as groundwater that continuously enters the collection system, and *Inflow*, defined as rainwater that entered the collection system during storm events, were provided by the PER. The wastewater infiltration during a three month review period was 111,798 gpd. In its PER, Creedmoor asserts that this amount of infiltration is acceptable. However the PER and the EA fail to compare the estimated infiltration to either the estimated wastewater flow or the actual average daily flow at the Creedmoor pump station. From the table found in the PER (p. 35), the average estimated wastewater flow is:

Estimated Average Wastewater Flow = (216,335 + 214,472 + 185,878)/3 = **205,562 gpd**

Averaged Daily Flow at the pump station = (308,742 + 321,082 + 322,255)/3 = **317,360 gpd**

The estimated wastewater infiltration is **35%** (111,798/317,360 gpd) of the Average Flow at the pump station, or **54%** (111,798/205,562 gpd) of the actual wastewater generated by Creedmoor. Correction of this excessive rate of infiltration is clearly a more environmental responsible solution that building sewage treatment capacity for this volume of flow.

Per the PER, the estimated inflow into the City of Creedmoor collection system is 149,708 gpd/inch of rainfall (p. 36 of the PER). This is **47%** of the Average Daily Flow in wet weather months and 50% (149,708/299,273 gpd) of the Average Daily Flow in the dry weather periods. Again, although the PER indicated this amount of inflow is not excessive, it represents a significant percentage of actual volumes pumped and treated at the SGWASA.

Infiltration is 9.7% of the projected 20-year demand and inflow is 13% (per inch of rain) of the projected 20-year demand. The infiltration also contributes to the existing environmental violations by the Creedmoor collection system arising from its sanitary sewer overflows. The RUS selected preferred alternative must be rejected as it does not include significant infiltration reductions (greater than 75%) and therefore cannot be defended as the Least Environmentally Damaging Practicable Alternative (LEDPA).

Finally, neither the PER nor the EA evaluates the reductions in wastewater flows possible though potable water conservation and efficiency. On June 21st, 2010, EPA Region 4 issued guidelines on water efficiency measures for water supply projects. These guidelines significantly reshaped water resource planning in the southeastern United States. The guidelines establish four sustainable water management practices that must be implemented

to the "maximum extent practicable" before EPA would consider or approve new water resource alternatives. The first of those practices is defined as "effective management," which includes a description of how the utility has or will implement water consumption reduction goals, increase public understanding, involve water users in decisions and how it would use an integrated resource management approach. The second is defined as "pricing for efficiency," which is full cost pricing and conservation pricing. The third practice, "efficient water use," refers to leak detection and abatement, metering all water users, and a requirement for building codes to include the most efficient technologies, rain water harvesting, and landscaping to minimize water use. The final practice, "watershed approaches," refers to developing water budgets on a watershed scale, seeking opportunities for wetland restoration, groundwater recharge and reuse of gray water and reclaimed water. Any project that has the potential to impact existing water supplies and Federally ESA listed species should include an evaluation of water conservation and efficiency measures to reduce potential wastewater flows and their impact on final selected alternatives.

A6. RUS Incorrectly Evaluates the Cost of Nitrogen and Phosphorus Allocation from EEP

In the EA, RUS evaluates an alternative Falls Lake discharge of treated wastewater flow to Ledge Creek or Whitaker Branch. The RUS erroneously assumes that North Carolina Administrative Code (NCAC) requires a 200% multiplier for any Falls Lake watershed Nitrogen and Phosphorus off sets purchased through the Ecosystem Enhancement Program (EEP)[6]. Such a multiplier does not exist in 15A NCAC 2B.0279 nor does it exist in 15A NCAC 2B.0240, the governing administrative code for nutrient offset payments. All calculations that use that multiplier and subsequent recommendations to dismiss this alternative are based upon factual inaccuracies. The calculations provided by RUS present the public with incorrect information which is used to mischaracterize an alternative that avoids the environmental harm from an interbasin transfer to Raleigh's water supply and the environmental harm to the overall water quality of Falls Lake, an impaired water body.

B. FAILURE TO CONSIDER AN ALTERNATIVE WITH LESS ENVIRONMENTAL IMPACT

In the EA, RUS showed that SGWASA currently provides treatment for up to 550,000 GPD for Creedmoor. It also showed that the Town of Oxford had offered to sell the remaining, needed capacity of 600,000 GPD to Creedmoor. See EA at p. 17. RUS rejected the Oxford alternative because it was not for the full 1.15 MGD of projected need. The EA fails to consider

[6] City of Creedmoor: USDA Environmental Report Wastewater Collection & Treatment System NEPA Environmental Assessment, December 2012, p.15-16

or include an alternative which divides the Creedmoor sewage treatment capacity between these two available and existing waste water treatment facilities.

In its Bulletin 1794A-602, RUS established that "the amount of information and level of analysis provided in the ER [Environmental Report] should be commensurate with the magnitude of construction activities and their potential level of impact." The RUS preferred alternative will have adverse impacts to streams and wetlands from the construction of 24,000 LF of 18-inch influent wastewater transmission main, a new 1.15 MGD wastewater treatment plant and 28,000 LF of 18-inch effluent wastewater transmission main to a Tar River discharge. The discharge location, the Tar River, is documented habitat for several federally protected species including the Dwarf Wedge Mussel. As such, the magnitude of construction activities and their potential level of impact as well as the impact of additional wastewater discharges to federally listed species should dictate the highest level of analysis and information review. Based on the comments from the US Fish & Wildlife Service, important impacts on protected species will be avoided if the new discharge location into the Tar River basin can be avoided. The SGWASA/Oxford alternative avoids that substantial adverse impact.

In addition, the reduction of flow diverted from Falls Lake would reduce the adverse impacts shown by in these comments by Raleigh to its drinking water supply.[7]

The EA demonstrates the alternative is feasible and reasonable related to the purposes of the project. That alternative would substantially mitigate the impact of the preferred alternative, i.e. 1.15 MGD of flow transferred to another river basin. The failure to consider this reasonable alternative violates 7 CFR §§1794.12 and 1794.17 and 40 CFR § 1504.14.

> An agency issuing an EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives," "[i]nclude reasonable alternatives not within the jurisdiction of the lead agency," and "[i]dentify the agency's preferred alternative." 40 C.F.R. § 1502.14(a), (c), (e). "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Morongo [Band of Mission Indians v. FAA],* 161 F.3d [569] at 575 (internal quotations and citations omitted) [C.A. 9 (Cal.) 1998].
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> *Westlands Water Dist. v. U.S. Dept. of Interior*, 376 F.3d 853, 868 (C.A.9 (Cal.),2004).

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[7] The Raleigh City Council has not rejected this alternative. Instead, the Raleigh staff responded to an email with its reaction to the alternative. See EA p. 18 and Appendix 3.

Also see *Soda Mountain Wilderness Council v. Norton*, 424 F.Supp. 2nd 1241, 1264 (E.D. Cal. 2006) applying the principle to an EA.

Clearly, NEPA sets a lower standard for the consideration of alternatives in an EA than in an EIS. However, even in an EA, NEPA requires RUS to identify this alternative as it meets the declared Purpose and Need, it is feasible and effective, and it is distinguishable for the alternatives otherwise considered.

> "Thus, whereas with an EIS, an agency is required to "[r]igorously explore and objectively evaluate all reasonable alternatives," with an EA, an agency only is required to include a brief discussion of reasonable alternatives. . . . "[A]n agency is not required to consider alternatives which are 'infeasible, ineffective, or inconsistent with basic policy objectives' for the action at issue." *1074 *State of S.C. ex rel. Campbell v. O'Leary,* 64 F.3d 892, 900 (4th Cir.1995) (citing *Headwaters, Inc. v. Bureau of Land Mgmt.,* 914 F.2d 1174, 1180 (9th Cir.1990)); *see also Sierra Club v. U.S. Army Corps of Eng'rs.,* 935 F.Supp. 1556, 1576 (S.D.Ala.1996) (finding an alternative that "would have more than doubled the cost of the construction project and which would have posed substantial logistical problems for construction" was not reasonable). "Nor is an agency required to undertake a 'separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences.' " *Westlands Water Dist. v. U.S. Dep't of Interior,* 376 F.3d 853, 868 (9th Cir.2004) (quoting *Headwaters,* 914 F.2d at 1181).
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> *Friends of Congaree Swamp v. Federal Highway Admin.*, 786 F.Supp.2d 1054, 1073 - 1074 (D.S.C.,2011)

The failure by RUS to consider this alternative undermines the EA and requires that it be withdrawn until this alternative is added to the EA.

C. The Preferred Alternative Fails To Include An Accurate Statement of Costs

The preferred alternative fails to include the usual design redundancy included in waste water treatment plants to mitigate the impact of mechanical or structural failure of the effluent transmission main. RUS' preferred alternative consists of 24,000 LF of 18-inch influent wastewater transmission main, a new 1.15 MGD wastewater treatment plant and 28,000 LF of 18-inch effluent wastewater transmission main to a Tar River discharge. In a setting with the potential for upsets and large spills to simultaneously impact two separate nutrient impaired river basins and with a preferred alternative that requires pumping both to and from the waste water treatment plant, the design should address the means to mitigate impact from the

increased risk of failure by critical mechanical systems such as pumps. In similar setting, commonly included design criteria provide for pump redundancy and alternative power sources (standby generators). The design of the identified preferred alternative fails to consider the consequence of effluent transmission system failure. An effluent storage basin, sufficiently sized to allow time to make repairs on the effluent transmission system, should be added to the minimum design criteria. Likewise, a storage basin allows remedial action when an upset because of mechanical failure or illegal introduction of toxic substances to the wastewater collection system threatens the receiving waters. Because the Tar River basin is home to federally listed aquatic species, reasonable and prudent design criteria should be considered to mitigate this potential occurrence. Of course, the failure to include these design protections and redundancies also substantially reduced the cost of the preferred alternative and skewed the results of the analysis.

The City of Raleigh has a very robust Industrial Pretreatment Program but has on several occasions experienced discharges to the wastewater collection system capable of causing plant upset. To address this possibility, the City constructed an influent storage basin to provide buffer at its largest wastewater treatment facility. An influent storage basin, sufficiency sized to allow for influent storage while plant processes recover, should be added to the minimum design criteria of the preferred alternative.

Finally, the projected operation costs of the preferred alternative appear to be overly optimistic, based upon actual operations costs experience by the City of Raleigh at a similar facility. The City of Raleigh owns and operates four (4) wastewater treatment facilities, including the Little Creek Wastewater Treatment Plant (LCWWTP) located in Zebulon, North Carolina. First constructed in 1993, the LCWWTP is an orbital ditch design with Biological Nutrient Removal (BNR) capability and an average day design flow of 1.85 MGD, not unlike the proposed design found in the preferred alternative. Last year, the City of Raleigh budgeted $905,134.87 and the facility treated 626,000 gpd. A breakdown of operational costs for the LCWWTP is found in Exhibit G of this document. The preferred alternative failed to evaluate the operational costs of similar facilities in both the Tar River and Neuse River basin to determine if the project operational costs fall in line with actual costs of similar facilities.

D. CONCLUSION

For all of the reasons stated herein, the City of Raleigh respectfully requests that the EA be withdrawn by RUS, revised and re-issued for public comments. Given the substantial problems identified in the responses to the EA, the City of Raleigh respectfully suggests that RUS enter into discussions with the commenting parties before its undertakes revisions of the EA so that

the failures to identify and address significant environmental issues can be avoided, or at least significantly reduced.

Dated: January 30, 2013

CITY OF RALEIGH

By: J. Russell Allen

J. Russell Allen, City Manager