FINDING OF NO SIGNIFICANT IMPACT
AND ENVIRONMENTAL ASSESSMENT

FAYETTEVILLE PUBLIC WORKS COMMISSION
BIG ROCKFISH CREEK SANITARY SEWER OUTFALL AND LIFT STATION ELIMINATION

RESPONSIBLE AGENCY: NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY

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FINDING OF NO SIGNIFICANT IMPACT

Article I, Chapter 113A of the North Carolina General Statutes requires an action to be subject to the requirements of the North Carolina Environmental Policy Act (NCEPA) if it involves the expenditure of public funds and if a potential impact is anticipated to the environment. The project has been evaluated for compliance with the NCEPA and is determined to be a major agency action, which will affect the environment.

Project Applicant:	Fayetteville Public Works Commission, North Carolina
Project Description:	The proposed project will install a new gravity sewer outfall consisting of approximately 22,900 linear feet (LF) of 24-inch sewer pipe and 10,850 LF of 18-inch sewer pipe to serve areas being annexed by the City of Fayetteville. Six existing lift stations will be abandoned and re-routed to the outfall with 5,650 LF of 12-inch and 8,600 LF of 8-inch gravity sewer.
Project Number:	CS370434-15 CS370434-16
Project Cost:	$32,891,448
Clean Water State Revolving Loan Fund:	$6,255,105 for CS370434-15 $16,162,109 for CS370434-16
Local Funds:	$10,474,234

The review process indicated that significant adverse environmental impacts should not occur if mitigative measures are implemented, and an environmental impact statement will not be required. The decision was based on information in the Engineering Report/Environmental Information Document (ER/EID) submitted by the applicant and reviews by governmental agencies. The attached Environmental Assessment (EA), prepared by the Division based on the ER/EID, supports this action and outlines mitigative measures that must be followed. This Finding of No Significant Impact (FONSI) completes the environmental review record, which is available for inspection at the State Clearinghouse.

No administrative action will be taken on the proposed project for at least 30 days after notification that the FONSI has been published in the North Carolina Environmental Bulletin.

Sincerely,

Jon Risgaard

Jon Risgaard, Section Chief
State Revolving Fund Section
Division of Water Infrastructure

ENVIRONMENTAL ASSESSMENT

A. Proposed Facilities and Actions

The Fayetteville Public Works Commission (PWC) is obligated to provide sewer service to communities annexed by the City of Fayetteville. The proposed project, located in southwest Cumberland County, will install a new gravity sewer outfall along Rockfish Creek and Stewart's Creek consisting of approximately 22,900 linear feet (LF) of 24-inch sewer pipe and 10,850 LF of 18-inch sewer pipe to serve annexed communities in and around the southwest portion of the City of Fayetteville. The proposed outfall will pass six neighborhoods, each currently served by a small lift station. The project will abandon these six existing lift stations by installing 5,650 LF of 12-inch and 8,600 LF of 8-inch gravity sewer to reroute flow to the new outfall. The new outfall and gravity sewer lines are expected to include a total 83 four-foot diameter and 45 five-foot diameter manholes. The outfall will include a permanent maintenance easement 30 feet wide and an additional 15 to 20 feet temporary easement for construction.

Funding Status: The estimated total cost for the project is $32,891,448. The PWC is applying for Clean Water State Revolving Fund (CWSRF) loans totaling $22,417,214 ($6,255,105 under project number CS370434-15 and $16,162,109 under project number CS370434-16). Local funds, including bonds, will be used to cover the remaining $10,474,234. The PWC intends to apply for an additional CWSRF loan of $10,025,890 in a future funding round, which will offset some of the local funds if awarded. With a third loan, the total project cost would increase to $33,091,966 due to closing costs for the additional loan.

B. Existing Environment

Topography and Soils. Fayetteville in the Sandhills region of the Coastal Plain physiographic province. The topography of the project area is level to gently sloping with elevations ranging from approximately 92 to 160 feet above mean sea level. Geologic units in the project area include the Cape Fear Formation, which consists of sandstone and sandy mudstone; the Black Creek Formation, which is characterized by lignitic clay with thin beds of fine-grained micaceous sand and thick lenses of cross-bedded sand; and the Middendorf Formation including fluvial-deltaic sands, sandstone, mudstone, and clay. Portions of the proposed alignment are in the 100-year floodplain and floodway.

The dominant soil types in the project area include Blaney loamy sands with eight to 15 percent slopes and Baymeade fine sand with two to eight percent slopes. These are deep, well-drained soils typically associated with marine terraces, hills, and flats. Torhunta and Lyn Haven soils, which are poorly drained and hydric soils, are also common.

Surface Water. The project area is located in the Upper Cape Fear River Basin (HUC 03030004). Surface waters in the project areas include Stewarts Creek, which has a Class C designation and no impairments, and Rockfish Creek, which is designated Class B and has no impairments.

Water Supply. Most of the project corridor relies on private wells and is not serviced by public drinking water. PWC does provide drinking water service to the six neighborhood lift station

areas, with water drawn from the Cape Fear River or Glenville Lake Aquifer. A portion of the project corridor is served by Aqua NC, which utilizes deep wells.

C. Existing Wastewater Facilities

The area to be served by the proposed project does not currently have sewer service and relies on private septic systems. PWC's sewer sub-basin RF-19 that will receive flow from the proposed outfall includes 179,463 LF of sewer line ranging from 6-inch to 24-inch diameter, 870 manholes, and two of the neighborhood lift stations that will be abandoned. The other four lift stations to be abandoned are in an adjacent sewer sub-basin along the route. These six lift stations have capacities ranging from five gallons per minute (gpm) to 1,000 gpm. An additional 1,500 gpm lift station is in a nearby sewer sub-basin and will remain in operation. Sub-basin RF-19 has experienced 11 sanitary sewer overflow (SSO) events in the past five years. Hurricane Matthew contributed to two of the SSO events. The others were attributed to debris or grease in cleanouts, third party damage, and equipment failures. The proposed outfall will tie into an existing 18-inch gravity sewer line. The collection system feeds into the main Rockfish Outfall and conveys wastewater to PWC's Rockfish Creek Wastewater Treatment Plant (WWTP).

D. Need for Proposed Facilities and Actions

The PWC is obligated to provide sewer service in the project area as part of the annexation agreement. These areas are currently unsewered. By extending sewer service, the project will replace septic systems that will eventually fail if left in place. The project will also allow for future service to other unserved or underserved areas in southwestern Cumberland County and eastern Hoke County. Replacing the six neighborhood lift stations with gravity sewer will improve reliability of the overall sewer collection system.

E. Alternatives Analysis

No-Action Alternative: In this alternative, nothing would be constructed, and the PWC's sewer system would continue operating as it normally does. This alternative is rejected because it does not address PWC's obligation to provide sewer service to recently annexed areas.

Regional Lift Station Alternative: This alternative would include a regional lift station and approximately 10,000 LF of 12-inch forcemain to convey collected sewage to the existing gravity sewer system. This alternative would have similar environmental impacts and life cycle cost as the preferred alternative, but the regional pump station would be less reliable than a gravity sewer outfall. In addition, this alternative would not allow for removal of the six existing neighborhood lift stations. This alternative is rejected due to the reduced reliability of the regional lift station and because the six neighborhood lift stations would remain in place, also reducing overall system reliability compared to the preferred alternative.

Construction of Sanitary Sewer Outfall: This alternative will construct a gravity sewer outfall to convey wastewater from the annexed areas for which PWC is required to provide sewer service. The outfall will include approximately 22,900 LF of 24-inch gravity sewer and 10,850 LF of 18-inch gravity sewer. This alternative will also abandon six neighborhood lift stations and tie them

into the proposed outfall. The proposed outfall alignment will parallel Stewarts Creek to Upchurches Pond and then follow Rockfish Creek to the tie-in with existing gravity sewer. This alternative is preferred because it meets PWC's obligation to provide sewer service to annexed areas, provides a means for future sewer service to underserved areas and future development with minimal environmental impact, has life cycle cost similar to other options, and removes lift stations to improve overall system reliability.

F. Environmental Consequences and Mitigative Measures

Topography and Soils: Construction will have minimal and mostly temporary impacts to topography and soils. Impacted areas will be returned to preconstruction elevations. Portions of the outfall will be constructed in floodplains and floodways. A Floodplain Development Permit will be obtained from Cumberland County before any construction in Special Flood Hazard Areas begins. Soil loss during construction will be minimized by following a DEQ-approved Erosion and Sedimentation Control Plan. The trench for the sewer lines will be excavated and backfilled within the same day, with suitable soils returned to their original locations on the route. Contactors will temporarily stabilize and seed the project area as the project progresses, with permanent stabilization upon completion.

Land Use: Impacts to land use are not expected to be significant. The proposed alignment is primarily located within private property adjacent to Stewarts Creek and Big Rockfish Creek. Temporary easements are needed for construction of the project area, with smaller permanent easements needed for a maintenance corridor. Areas outside of the maintenance corridor will be returned to preconstruction condition and use. Although the project is intended to service existing residential areas, construction of new sewer lines has the potential to induce population growth. Impacts from any future growth will be minimized through Cumberland County's Land Use Plan, which will manage growth and conserve natural and cultural resources.

Wetlands: Significant impacts to wetlands are not anticipated. Permanent impacts will be approximately 4.75 acres due to wetland forest clearing for maintenance corridors. Such areas will be converted from palustrine forest to palustrine emergent vegetation. An additional 1.97 acres of temporary impacts are anticipated. Construction staging areas will be outside of wetlands. Excavated materials will be returned to restore pre-construction elevations. If required, mitigation credits for permanent wetland impacts will be purchased from the Division of Mitigation Services or an existing private mitigation bank. Appropriate permits, including Nationwide 12 Authorization or individual U.S. Army Corps of Engineers 404 and 401 Water Quality Certification, will be obtained as required. Any future development will be required to adhere to buffer requirements in accordance with Cumberland County and City of Fayetteville development ordinances.

Important Farmlands: Significant impacts to important farmlands are not anticipated. The project area includes some designated prime and unique farmland soils, but these areas are not currently in farm use. Impacts to such areas will be temporary, with soils returned to original position and elevation after construction of the sewer lines.

Public Lands and Scenic, Recreational, and State Natural Areas: There are no formally designated public lands, scenic, recreational, or state natural areas in the project area or service area; thus no impacts are anticipated.

Cultural Resources: Upon request of the North Carolina State Historic Preservation Office (SHPO), a comprehensive Phase 1 archaeological survey was conducted. Preliminary research by SHPO had noted one previously recorded site in the vicinity of the survey areas, but the site was not identified during the survey, and its location is in doubt. The survey did record one newly identified site. This unknown prehistoric isolated find is not recommended as eligible for the National Register of Historic Places (NHRP). Based on the survey, no significant archaeological resources will be impacted by the proposed project. SHPO accepted the survey report as final and complete (September 17, 2019, ER 18-0126).

Air Quality: No significant impacts to air quality are anticipated. Construction activities may cause a slight increase in particulates from land clearing and exhaust clearing. Proper vehicle maintenance, wetting of exposed soil, and prompt stabilization will minimize impacts. All construction equipment will be properly equipped with emission controls. Any open burning for will be in compliance with all regulations. Sewer vents may emit some nuisance odors, but odor controls will be incorporated into the project design, including activated carbon manhole inserts or similar methods. Urban growth many contribute to increased air pollutant emissions from vehicles, traffic, and industrial activities. Mitigation for air impacts is primarily addressed at the state and federal level, but local development incentives promoting cluster development and multi-use development may help reduce miles traveled per person and reduce associated vehicle emissions.

Noise Levels: No significant permanent noise impacts are anticipated. Construction activities will be limited to Monday through Friday from 7:00 AM to 6:00 PM. Construction noise will be temporary and mostly confined to the immediate construction area. Operation of the underground infrastructure will not contribute to noise levels. Noise impacts from future growth will be minimized through planning and zoning impacts, buffers, and noise barriers where needed.

Water Resources: No significant impacts to water resources are anticipated. Impacts from construction activities will be mitigated through use of a DEQ-approved Erosion and Sedimentation Control Plan and adherence to permit and buffer requirements from the Division of Water Resources and U.S. Army Corps of Engineers. Stream crossings will be installed with open cuts during low flow conditions to minimize impacts. The project will remove older septic systems, possibly removing a source of stream and groundwater pollution. Any future development will be required to adhere to buffer requirements in accordance with Cumberland County and City of Fayetteville development ordinances.

Forest Resources: Some clearing will be required within permanent easements for the maintenance corridor. These permanent impacts will total approximately 34.42 acres. Clearing in temporary easements will be kept to a minimum. Trees not intended for removal will be protected from unnecessary cutting, breaking, or skinning. Care will be taken to avoid damage to

vegetation outside of easements. Unintended damage will be repaired or replaced, when practicable. Impacts to local forestry and agriculture production are not anticipated.

Shellfish or Fish and Their Habitats: Significant impacts to shellfish, fish, and their habitats are not expected. Big Rockfish Creek and Stewarts Creek do provide habitat for aquatic life, but no threatened and endangered species are present. Impacts from land disturbance will be minimized through silt fence, rock check dams, silt sack inlet protection, concrete washouts, temporary gravel construction entrances, and adherence to an approved Erosion and Sedimentation Control Plan. Vegetated buffers will be maintained to the maximum extent practicable. The minimum buffer along Big Rock Fish Creek is 50 feet, and the minimum buffer on Stewarts Creek is 75 feet. Most stream crossings are perpendicular to minimize buffer disturbance. Directional drilling is not practical for maintaining grade on a long gravity sewer installation, so open cut stream crossing will be utilized but will be done when water levels are low and stream flow is minimal to reduce impacts to aquatic species. Recommendations from the NC Wildlife Guidance Memorandum will be followed to minimize secondary and cumulative impacts.

Wildlife and Natural Vegetation: No significant impacts to wildlife and natural vegetation are expected. The project areas do not include habitat for any threatened and endangered species. Impacts to wildlife and natural vegetation will be minimized by keeping clearing and grubbing for temporary easements to a minimum, with care taken to avoid disturbance outside of easement limits. Disturbed areas will be re-seeded and stabilized in accordance with permits from the DEQ's Division of Energy, Minerals, and Land Resources

Introduction of Toxic Substances: The project is not expected to introduce toxic substances into the environment. Dumping of chemicals, fuels, lubricants, raw sewage, and other waste will be prohibited. Contractors will be required to take precautions to prevent pollution of areas in and adjacent to the project and minimize the generation of waste.

The U.S. Fish and Wildlife Service reviewed the proposed project and concluded that the requirements of Section 7(a)(2) of the Endangered Species Act have been fulfilled (February 16, 2018). The North Carolina Wildlife Resources Commission, Natural Heritage Program, and DWR Fayetteville Regional Office concur with the proposed project. The U.S. Army Corps of Engineers was consulted and did not object to the project. The North Carolina Department of Natural and Cultural Resources is not aware of historic resources that would be affected by the project (September 17, 2019, ER 18-0126).

G. Public Participation, Sources Consulted

A public meeting was held on July 22, 2020 via videoconference due to the COVID-19 pandemic, including a presentation about the project. Commissioners and council members asked several questions summarized with responses as follows:

- Comment: Is the gravity outfall newer technology than was available when the six lift stations to be replaced were installed?

  Response: Gravity sewers have been around for a very long time. Technology, materials, and installation methods have changed. Pre-annexation population

density in the area might have made the lift stations a more cost-effective solution at the time that they were installed, but the gravity outfall is a more flexible approach for the current and expected future population density. The gravity outfall is also less labor intensive to maintain compared to lift stations.

- Comment: Does the gravity sewer outfall have limitations related to hurricanes? Does it max out and require pump stations to mitigate heavy rainfall?

  Response: During the last two hurricanes, limited capacity of lift stations requiring pumping to minimize spillage. In a hurricane situation, a lift station is riskier than gravity outfall as far as potential for reaching capacity. Manholes have potential risk, but they will be designed with measures to minimize risk such as water-tight covers and elevation in areas of ponding. Infiltration and inflow in a gravity sewer system typically comes from the collection area itself, especially as the pipes begin to age. Impacts of the collection system feeding into a gravity outfall or lift station would be similar. The outfall design and remaining lift stations will be able to handle even critical flow capacity.

- Comment: Is the "Do Nothing" alternative not available because of a State requirement or concern about existing septic fields?

  Response: Doing nothing is not an acceptable option because PWC is obligated to provide sewer service as part of the annexation agreement. There have not been reports of failing septic systems at this time, but septic systems do have a limited timeframe.

- Comment: Does "Regional Lift Station" imply that the six individual lift stations would be consolidated into a larger one to transport wastewater:

  Response: No, "regional lift station" denotes a lift station that serves a larger geographic area.

- Comment: Is there an opinion on the likelihood of receiving additional state funding?

  Response: Without knowing what other projects will be submitted, there is really no way to know. The biggest disadvantage is that the state considers this an expansion project, which they prioritize lower than a rehabilitation project.

- Comment: Will the PWC Water Resources Department manage the project, or will construction be managed by an outside firm?

  Response: Typically, a large project like this is a combination. Our (PWC's) project coordinator will be involved.

Following the discussion with the Commissioners, the meeting was opened for public comment. One participant via videoconference asked the following questions:

- Comment: If PWC does not receive a third loan, will the cost be absorbed by the public?

  Response: The loan will have to be repaid, and the interest rate for the state loans is typically lower than the bonds. PWC also has additional options to have it funded by bonds or by deferring other projects.

- Comment: How will their neighborhood lift station look?

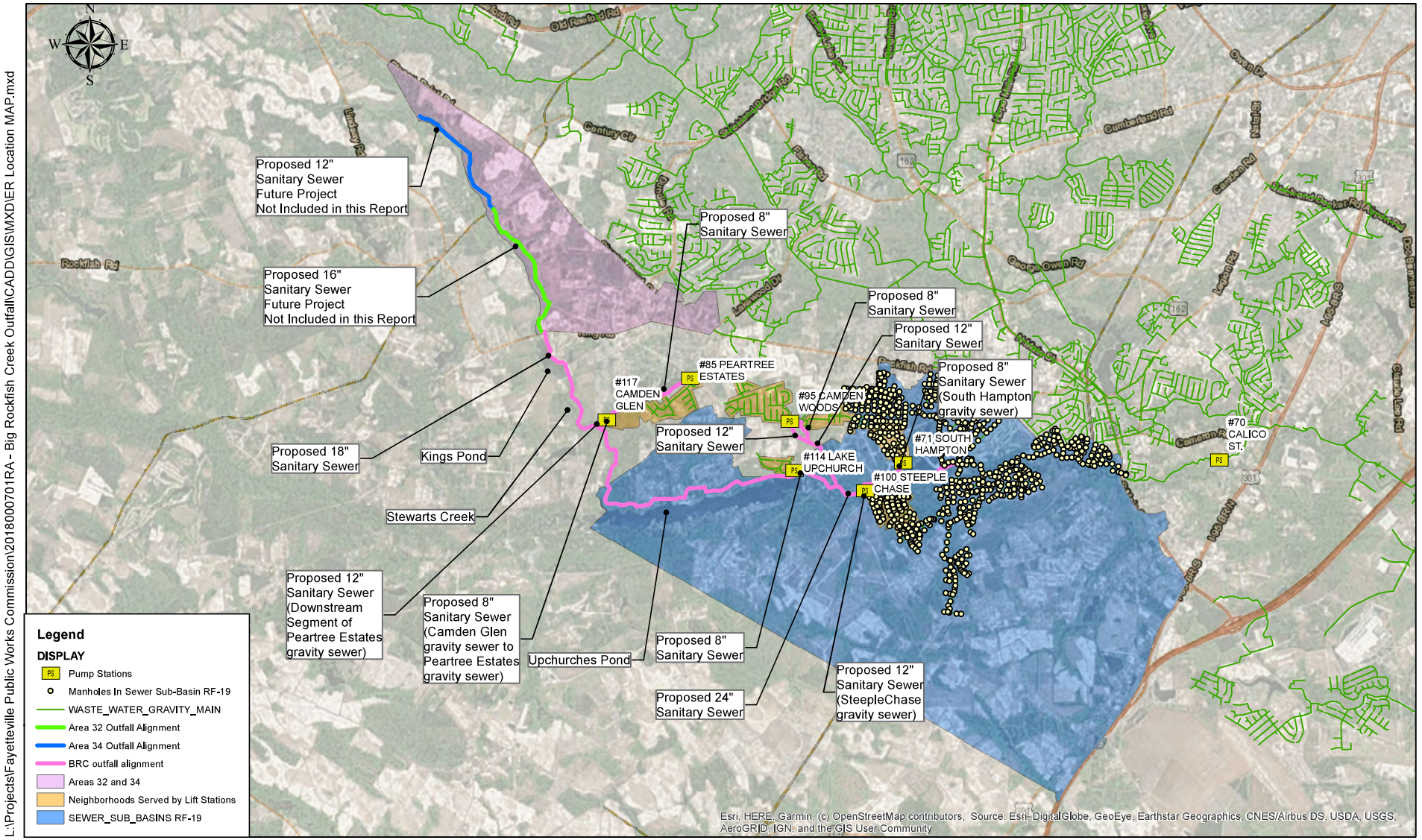
  Response: Everything will be removed except for the manhole, and the fence will remain around the manhole for security.

All questions were satisfactorily addressed during the meeting and no objections to the project were raised.

The current user charge for a typical residential customer is $70.19 per month for 5,000 gallons of water and sewer service combined. The proposed project will increase the bill by $1.62 (approximately 2.3%), for a future combined bill of $71.81. If an additional CWSRF loan is awarded in future funding rounds, the impact to user rates will be very similar with an increase of $1.65 for a future combined bill of $71.84.)

Sources consulted about this project for information or concurrence included

1) City of Fayetteville
2) Cumberland County
3) North Carolina Department of Environmental Quality
   -Wildlife Resources Commission
   -Natural Heritage Program
   -DEQ Fayetteville Regional Office
   -Division of Air Quality
   -Division of Water Resources
   -Division of Forest Resources
   -Division of Environmental Assistance and Customer Service
   -Division of Waste Management
4) North Carolina Department of Natural and Cultural Resources
5) North Carolina State Clearinghouse
6) North Carolina Department of Public Safety
7) U.S. Fish and Wildlife Service
8) U.S. Army Corps of Engineers



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Fayetteville, NC

WK DICKSON
community infrastructure consultants

FIGURE ES.2: PROJECT LOCATION MAP

0 5,000 10,000 Feet

1 inch = 5,000 feet