FINDING OF NO SIGNIFICANT IMPACT
AND ENVIRONMENTAL ASSESSMENT

CITY OF GOLDSBORO
WATER TREATMENT ENHANCEMENT PLATE SETTLERS PROJECT

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:	City of Goldsboro, North Carolina
Project Description:	The proposed project will install inclined plate settlers inside existing sedimentation basins at the City's existing Water Treatment Plant. A FONSI was issued in 1994 to expand the treatment plant from 14.0 million gallons per day (MGD) with the provision that inclined plate or tube settlers would be installed for flows above 12.0 MGD. Construction in 1994 included all elements for the expansion to 14.0 MGD except for the inclined plate settlers. The plant has been operating at 12.0 MGD. This project will enable the plant to expand to the full capacity of 14.0 MGD.
Project Number:	WIF-1942
Project Cost:	$1,833,307
Drinking Water State Revolving Loan Fund:	$1,797,360
Local Funds:	$35,947

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 and reviews by governmental agencies. The attached Environmental Assessment 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,

Seth Robertson, P.E., Chief
State Revolving Fund Section
Division of Water Infrastructure

ENVIRONMENTAL ASSESSMENT

A. Proposed Facilities and Actions

The proposed project will make improvements at the City of Goldsboro's Water Treatment Plant (WTP) to expand the capacity from 12.0 million gallons per day (MGD) to 14.0 MGD. A Finding of No Significant Impact (FONSI) was issued in 1994 to expand the WTP from 10.0 MGD to 14.0 MGD with the provision that inclined plate or tube settlers would be installed for flows above 12.0 MGD. Construction in 1994 included all elements for the expansion to 14.0 MGD except for the inclined plate settlers. The plant has been operating at 12.0 MGD since that time. This project will install inclined plate settlers inside existing sedimentation basins to allow the plant to expand to the full capacity of 14.0 MGD.

Funding Status: The estimated total cost for the project is $1,833,307. The City is applying for a Drinking Water State Revolving Fund (DWSRF) loan of $1,797,360. The loan fee of $35,947 will be covered by local funds.

B. Existing Environment

Topography and Soils. The City of Goldsboro is located in the Coastal Plain Physiographic Province. The plant site is relatively flat with elevations ranging from approximately 79 feet to 80 feet above mean sea level.

The soil at the WTP site is predominantly Nahunta very fine sandy loam.

Surface Water. The project area is located in the Upper Neuse River Sub-Basin (HUC 03020201). Streams in the project area include the Little River and the Neuse River both classified as WS-IV, NSW in the reach immediately upstream of the water intakes and and Class C, NSW below the intakes.

Water Supply. The City provides drinking water drawn primarily from the Neuse River. In extreme emergencies, water is also drawn from the Little River.

C. Existing Water Facilities

The City's existing WTP has a permitted capacity of 12.0 MGD and utilizes conventional treatment technology consisting of coagulation, flocculation, sedimentation, filtration, and disinfection. Extensive rehabilitation was done in 2010 and 2013. The plant is in good condition with many years of available service life remaining. The distribution system includes approximately 274 miles of water lines, primarily consisting of ductile iron.

D. Need for Proposed Facilities and Actions

The project is needed to provide enhanced water treatment for turbidity removal under all conditions of service which will allow the plant to increase the capacity. The capacity increase is needed because four groundwater systems surrounding Goldsboro have water supply concerns due to Central Coastal Plain Capacity Use Area (CCPCUA) withdrawal restrictions. These systems have requested that the City sell them treated water to augment their groundwater supply. The plate settler project will make the plant more reliable in meeting its turbidity limits.

E. Alternatives Analysis

No-Action Alternative: Under the No-Action alternative, no project would be constructed and the WTP would continue to operate in its existing condition with no upgrades or capacity increase. This alternative was rejected because the City would not be able to provide enough water to meet water supply agreements made with local districts.

Alternative 1 – Construct an additional sedimentation basin: This alternative would include constructing an eight sedimentation basin identical to the existing seven basins at the plant and expand the capacity of the plant from 12.0 MGD to 14.0 MGD. This alternative would likely perform similarly to existing sedimentation basins, which require additional turbidity reduction. This alternative was rejected because it does not meet the design criteria and recommendations for water treatment quality for the plant.

Alternative 2 – Install inclined plate settlers: This alternative would construct inclined plate settlers in each of the seven sedimentation basins to improve turbidity treatment and allow the plant capacity to expand to 14.0 MGD. This alternative is preferred because it meets all regulatory design requirements and has the lowest capital cost.

Alternative 3 – Install Tube settlers: This alternative would construct tube settlers in each of the seven existing sedimentation basins to improve turbidity treatment and allow the plant capacity to expand to 14.0 MGD. This alternative was rejected because while it meets design requirements, the cost is higher than Alternative 2.

F. Environmental Consequences and Mitigative Measures

Topography and Soils:

As the inclined plate settlers will be installed directly into existing concrete sedimentation basins, no significant impacts to topography and soils are anticipated. The WTP is located in the 100-year floodplain. The existing sedimentation basin walls are 14.55 ft above grade and 17.12 feet above the 100-year flood elevation. Because the settling plates will be installed inside the existing basins, no significant impacts to floodplains or floodways are anticipated. A Floodplain Development Permit will be obtained prior to construction.

Land Use: The project will take place entirely within the existing plant site owned by the City of Goldsboro. No significant impacts to land use are anticipated.

Wetlands: The WTP property includes a small amount of freshwater forested and shrub wetlands. Construction will be inside of existing sedimentation basins; thus, these wetland areas will not be disturbed. The U.S. Army Corps of Engineers was contacted and did not object to the project (May 9, 2018).

Important Farmlands: There will be no net loss of important farmlands. No important farmlands are located at the plant site, and soil disturbance is not anticipated.

Public Lands and Scenic, Recreational, and State Natural Areas: There are no known public lands, scenic, recreational, or state natural areas within five miles of the plant; thus there will be no negative impacts to public lands or scenic, recreational, or state natural areas.

Cultural Resources: In a memorandum dated July 6, 2018, (No. ER 18-1385), the North Carolina State Historic Preservation Office (SHPO) stated that they are aware of no historic resources which would be affected by the project.

Air Quality: Minor construction activities possibly including vehicle emissions will be involved to install the plate settlers into existing sedimentation basins. Operation of the plate settlers will not have any impact on air quality at the plant.

Noise Levels: There may be a temporary increase in noise when the plate settlers are installed. There will not be any increase in noise due to operation of the plate settlers once they are installed. The plant already includes emergency generators inside noise dampening enclosures.

Water Resources: No significant impacts to water resources are anticipated. To minimize construction impacts, all construction will be in accordance with a NCDENR-approved and county-approved erosion and sedimentation control plan and other provisions of the Sedimentation Pollution Control Act of 1973. The water supply in the Neuse River is adequate to support an additional 2.0 MGD withdrawal without adverse impacts. The City has established a Public Water Supply Watershed Protection Ordinance to protect the local water supply.

Forest Resources: No significant impacts to forest resources are expected. The plate settlers will be installed in existing basins. No clearing is required. There are forested areas on the plant site and surrounding area, but these areas will not be disturbed.

Shellfish or Fish and Their Habitats: Impacts to shellfish, fish, and their habitats are not expected to be significant. No soils will be disturbed outside of the plant, and water flow is sufficient to allow for additional withdrawal of 2.0 MGD without disturbing aquatic life. Construction impacts will be minimized through adherence to a NCDENR-approved and county-approved erosion and sedimentation control plan and other provisions of the Sedimentation Pollution Control Act of 1973.

Wildlife and Natural Vegetation: No significant impacts to wildlife and natural vegetation are expected. The settling plates will be installed in existing sedimentation basins. Natural areas surrounding the plant will not be disturbed.

Introduction of Toxic Substances: Introduction of toxic substances from construction activities is possible from vehicle fluids. Spill prevention and containment measures will be implemented along with best management practice to prevent and control spills. The plate settlers do not use any toxic substances.

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 (June 20, 2018). The North Carolina Wildlife Resources Commission, Natural Heritage Program, and DWR Washington Regional Office concur with the proposed project. The U.S. Army Corps of Engineers was contacted and did not object to the proposed project. The North Carolina Department of Natural and Cultural Resources is not aware of historic resources that would be affected by the project (July 6, 2018, ER 18-1385).

G. Public Participation, Sources Consulted

A public meeting was held on November 19, 2018 including a presentation about the proposed project. There were no objections to the project. The current user charge for a typical customer is $45.33 per month for 5,000 gallons of water and sewer service combined. The proposed project is not expected to impact existing water and sewer rates.

Sources consulted about this project for information or concurrence included

1) City of Goldsboro
3) North Carolina Department of Environmental Quality
   - -Wildlife Resources Commission
   - -Natural Heritage Program
   - -DEQ Washington 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

City of Goldsboro Water Treatment Plant

1201 Jordan Blvd., Goldsboro NC 27530