



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, CHARLESTON DISTRICT  
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CHARLESTON SC 29403

# FINDING OF NO SIGNIFICANT IMPACT

## MUSC Pump Station Upfit Charleston County, South Carolina July 2024

The National Environmental Policy Act (NEPA) requires the U.S. Army Corps of Engineers, Charleston District (USACE), to evaluate the effects of proposed Federal activities on the environment and human health and welfare. This Finding of No Significant Impact (FONSI) summarizes the results of the USACE evaluation and documents the USACE's conclusions.

USACE, in cooperation with the City of Charleston, is proposing to complete upfitting and rehabilitation of the Medical University of South Carolina (MUSC) pump station. The pump station serves a 12.68-acre, highly developed and largely impervious drainage basin which is interconnected with other basins draining the Charleston Medical District. The pump station currently houses three Flygt channel impeller submersible pumps (model CP 3400/765) which have been damaged by cavitation repeatedly through time, and the station pumps are expected to come to the end of their intended design life and require rehabilitation and upgrades by 2025. Proposed improvements to the pump station include increased pumping capacity, improved hydraulic configuration in the wet well and inflow chamber, enclosure and conditioning of the control room, and replacement and upgrade of electrical, instrumentation and controls, and lighting.

This project is a top priority for the City of Charleston. The Medical District is one of its most flood-prone areas. Flooding in this location causes some of the worst impacts within the basin due to the effect on critical Medical District access roads and hospital buildings. This portion of the basin is a topographic bowl where a regional low area traps water and results in sustained heavy street flooding up to 1.5 feet deep following a 10-year storm event, completely preventing even most high-water vehicles from being able to access the hospitals. With an improved pump station, modeling shows elimination of this flooding.

An Environmental Assessment (EA) of the anticipated environmental effects of the proposed project was prepared by USACE. USACE's work on this project is being conducted under authority of Section 219 of the Water Resource Development Act (WRDA) of 1992, Public Law 102-580, as amended, which authorizes USACE to provide assistance to non-Federal interests for water and wastewater related environmental infrastructure projects.

Alternatives concerning USACE actions to implement this project were considered and evaluated based on compliance with environmental laws and regulations, compliance with executive orders, and impacts to the environment including those to air quality and noise, aquatic resources and water quality, climate change, coastal zone resources, cultural resources, sediment, socioeconomics and environmental justice, terrestrial biological resources, threatened and endangered species, cost effectiveness, engineering feasibility, and the ability of the alternative to meet the purpose and needs of the project. In reviewing alternatives, USACE considered whether they would be technically feasible (engineering); cost effective; and compliant with applicable environmental laws, regulations, and executive orders; and whether they would have less than significant environmental impacts. Only the Proposed Action Alternative was found to meet the criteria outlined above. A No Action Alternative, while it would not meet the purpose and

need for action, was included in the evaluation to provide a baseline for environmental impacts, as required by NEPA.

- **Air Quality and Noise** – A short term increase in noise and temporary reduction of air quality is expected during construction; however, these impacts would be temporary and limited to the immediate areas of project construction.
- **Aquatic Resources and Water Quality** – Increased capacity from installation of higher power pumps could have localized impacts at the outfall into the Ashley River. However, these smaller scale, temporary impacts would be of minimal size and scale relative to the broader level impacts of storm events, and the coinciding benefits of the increased pump capacities would provide net benefits for estuarine fauna.
- **Climate Change** – Minimal amounts of greenhouse gases would be created during construction of the proposed project. Best management practices would be followed to reduce greenhouse gas emissions. Any areas cleared for construction would be allowed to re-vegetate and those areas would be able to sequester carbon in the future.
- **Coastal Zone Resources** – Conditions have been considered by USACE and the associated actions have been determined to be consistent with the South Carolina Coastal Management Program (SCCMP) and its enforceable policies to maximum extent practicable.
- **Cultural Resources** – No adverse effects on cultural resources are expected as a result of implementing the proposed project.
- **Sediment** – Some sediment disturbance will be necessary to replace short inflow pipes but is expected in a very small impact area. No filling or discharge into local waterway would occur as part of construction and would not impact aquatic sediments. No increased flow velocity is expected at the estuarine outfall and thus, no significant effect to sediment conditions.
- **Socioeconomics and Environmental Justice** – Some economic benefits would be realized as more efficient reduction in flood damages would occur. These benefits would not be disproportionate relative to local demographics.
- **Terrestrial Biological Resources** – Some disturbance associated with construction of facilities and upfitting of the short inflow pipes would affect some nearby plants and wildlife. However, impacts would be temporary in duration and insignificant in magnitude.
- **Threatened and Endangered Species** –The project may affect, but is not likely to adversely affect, the West Indian Manatee (USFWS jurisdiction), and green sea turtle, Kemp’s ridley sea turtle, loggerhead sea turtle, Atlantic sturgeon, shortnose sturgeon, and giant manta ray (NMFS jurisdiction). Negligible or beneficial effects on threatened and endangered species are expected with long-term improvements to water quality downstream of the project.
- **Cumulative Impacts** – No significant adverse cumulative impacts are expected as a result of implementing the proposed project.

USACE has determined that the proposed action would not result in a significant impact on the quality of the human environment. Accordingly, the preparation of an Environmental Impact Statement is not warranted, and the issuance of a FONSI is appropriate. The Draft EA for the proposed action can be downloaded from the internet (in PDF format) at <https://www.sac.usace.army.mil/Missions/Civil-Works/NEPA-Documents/>.

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