

Coastal Zone Consistency (Federal Consistency) Review for USACE's Charleston Peninsula Coastal Flood Risk Management Study, Charleston, South Carolina September 2021

Background

The South Carolina Coastal Management Program was authorized in the South Carolina Coastal Tidelands and Wetlands Act of 1977 (Statutory Code Ann. Section 48-39-10 et seq.). The South Carolina Department of Health and Environmental Control Division of Ocean and Coastal Resource Management (SCDHEC OCRM) is responsible for the implementation of the state's program. The goals of the South Carolina Coastal Management Program are attained by enforcement of the policies of the State as codified within the South Carolina Code of Regulations (SC Code of Regulations Chapter 30).

The national Coastal Zone Management Act of 1972, as amended, requires that each Federal agency activity performed within or outside the coastal zone that affects land or water use, or natural resources of the coastal zone, be carried out in a manner which is consistent to the maximum extent practicable, i.e. fully consistent, with the enforceable policies of approved state management programs.

The U.S. Army Corps of Engineers, Charleston District (USACE) is currently conducting the Charleston Peninsula Coastal Flood Risk Management Study to investigate and recommend potential structural, nonstructural, and natural or nature-based solutions to reduce damages and life safety impacts from coastal storms. The authority to study coastal South Carolina, including the Charleston Peninsula, was provided in the Rivers and Harbors Act of 1962, P.L. 87- 874, Section 110, and a subsequent Senate Committee Resolution dated 22 April 1988. Funding for the study was appropriated by the Bipartisan Budget Act of 2018 (Public Law 115-123), Division B, Subdivision 1, Title IV. The City of Charleston requested this study and is the non-Federal sponsor. As a result of the study, USACE has identified a Tentatively Selected Plan, also considered the proposed Federal action. This Tentatively Selected Plan was determined to be the National Economic Development Plan (meaning it maximizes the storm risk reduction benefits for the cost) and to have the least environmental impacts of the action alternatives considered. In compliance with the National Environmental Policy Act (NEPA), a draft integrated Feasibility Report/Environmental Impact Statement (FR/EIS) has been prepared for the study and accompanies this Federal Consistency review. It is available on USACE's website at: <https://www.sac.usace.army.mil/Missions/Civil-Works/Supplemental-Funding/Charleston-Peninsula-Study/>.

According to 15 CFR 930.37, a Federal agency may use its NEPA documents as a vehicle for its consistency determination with the Coastal Zone Management Act. Therefore, in compliance with the Coastal Zone Management Act of 1972, USACE has reviewed the proposed Federal action for consistency with the enforceable policies of the 1979 South Carolina Coastal Zone Management Program of SCDHEC OCRM, and prepared this consistency determination, supported by detailed information within the draft FR/EIS. Below is a summary of the proposed Federal action, the Federal Consistency review, and USACE's conclusion. The draft FR/EIS should be referred to for more information.

Description of Federal Action

The location of the proposed Federal action is the Charleston Peninsula study area (approximately 8 square miles of the lower Charleston Peninsula within the City's jurisdiction, see Figure 1). The region of influence for environmental effects includes the study area and the adjacent waterways of the Charleston Harbor, lower Ashley River, and lower Cooper River, as well as communities and historical resources outside of the study area that align those waterways. Notable areas that are not in the region of influence of the proposed Federal action are the Atlantic Intracoastal Waterway and barrier islands flanking the Charleston Harbor.

The following objectives have been identified for the Charleston Peninsula Coastal Flood Risk Management Study:

- Reduce risk to human health, safety, and emergency access from coastal storm surge inundation on the Charleston Peninsula through the 50-year life of the project, estimated to be 2032 to 2082.
- Reduce economic damages resulting from, and increase resilience to, coastal storm surge inundation on the Charleston Peninsula through the 50-year life of the project, estimated to be 2032 to 2082

The proposed Federal action to meet the study objectives includes construction of a storm surge wall of 12 ft elevation NAVD88 along portions of the perimeter of the Charleston Peninsula, nonstructural measures in the form of elevating and flood proofing for a limited number of structures, and natural and nature-based features in the form of large-scale oyster reef-based living shoreline sills. The approximate locations of these measures are shown in Figure 1 and are described in much more detail in the draft FR/EIS. Conceptual drawing and examples of the structural measures can be found in the Engineering Appendix. A summary of some key features of the measures are provided here.



Figure 1. Map showing the study area and approximate locations of the measures in the proposed Federal action.

Approximately 7.1 non-continuous miles of the perimeter storm surge wall would be constructed on land; approximately 1.5 non-continuous miles would be constructed through saltmarsh wetlands. The wall would be constructed of concrete, and on land it would be a T-wall design and in the marsh, it would be a combination design. For the combination wall, 12x12 ft prestressed concrete sheet piles would be battered at an inclination from vertical, using a hammer. The actual height of the wall at any given location will vary depending on the existing ground elevation, so that in total the height of the land and the wall reaches 12 ft NAVD88 to reduce the impacts of storm surges up to this height.

In relation to the storm surge wall, a number of features are being proposed. A series of gates would be needed in the wall to allow for daily access by pedestrians and transportation where the wall would intersect with existing infrastructure. The preliminary number and conceptual locations of the upland gates are discussed in the draft FR/EIS. Storm gates in the form of sluice gates are also needed to allow for daily tidal exchange in areas that intersect with the proposed wall. Five storm gates would be installed in the combination wall at Halsey Creek, and five storm gates would be installed at existing culverts that traverse several creeks or channels. These are also described in more detail in the draft FR/EIS. Gates would be closed during a storm surge event, and otherwise remain open.

A walking path for pedestrian transportation is planned on top of portions of the storm surge wall where it is located on land in the place of current sidewalks, similar to the promenade on the current Battery seawalls. The wall would also include aesthetic design features that are consistent with the current character of the Charleston Peninsula, which will be determined in a later design phase, if the project is authorized for funding.

Five permanent and five temporary pump stations of low to moderate size, ranging from 20 to 90 cubic feet per second (cfs), would be installed. The purpose of the hydraulic pumps is to mitigate for rainfall flooding that may occur in the interior of the proposed wall. These pumps would be consistent in size with the smaller pumps currently permitted and operated by the City of Charleston. The pumps are described in the draft FR/EIS, including their preliminary locations. The final number and locations of the hydraulic pumps will be verified in a later phase of the project, if it is authorized for funding. However, they are not expected to change considerably.

For nonstructural measures, elevating and floodproofing of structures have been proposed in residential areas where construction of the storm surge wall would not be practicable due to topography and other constructability constraints. For example, dry

floodproofing measures would be applied to the Bridgeview Village neighborhood and elevation measures would be applied to the Rosemont neighborhood due to the nature of the construction materials and techniques used in these communities. Wet floodproofing measures, such as elevating utilities, would be applied in the Lowndes Point neighborhood because residential structures are already elevated above 12 feet NAVD88.

Finally, in association with the storm surge wall, approximately 9,3000 linear feet of oyster reef-based living shoreline sills would be constructed in strategic locations to reduce coastal storm impacts to natural shorelines and other resources seaward of the wall. The living shoreline sills would reduce erosion of existing wetland marsh, while reducing scour at the base of the proposed storm surge wall. The living shorelines would also provide other environmental benefits, such as habitat for fish and wildlife. The exact locations would be verified in a later phase of the project, if it is funded, but they have been proposed in areas where small scale living shoreline projects have already shown success.

Coastal Zone Consistency Review

USACE reviewed the policy groups of the South Carolina Coastal Zone Management Program to determine Federal Consistency, based on their relevancy or applicability to the proposed Federal action. The policy groups that were considered for determining if the proposed Federal action is consistent with the enforceable policies of the South Carolina Coastal Zone Management Program included: Fish and Wildlife Management, Geographic Areas of Particular Concern, Areas of Special Resource Significance, Erosion Control, Shoreline Access, and Stormwater Management.

Additionally, the proposed Federal action would take place in “Critical Areas.” Impacts on Critical Areas were taken into consideration while reviewing the policy groups. All of the tidelands and coastal waters in the study area and region of influence are within Critical Areas. Policies related to Areas of Special Resource Significance are focused on Navigation Channels and Public Open Spaces for consistency, and not tidelands because all of the tideland impacts are within Critical Areas. For clarification, there are no barrier islands or beach/dune systems in the study area nor the study’s region of influence so policies related to these resources were not considered.

Action information and its consistency with the relevant policy groups is summarized here. Any policy groups not listed here were considered not applicable.

a) Wildlife and Fisheries Management – Consistent

i. Management

The proposed Federal action has the potential to affect approximately 35 acres of salt marsh wetland habitat and approximately 0.5 acres of sandy, intertidal flat habitat. This would result from approximately 1.5 miles of the proposed storm surge wall being constructed in seven different coastal wetland locations, including two associated with coastal waters around the perimeter of the Charleston Peninsula. USACE attempted to avoid impacts to wetlands by locating the proposed wall on land wherever possible. The majority of the storm surge wall (86%) would be constructed on land, but in some locations it would not be feasible due to the close proximity of existing built infrastructure and private property along shorelines of the study area.

One of the seven locations of the storm surge wall would intersect a salt marsh tidal creek system on the Charleston Peninsula, Halsey Creek off of the Ashley River. As described in more detail in the Draft Integrated FR/EIS, tidal flow in this tidal creek system is already restricted by two 24 inch diameter culverts which runs under 10th Street. The Creek is currently impaired by the surrounding dense residential development of the Wagener Terrace neighborhood. Under the proposed Federal action, ~0.1 mile of the storm surge wall would be constructed through Halsey Creek and its salt marsh system. To avoid fully impounding the area of creek and marsh behind the wall, which would result in a total loss of salt marsh tidal creek functions including habitat for fish and wildlife, USACE would install gates in the wall to allow for daily tidal flow. Approximately five gates of 15 ft-wide each (for a total opening of 75 feet in this part of the wall) are planned. While not fully restricted, tidal flow would still be altered because of the wall and gates. This in turn has the potential to degrade water quality and habitat value for aquatic resources that could commonly be found in Halsey Creek, such as white shrimp (*Litopenaeus setiferus*). Using a habitat suitability index model for white shrimp, USACE concluded that 90% of the habitat function could be lost in Halsey Creek as a result of the wall, even with the gates. This modeling is described in detail in Appendix F of the draft FR/EIS.

To mitigate for the adverse effects on salt marsh wetlands and coastal waters and the indirect effects on water quality and aquatic resources, USACE would compensate for ~0.6 acres of direct loss of salt marsh wetlands (in the footprint of the wall, which includes a 25 ft buffer on both sides of the wall) and ~7.1 acres of salt marsh wetlands behind the wall. This would be accomplished either through purchasing salt marsh wetland credits from an approved wetland mitigation bank or through Permittee Responsible Mitigation. The mitigation planning process is being closely coordinated with resource agencies and is currently ongoing. The process is described in more detail in the Draft Mitigation Plan for the study in Appendix F of the draft FR/EIS.

The gates would be open at all times except during a storm surge event, which is necessary to reduce storm surge flooding impacts to property and life safety. There is the potential for water quality to be dramatically altered in Halsey Creek during these occasional and temporary gate closures, which would have an adverse effect on aquatic resources behind the gates. This effect would be minimized by establishing gate protocol actions such as closing the gates during low tide when fewer aquatic resources would be present and by reducing the time that the gates are closed to the greatest extent that is practicable. Gate closure protocols will be finalized in a later phase of the project, if it is authorized for funding.

The proposed Federal action also has the potential to enhance habitat for fish and wildlife through the construction of reef-based living shoreline sills. Over 9,000 linear feet of living shorelines would be constructed. Since the primary purpose of the living shoreline sills would be to reduce erosion and wave attack related to coastal storms, this activity is described in more detail in the policy section related to Erosion Control. While the habitat value of the living shorelines has not been quantified for this study, it is widely recognized that reef-based living shorelines provide ecosystem services that benefit fish and wildlife including habitat for foraging and protection, improving water quality, and expansion of marsh vegetation.

ii. Impoundments

Five of the locations that would be adversely affected by the storm surge wall are areas of fringing salt marsh along the perimeter of the Charleston Peninsula. In these locations, tidal flow would become restricted between the wall and the upland shoreline, resulting in permanent impoundment of the salt marsh. Over time, water quality conditions would change and salt marsh functions, including salt marsh habitat for fish and wildlife, would be lost. Access by aquatic resources into these areas would also be lost.

The locations and acreage of the salt marsh wetland habitat lost would be:

- Along the Ashley River, roughly from north of Halsey Creek to Lowndes Point (~6.5 acres)
- Along the Ashley River, roughly from south of Halsey Creek to north of the Citadel boat channel (~4.5 acres)
- Citadel marsh behind Joe Riley Baseball Stadium (~11.5 acres)
- US Coast Guard marsh and coastal waters by Lockwood Blvd. and Tradd Street (3.5 acres)
- Along the interior shoreline of Diesel Creek (~1 acre)

Approximately 0.5 acres of sandy intertidal flat and coastal waters would also be impounded by the proposed storm surge wall at an area near the existing high Battery seawall and the Charleston Yacht Club, known locally as “Battery Beach.” Due to dense infrastructure along the shoreline near this location, it was not feasible to construct the wall on land.

To minimize the extent of fringing marsh impounded, the storm surge wall would be located as close to the upland shoreline as possible, which is approximately 35 feet in most locations.

To further mitigate for this loss of the salt marsh wetlands and intertidal flat, USACE would compensate for the ~27 acres of salt marsh wetlands permanently lost or impounded (including a 25 ft buffer) at a 1:1 ratio, and the ~0.5 acre tidal flat impounded (and buffer) at the same ratio. This is consistent with mitigation requirements of the South Carolina Coastal Zone Management Program that indicate mitigation shall be performed at a ratio of 1:1 wetland created to wetland altered, for projects deemed in the public interest. The compensatory wetland mitigation would be accomplished either through purchasing salt marsh wetland credits from an approved wetland mitigation bank or through Permittee Responsible Mitigation of like habitat. The mitigation planning process is being closely coordinated with resource agencies and is currently ongoing. This process is described in more detail in the Draft Mitigation Plan in Appendix F of the draft FR/EIS.

b) Activities in Geographic Areas of Particular Concern – Consistent

i. Areas of Unique Natural Resource Value

There are no Heritage Trust Program Sites, State Wildlife Preserves, State Parks, or Marine and Estuarine Sanctuaries in the study area.

While a 24-mile stretch of the Ashley River from near Summerville to the Mark Clark Expressway (I-526 bridge) in North Charleston has been designated as a state Scenic River, this is out of the region of influence of the proposed Federal action.

Shellfish harvesting is already restricted in waters in and surrounding the study area.

The study area does fall within the Trident Capacity Use Area for groundwater; however, the proposed Federal action would not withdraw or use groundwater. The action would also not produce any waste that would be disposed of and impact groundwater.

There is no designated critical habitat for federally-listed threatened and endangered terrestrial wildlife species in the study area. There is designated critical habitat for Atlantic sturgeon within the region of influence of the Federal action, but the Federal action does not involve any in-water work near this area and any water quality changes are not expected to adversely modify their critical habitat.

Salt marsh-tidal creek habitat that is in the study area, while not designated critical habitat, could be used by listed species including manatees, wood storks, eastern black rails, sea turtles, and sturgeon. While it's possible for any of these species to be present in salt marsh areas potentially impacted by the Federal action, conditions are not ideal nor well documented so USACE is making a determination under Section 7 of the Endangered Species Act that these species "may be affected but are not likely to be adversely affected" by the proposed Federal action. This includes construction-related activities since USACE would employ best management practices to reduce temporary adverse water quality and noise impacts on protected species. The US Fish and Wildlife Service has already concurred with this determination; consultation with the National Marine Fisheries Service is ongoing. A similar conclusion is reasonably being made for state-listed species.

While the Federal action is proposed along coastal shorelines because this is where it is needed to be effective, it is not dependent on coastal shorelines for using or extracting any coastal resources.

ii. Areas of Special Historic, Archeological, or Cultural Significance

According to the South Carolina Department of Archives and History and the South Carolina Institute of Archaeology and Anthropology, who inventory data from the state's archaeological and built heritage, there are currently 373 known cultural resources within the study area. Of the 373 cultural resources identified within the study area, 79 are individually listed in the National Register of Historic Places, including 32 which are also designated as National Historic Landmarks. The largest concentration of historic properties is found in the Charleston Old and Historic District which spans the southern portion of the Peninsula and is also designated a National Historic Landmark. While USACE is taking steps to avoid impacts to these resources, this will not be feasible everywhere.

There is the potential for many of these resources, and resources yet to be identified, to be adversely affected by the Federal action. USACE is currently working with the South Carolina State Historic Preservation Office, the National Park Service, the Advisory Council on Historic Preservation, the City of Charleston, the Catawba Indian Nation, Historic Charleston Foundation, and the Preservation Society of Charleston to develop

a Programmatic Agreement (PA) pursuant to 36 CFR § 800.4(b)(2). The PA is a legally binding document that defines the surveys and other research needed during the design phase of the project, should it be funded, to fully identify cultural/historical resources that could be adversely affected, and proposes and ensures implementation of mitigation to reduce effects on cultural and historic resources to the greatest extent practicable. In accordance with the PA, the future project design would be modified where possible to avoid adverse effects to historic properties. A copy of the PA can be found in the draft FR/EIS.

c) Activities in Areas of Special Resource Significance – Consistent

i. Navigation

The majority of the proposed Federal action would occur on land. The activity will not harmfully obstruct the natural flow of navigable water at the expense of commercial navigation, shipping, or port development. Where it would be located in coastal waters or salt marsh wetlands, it would not be in close proximity to Federal navigation channels to restrict or adversely affect navigation, shipping, or port development. The wall in the marsh would not intersect with any established roads or bridges. It would intersect with the US Coast Guard Station's dock off Tradd Street; however an access gate would be included and is being closely coordinated with the U.S. Coast Guard to ensure continued operations and security of their facilities.

Effects on existing marine commerce operations or transportation from the proposed wall at Columbus Street Terminal and Union Pier have been minimized by placing the proposed wall on land rather than waterside, and in strategic locations with gates away from critical port operations. The proposed wall is also being closely coordinated with the South Carolina Ports Authority and the specific alignment within their property boundaries may be modified during a future phase of the project.

ii. Public Open Space

The proposed storm surge wall would align some known recreation areas/parks within the study area, most notably Waterfront Park and Brittlebank Park. While the wall may alter pedestrian or traffic flow into and out of the parks, public access to all parks and their associated recreational features such as public fishing piers, would not be restricted (except when gates are closed during a storm surge event). USACE has attempted to avoid intersecting parks by defaulting to aligning parks near roadways instead. Regardless, any landscaping, including trees, and other recreational features such as benches, trails, and playgrounds that may be in the footprint of the proposed wall would be redesigned and replaced in an alternate yet suitable location in the parks, if necessary.

Because the storm surge wall would be visible in public open spaces, the aesthetics of these spaces have the potential to be adversely affected, depending on the location and other factors. Adverse effects on aesthetics and the viewshed would be minimized through design elements of the storm surge wall and other engineering features in a later phase of the study if the proposed Federal action is selected for funding. Since this is a feasibility study, detailed design and engineering decisions that could inform mitigation for degraded aesthetics and viewshed effects cannot be made at this time. USACE has drafted a Memorandum of Understanding (MOU) with the City of Charleston that outlines a process for identifying and implementing practicable mitigation measures for potential adverse effects to visual resources. A copy of the MOU can be found in Appendix A of the draft FR/EIS.

d) Erosion Control – Consistent

The proposed Federal action includes installation of approximately 9,300 linear feet of reef-based living shoreline sills to be constructed in strategic locations of the study area to reduce wave attack and erosion from coastal storms. This natural or nature-based feature provides more benefits than hardened measures for shoreline stabilization. Site suitability surveys would be conducted in a later phase of the project if it is funded, but tentative locations are shown in Figure 1, which include areas along the Charleston Peninsula shoreline of the Ashley River near Lockwood Blvd, Brittlebank Park, and the Wagener Terrace neighborhood. These locations correspond with sites where other small scale living shorelines have already been constructed and shown success.

The specific design/technique of the reef-based living shoreline sills would also be determined in a later phase of the project if funded, but would be constructed with similar methods as those already used in South Carolina and that meet the definition and project standards for living shorelines in new sections R.30-1.D(31) and R.30-12.Q of S.C. Code Sections 48-39-10 et seq.

The Federal action, particularly the storm surge wall that would be constructed in portions of fringing salt marsh wetlands, have the potential to produce scouring of the marsh at the base of the wall. In these locations, it would not be feasible to construct the storm surge wall on land due to existing built infrastructure. The erosional impact to marshes in the immediate area would be offset through compensatory wetland mitigation that is planned for the larger action. In addition, the living shoreline sills would be placed in areas seaward of the storm surge wall to help reduce wave energy and trap sediments that would help minimize the scouring effect.

Modeling of wave action conducted by USACE supports that reflection and refraction of waves encountering the proposed wall on the Charleston Peninsula would have a nominal effect on shorelines outside of the study area. Under normal conditions, wave heights vary around the Charleston Peninsula depending on location, such as sheltered vs. exposed areas. Aside from these variations, the results did not show a difference in wave height in the surrounding areas with the wall present, when compared to without the wall. This is consistent with the understanding that local wind waves within the surrounding rivers and Charleston Harbor nearshore area would be limited in wave height and period during a storm surge event by the limited fetches. Waves would be dissipated by marshes and shallow foreshore areas before encountering the wall which would scatter the remaining waves, causing them to dissipate within a few wavelengths. Scattering would be due to directional/frequency spread of the short-period waves, irregularities in the wall, near-wall bathymetry, adverse wind (wind from the coastal storm blowing against the reflected waves), and complex bathymetry of the far-field (river channels/nearshore). Details and results of the modeling can be found in Appendix B, Coastal Sub-Appendix of the draft FR/EIS.

e) Beach and Shore Access – Consistent

To reduce impacts from storm surge on structures and life safety, the storm surge wall proposed in the Federal action, by design, creates a physical barrier between the upland and coastal waters. To the extent practicable, USACE has avoided implementation of this measure, including in areas that are already at a higher elevation or where nonstructural measures were more practicable. Several square miles of the upper Charleston Peninsula will not be affected by the storm surge wall.

In places where the storm surge wall would be constructed and there is currently designated access between the land and water, such as docks or marinas, gates would be installed in the wall to allow for continuous access. The gates would remain open except during a storm surge event.

In some places around the Charleston Peninsula, the storm surge wall would be constructed in public right-of-ways near the shoreline, where sidewalks for pedestrian transportation currently exist (e.g., along Lockwood Blvd). The loss of the sidewalk on the ground level would be offset with a walking path on top of the storm surge wall, similar to the current promenade on the Battery seawalls. The walkway, and access to it, would be compliant with the American Disabilities Act.

The function of the ~0.5 acre sandy intertidal flat near the current high Battery sea wall that is locally known as “Battery Beach” would be permanently affected by the proposed

Federal action. Once the proposed wall is built, tidal flow will no longer reach this area, and over time the tidal flat would no longer function (ecologically) as an intertidal flat. This impact is described in the Wildlife and Fisheries Management section above. With respect to public access, the existing high Battery seawall and cady-corner sea wall that runs along the yacht club serve as current barriers between the land and water interface here. There is currently no designated public access to the area known as “Battery Beach,” although the public has been known to access it anyway. Although the proposed Federal Action may change the nature of the area, it would have no effect on the current lack of public access to the area.

f) Stormwater Management – Consistent

Construction activities related to the proposed nonstructural measures and the storm surge wall have the potential to disturb soils and sediments or create debris that could run off with stormwater into local waterways. This could result in increased turbidity and suspended solids in shallow waters that could degrade water quality, including temporary changes in salinity, pH and dissolved oxygen levels. To minimize these effects, typical construction best management practices (BMPs) would be used to reduce and contain the movement of soils and sediments. For example, silt curtains, settling basins, cofferdams, and other operational modifications would be applied.

The hydraulic pumps that are proposed as part of the Federal action would operate temporarily during a storm surge event for the purpose of minimizing rainfall and stormwater flooding impacts on the interior of the wall. The five proposed temporary pump stations would collect street-level stormwater that “ponds” because of the wall and exceeds the capacity of the current drainage system during a storm surge event, discharging it to the other side of the wall, as it would have with overland flow. The five permanent pump stations are intended to collect rainfall and stormwater runoff that is not collected by the subsurface drainage system as it naturally flows over land to low-lying marshes. The runoff would be pumped over/through the wall before water levels elevate to a level of inducing flooding to nearby structures. The pumps would not redirect the runoff; they would move the water where it would have drained without the wall.

When operating, the pumps would be a point source of stormwater discharge. The proposed pumps would be similar to the small- and medium-sized pumps that the City of Charleston already operates on a regular basis on the Charleston Peninsula, but would only be operated occasionally and temporarily. The proposed pumps would be expected to be compliant with state water quality standards. To minimize effects of the

pumped storm water on water quality, small manufactured treatment devices or sediment settling basins could be installed at the permanent pump stations if necessary.

Coastal Consistency Review Concluding Determination

The potential beneficial and adverse effects of the proposed Federal action on the human environment have been evaluated and documented in the draft FR/EIS. Based on the review provided here, USACE has determined that the proposed Federal action and the avoidance, minimization, and compensatory mitigation measures as proposed in the Charleston Peninsula Coastal Flood Risk Management Study, would be undertaken in a manner consistent to the maximum extent practicable with the enforceable policies of the South Carolina Coastal Zone Management Program.