

**Draft Final Integrated Interim Response  
Feasibility Report and Environmental  
Assessment for Actionable Elements**

**NEW YORK-NEW JERSEY  
HARBOR AND TRIBUTARIES  
COASTAL STORM RISK MANAGEMENT  
FEASIBILITY STUDY**

**SUBAPPENDIX A-1D  
OAKWOOD BEACH ACTIONABLE  
ELEMENT SITE  
COASTAL ZONE MANAGEMENT ACT**

**March 2026**

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***Note: this Actionable Element Site has not been recommended as part of this Final Integrated Interim Response FR/EA; however, this Appendix has been updated with the optimized plan features detailed in Chapter 6 of the Main Report. Refer to the Draft Report appendices for pre-optimization plan features of which are documented in Chapters 1-5 of the Main Report. Any additional comments received on this Actionable Element Site will be incorporated in the future if authorized for further study.***

# 1 INTRODUCTION

The U.S. Army Corps of Engineers (USACE), New York District (District), has prepared this assessment to evaluate consistency with the New York State and New York City coastal zone management policies for the New York New Jersey Harbor and Tributaries (NYNJHAT) Coastal Storm Risk Management (CSRМ) Feasibility Study, Integrated Interim Response Feasibility Report and Environmental Assessment on Actionable Elements.

The NYNJHAT Study was authorized as a result of the findings in the January 2015, USACE North Atlantic Coast Comprehensive Study (NACCS) which identified high-risk areas on the Atlantic Coast for warranting further investigation of flood and coastal storm risk management solutions including the NYNJHAT study. In February 2019, a NYNJHAT Feasibility Study Interim Report (Interim Report) was completed to document existing information and assumptions about the future, and to identify knowledge gaps that warranted further investigation because of their potential to affect plan selection. The Interim Report states the impacts from Hurricane Sandy highlighted the National need for a comprehensive and collaborative evaluation to reduce risk to vulnerable populations within the North Atlantic region. In September 2022, a Draft Integrated Feasibility Report and Tier 1 (Programmatic) Environmental Impact Statement for the Comprehensive Plan was released detailing the additional analyses conducted following the Interim Report (2019) and what additional information was needed in the future NEPA documents.

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. 1451 et seq.) was enacted by Congress to balance the competing demands of growth and development with the need to protect coastal resources. Its stated purpose is to, "...preserve, protect, develop, and, where possible to restore or enhance, the resources of the nation's coastal zone...". The primary means of achieving this balance is through coastal zone management programs adopted by the states and designed to regulate land use activities that could affect coastal waters. The CZMA offers incentives to encourage the coastal states and territories to exercise their full authority over coastal areas through development of coastal zone management programs, consistent with the minimum federal standards. The Coastal Zone Act Reauthorization Amendments of 1990 strengthened the CZMA by requiring the state programs to focus on controlling land use activities, and on the cumulative effect of activities in coastal zones.

The National Oceanic and Atmospheric Administration (NOAA) maintains federally mapped CZMA boundaries, the New York Department of State (DOS) Office of Planning and Management maintains New York State (NYS) mapped CZMA boundaries present within New York State, and New York City maintains mapped boundaries for Waterfront Revitalization Program.

The purpose of this CZMA appendix is to: (1) present the District's consistency determination, pursuant to 15 CFR Part 930 Subpart C, regarding the consistency of the activity with the NYS Coastal 5 Management Plan (NYSCMP) including New York City (NYC) Waterfront Revitalization Program (WRP); (2) enable New York State to consider the effects of the Interim Response Actionable Elements on the land and water uses and natural resources of its coastal area; and (3) to provide information that New York State requires to concur with the USACE New York District's Consistency Determination pursuant to 15 CFR Part 930 Subpart C.

This document focuses on the Oakwood Beach Actionable Element Site, comprised of a CSRМ-focused NBS wetland enhancement, dune restoration, and offshore rock reef creation as a complimentary feature to the NYNJHAT Study Comprehensive Plan.

## 1.1 PROJECT PURPOSE AND NEED

Storms have historically severely impacted the NY/NJ Harbor region, including Hurricane Sandy most recently, causing loss of life and extensive economic damages.

In 2012, Hurricane Sandy caused considerable loss of life, extensive damage to property, and massive disruption to the North Atlantic Coast. The effects of this storm were particularly severe because of its tremendous size and the timing of its landfall during high tide. Twenty-six states were impacted by Hurricane Sandy, and disaster declarations were issued in 13 states. NY and NJ were the most severely impacted states, with the greatest damage and most fatalities in the NY Metropolitan Area. For example, a storm surge of 12.65 feet above normal high tide was reported at Kings Point on the western end of Long Island Sound and 9.4 feet at the Battery on the southern tip of Manhattan. Flood depths due to the storm tide were as much as nine feet in Manhattan, Staten Island, and other low-lying areas within the NY Metropolitan Area. The storm exposed vulnerabilities associated with inadequate coastal storm risk management (CSRM) measures and lack of defense to critical transportation and energy infrastructure.

The January 2015, USACE North Atlantic Coast Comprehensive Study (NACCS) identified high-risk areas on the Atlantic Coast for warranting further investigation of flood risk management solutions. In February 2019, a NYNJHAT Feasibility Study Interim Report was completed to document existing information and assumptions about the future conditions, and to identify knowledge gaps that warranted further investigation because of their potential to affect plan selection. The Interim Report states the impacts from Hurricane Sandy highlighted the national need for a comprehensive and collaborative evaluation to reduce risk to vulnerable populations within the North Atlantic region. To address the impacts and concerns associated with devastating storms, the USACE New York District has proposed measures to manage coastal storm risk in the NYNJ Harbor and its tributaries. In response, the USACE New York District is investigating measures to manage future flood and coastal storm risk in ways that support the long-term resilience and sustainability of the coastal ecosystem and surrounding communities, and reduce the economic costs and risks associated with flood and storm events for the NYNJHAT Study Area (USACE 2019). The alternative concepts proposed would help the region manage flood risk that is expected to be exacerbated by relative sea level rise.

The scope of the Interim Response Actionable Element builds upon the September 2022 Draft Integrated Feasibility Report (FR) and Tier 1 (Programmatic) Environmental Impact Statement (EIS), as an interim action while the overall Comprehensive Plan continues to be studied, subject to future funding and appropriations. This Report is an Interim Response to the Comprehensive Plan responsive to the larger Coastal Storm Risk Management (CSRM) authorization to assess a 2,500+ square mile radius in the New York-New Jersey Metropolitan Area. This interim response assesses the measures at a site-specific level, completing enough design maturity and analyses to disclose the potential effects of the Alternatives, and complete full environmental compliance. Interim responses often arise during the progress of a programmatic study, and in this case, to respond to an immediate CSRM need in the interim and corresponding with future legislative cycles (e.g. Water Resources Development Act (WRDA), while the more complex measures of the larger NYNJHAT Study require additional analysis, modeling, public engagement, and design maturity to complete. The purpose and need of this action is to manage risk to critical infrastructure in local areas of high susceptibility to storm surge and at-risk communities. This Interim Response action addresses a critical need for CSRM measures in Harlem River, New York, East Riser, New Jersey, and Oakwood Beach, New York.

## **1.2 COORDINATION AND CONSULTATION HISTORY**

Coordination with stakeholders has been a critical component of the NYNJHAT study. Since early 2017. The USACE New York District held many workshops and meetings with Cooperating and Participating Agencies and other stakeholders to share information on the study scope and purpose and formulation of alternatives, and to exchange ideas and information on natural and marine resources within the Study Area.

The USACE New York District announced the preparation of an Integrated Feasibility Report/Tiered EIS for the NYNJHAT study feasibility in the February 13, 2018 Federal Register pursuant to the requirements of Section 102(2)(C) of NEPA. The NEPA scoping period initially spanned 45 days from July 6 – August 20, 2018, but was extended to 120 days due to numerous requests from the public. The USACE New York District held a total of nine public scoping meetings during the public scoping period. In 2019, four NYBEM workshops were held on January 3, March 11, June 6, and November 14 to help inform the NYBEM model set up to be used as a tool for assessing some direct and indirect effects of agency actions on regional ecosystems including the NYNJHAT Study, among others.

In February 2020, the NYNJHAT Study paused until October 2021 due to a lack of Federal funding. Following study resumption, the USACE New York District held several Cooperating Agency meetings to facilitate open communication, share study progress, status updates, and data as it became available, including an Engineering presentation on the study alternatives, a presentation on the TSP, and a presentation on the NYBEM development progress. In September 2022, a Draft Integrated FR/Tier 1 (Programmatic) EIS was released for stakeholder, agency, and public review and comment. Following a substantial public review period of 175+ days, and approximately 2,700 comments received, many comments required a need for, among other requests, more consideration for Nature-Based Solutions to be incorporated into the Study. Ultimately, these comments informed the future of the NYNJHAT Study, and introduced the need for further coordination with public and resource agencies as the Study progresses.

## **2 STUDY AREA**

### **2.1 COMPREHENSIVE PLAN**

The Study Area of the NYNJHAT Study includes the NY Metropolitan Area, including New York City (NYC) which is the most densely populated city in the United States, and five of the six largest cities in New Jersey by population. The shorelines of some of the NYNJHAT Study Area is characterized by low elevation areas, developed with residential and commercial infrastructure, and is subject to tidal flooding during storms. The Study Area covers more than 2,150 square miles and comprises parts of 25 counties in New Jersey and New York, including Bergen, Passaic, Morris, Essex, Hudson, Union, Somerset, Middlesex, and Monmouth Counties in New Jersey; and Rensselaer, Albany, Columbia, Greene, Dutchess, Ulster, Putnam, Orange, Westchester, Rockland, Bronx, New York, Queens, Kings, Richmond, and Nassau Counties in New York.

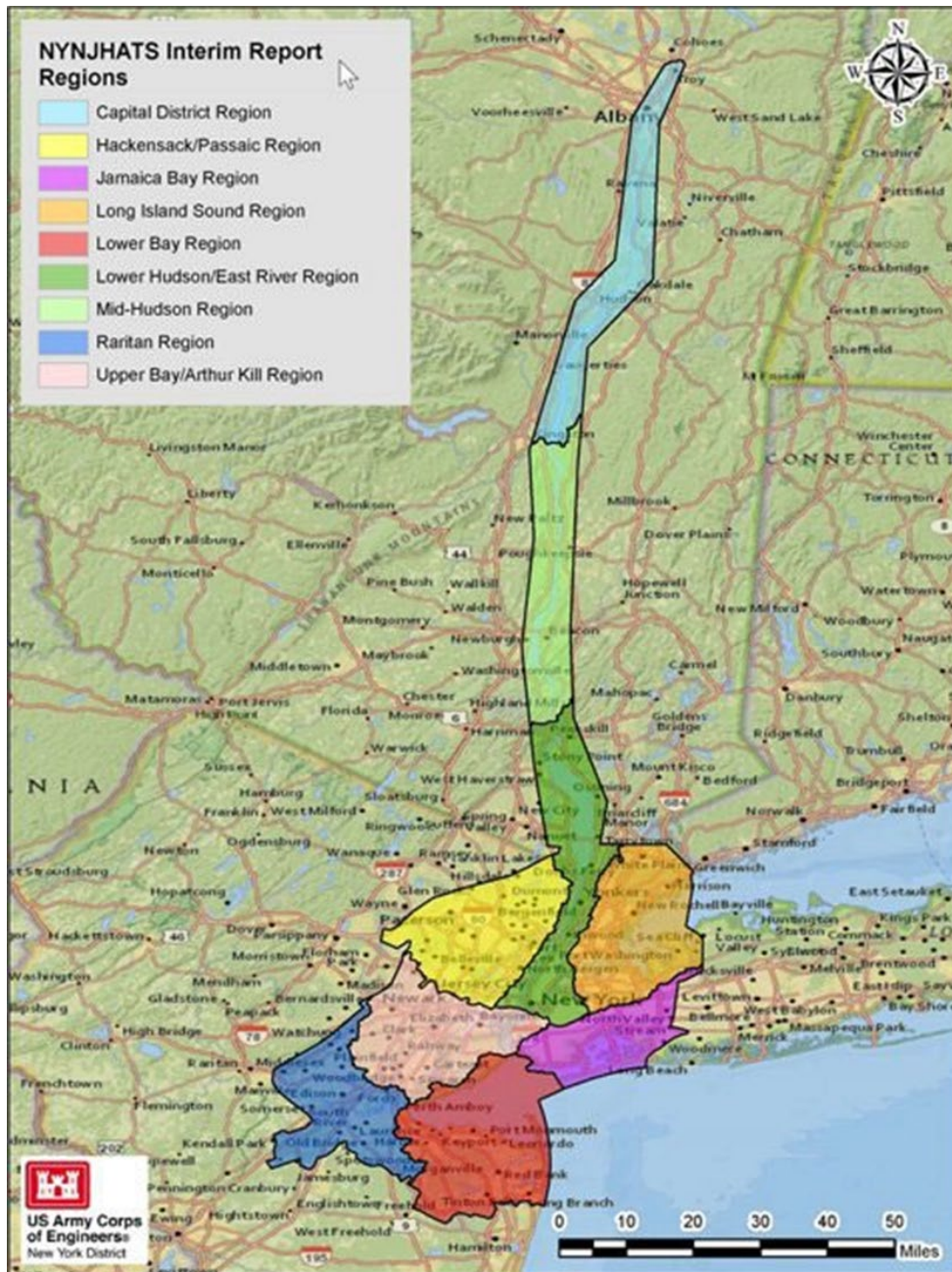


Figure 1: NYNJHAT Study Area

## 2.2 ACTIONABLE ELEMENT - OAKWOOD BEACH

The Actionable Element Site identified within the Study Area for this consistency determination is identified as Oakwood Beach, located in Richmond County, Staten Island, New York and a part of Great Kills Park, under the National Park Service jurisdiction Gateway National Recreation Area. This Actionable Element Site is located within the Lower Bay Planning Region of the overall Comprehensive Plan.

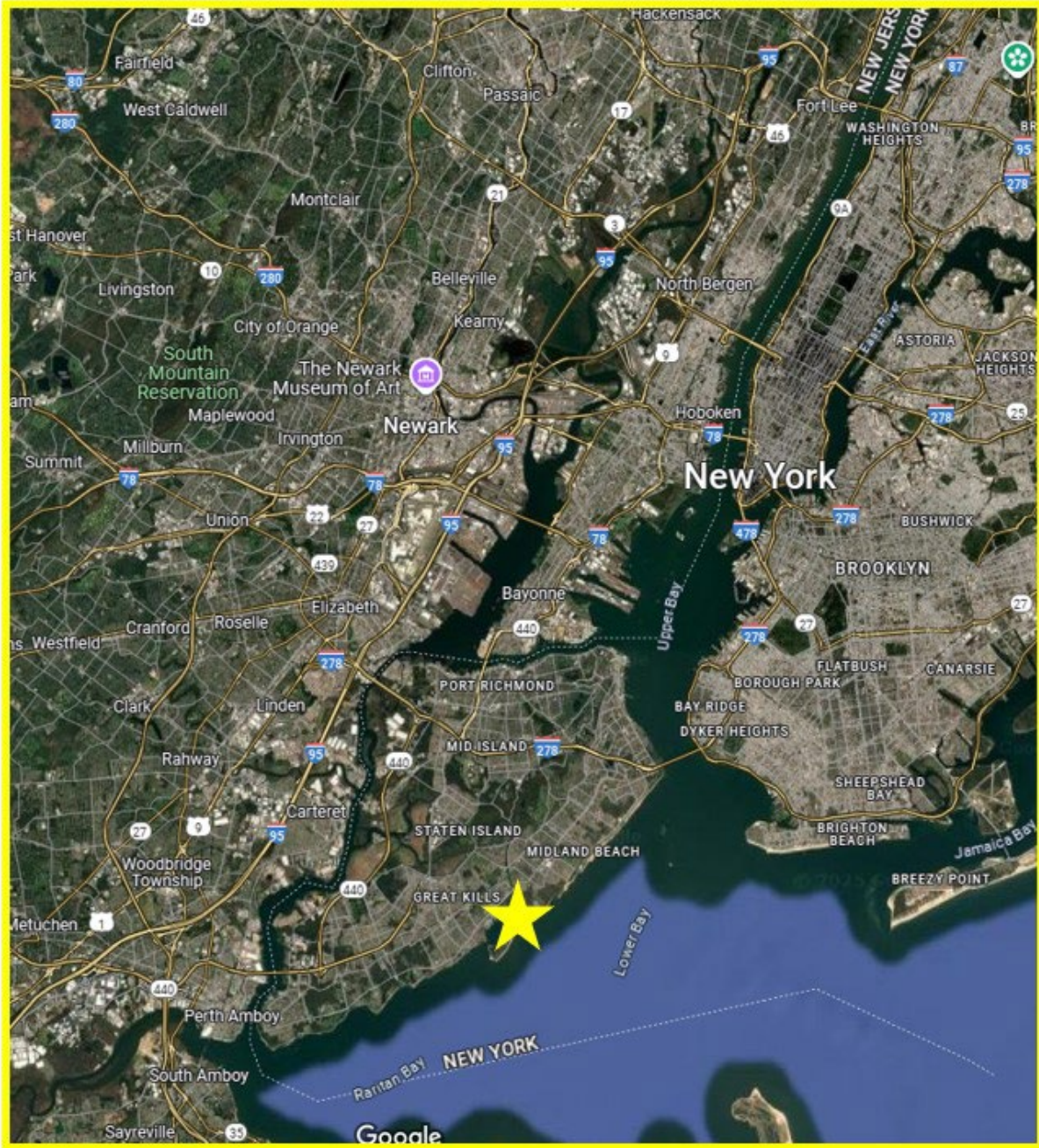


Figure 2: Oakwood Beach Actionable Element Site Location.

### 3 ACTION ALTERNATIVE

The Oakwood Beach Actionable Element Site is a Coastal Storm Risk Management (CSRM) nature-based feature of the NYNJHAT Study Overall Comprehensive Plan, managing high-frequency flood risk by serving as a natural buffer and also working complementary to the South Shore of Staten Island Project (presently under construction) and to Great Kills Park. The proposed Actionable Element will also reduce wildfire risk for the impacted area. This CSRM-focused Nature-Based Solution (NBS) wetland enhancement includes four primary components: removal of non-native invasive plants, creation of a vegetative mosaic with native plants and tidal channels, dune restoration, and rock reef creation described in more detail below.

#### **Removal of Non-Native Plants and Creation of Native Vegetative Mosaic and Tidal Channels:**

The project proposes the removal of approximately 22.38-acres of non-native invasive Common Reed (*Phragmites australis*) and replacement with a vegetative mosaic of Low Salt Marsh (11.5 acres), High Salt Marsh (4.5 acres), Maritime Grassland (4.5 acres), Maritime Dune (5.5 acres), with upland buffers of Maritime Shrubland (3 acres) and Maritime Woodland (1 acre). Native plants will be established, with a particular focus on *Spartina alterniflora*, *Spartina patens* (salt meadow cordgrass), and *Distichlis spicata* (salt grass) for the created low and high marsh habitats. Any existing native plants that are salvageable will be salvaged and transplanted in the appropriate habitat. A network of tidal channels and/or pools with three main branches will be created within the vegetative mosaic supporting the created habitat, referred to as the North Channel, Middle Channel, and South Channel, totaling approximately 1.30-acres.

#### **Dune Restoration:**

Along the shoreline in front of and to the south of the created vegetative mosaic, adjacent to the mudflats and Lower Bay, a dune restoration measure is proposed for shoreline stabilization integral to maintaining the essential function of the restored wetland. The dune will consist of approximately 5.5 acres of clean sand with an elevation range up to 10-feet above mean sea level.

#### **Offshore Rock Reefs:**

Seaward of the mean low water line, four offshore rock reefs are proposed for erosion control to attenuate wave energy, shield the dune from storm-induced erosion, and extend renourishment intervals. Additionally, the reefs will stabilize the toe of the existing tidal flat and provide valuable habitat. The reef structures will be porous and low-crested, with variable stone gradations. Larger stones will be placed at the seaward edge to resist wave forces, with stone sizes decreasing landward to enhance habitat diversity. The outer perimeter of the reefs will be nearly circular to promote wave attenuation, while the irregular inner edge will provide enhanced fish refuge and habitat complexity. The reef crest elevation is 1.0-foot NAVD88 with average crest widths ranging from 130 to 160 feet and with side slopes of 3H:1V on the landward side and 5H:1V on the seaward side. The footprint of the four reefs will cover a total area of 8.69 acres.

#### **Additional Plan Features:**

Riprap will be placed at several locations at the site to support erosion control and channel protection, including an approximate 1,115 cubic yards (CY) area to the east of the restored dune at the southeastern border adjacent to the Lower Bay between the existing riprap and main tidal channel (where a deteriorated wooden seawall is currently), 55-CY along the southwestern banks of the main tidal channel where existing riprap has eroded, 600-CY on the southeastern bank of the main tidal channel convergence with an eastern branching tidal channel where existing riprap is placed, and 700-CY at the inlets of the created tidal channels (along with coir fiber mats).

A maintained lawn trail will be developed on the westernmost edge of the site through the proposed maritime meadow, connecting an existing adjacent concrete bike/walking path to the parking lot for Great Kills Park to be utilized for O&M and public access.

Two osprey nests are proposed in the created maritime shrublands located within central the tidal channel network.

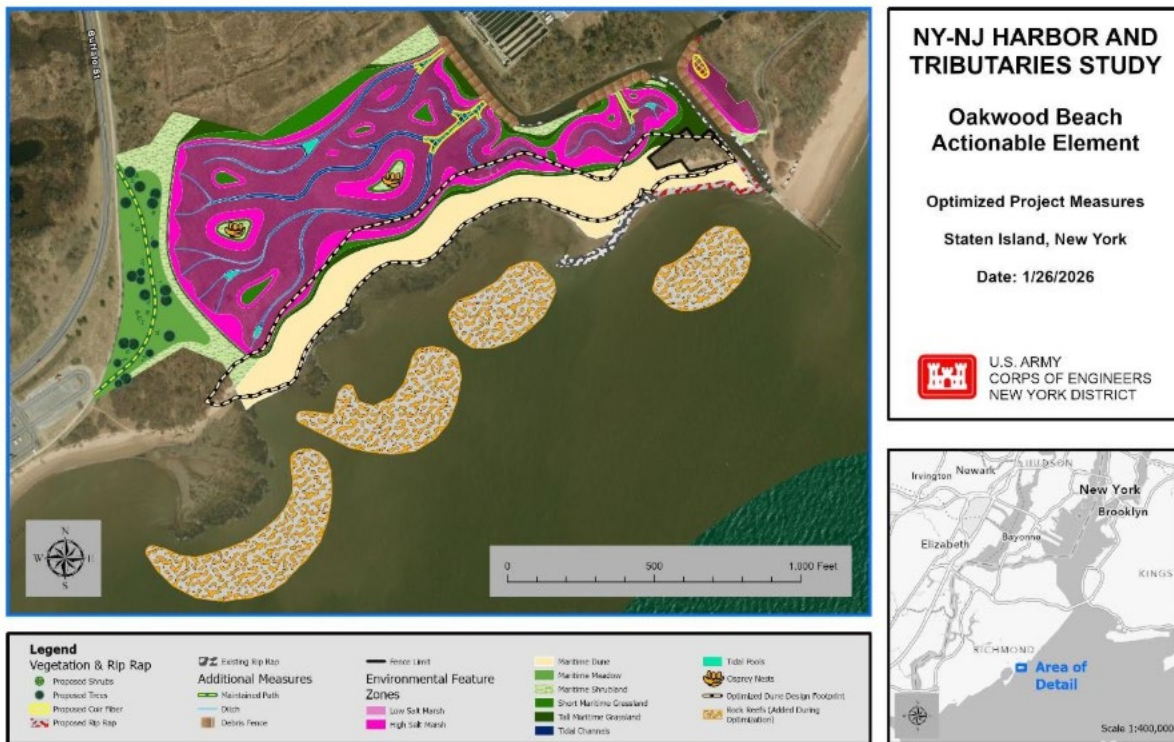


Figure 3: Oakwood Beach Actionable Element Site Project Figure.

### 3.1 ALTERNATIVES CONSIDERED:

The consideration of reasonable alternatives is required in accordance with the National Environmental Policy Act (NEPA; 42 United States Code [USC] § 4321 *et seq.*), President’s Council on Environmental Quality (CEQ) NEPA Regulations (40 Code of Federal Regulations [CFR] §§ 1500–1508), and Engineering Regulations (ER) 200-2-3 “Environmental Analysis of Army Actions” as promulgated by 32 CFR Part 651. Site selection standards were developed for the Action and used to identify, compare, and evaluate reasonable alternatives. The selection standards were developed to be consistent with the purpose and need for the Action and to address pertinent mission, environmental, safety, and health factors.

**No Action Alternative:** Under the No Action Alternative, the U.S. Army Corps of Engineers will not enhance the CSRMs-focused complimentary Nature-Based Solution (NBS) wetland. The Actionable Element Site would remain as is, comprised of a degraded wetland dominated by non-native invasive phragmites.

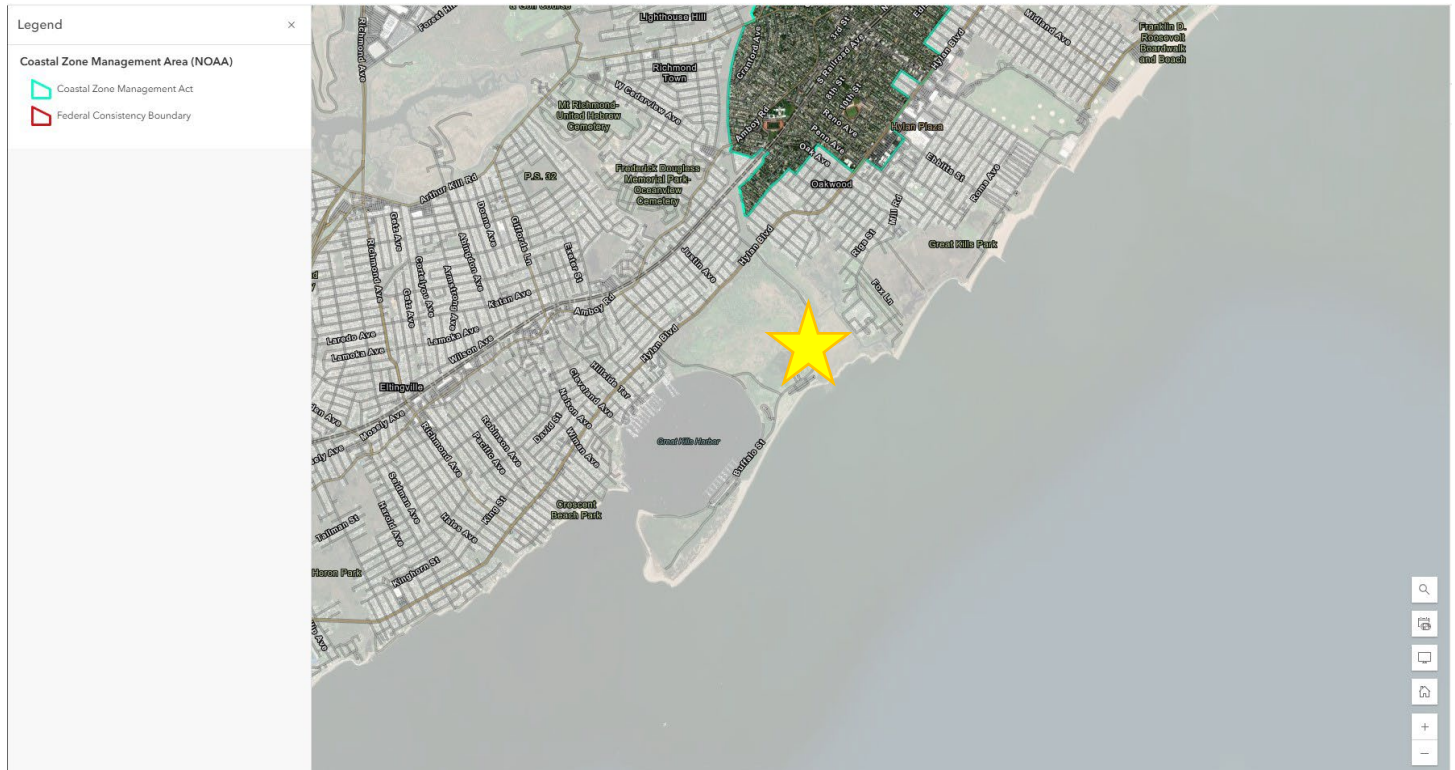
**Action Alternative:** The Actionable Element Site for the Action Alternative is an approximately 39-acres bounded by Great Kills Park to the north and west, a Wastewater Treatment Plant to the west, and the future site of the South Shore of Staten Island floodwall measure, and the Lower Bay to the south. The entire site is comprised of a degraded wetland, dominated by non-native invasive Phragmites (approximately 22-acres). Implementation of the Action Alternative at the Actionable Element Site will create 30-acres of native wetland habitat, as presented on the following table:

Table 1: Target Natural Community

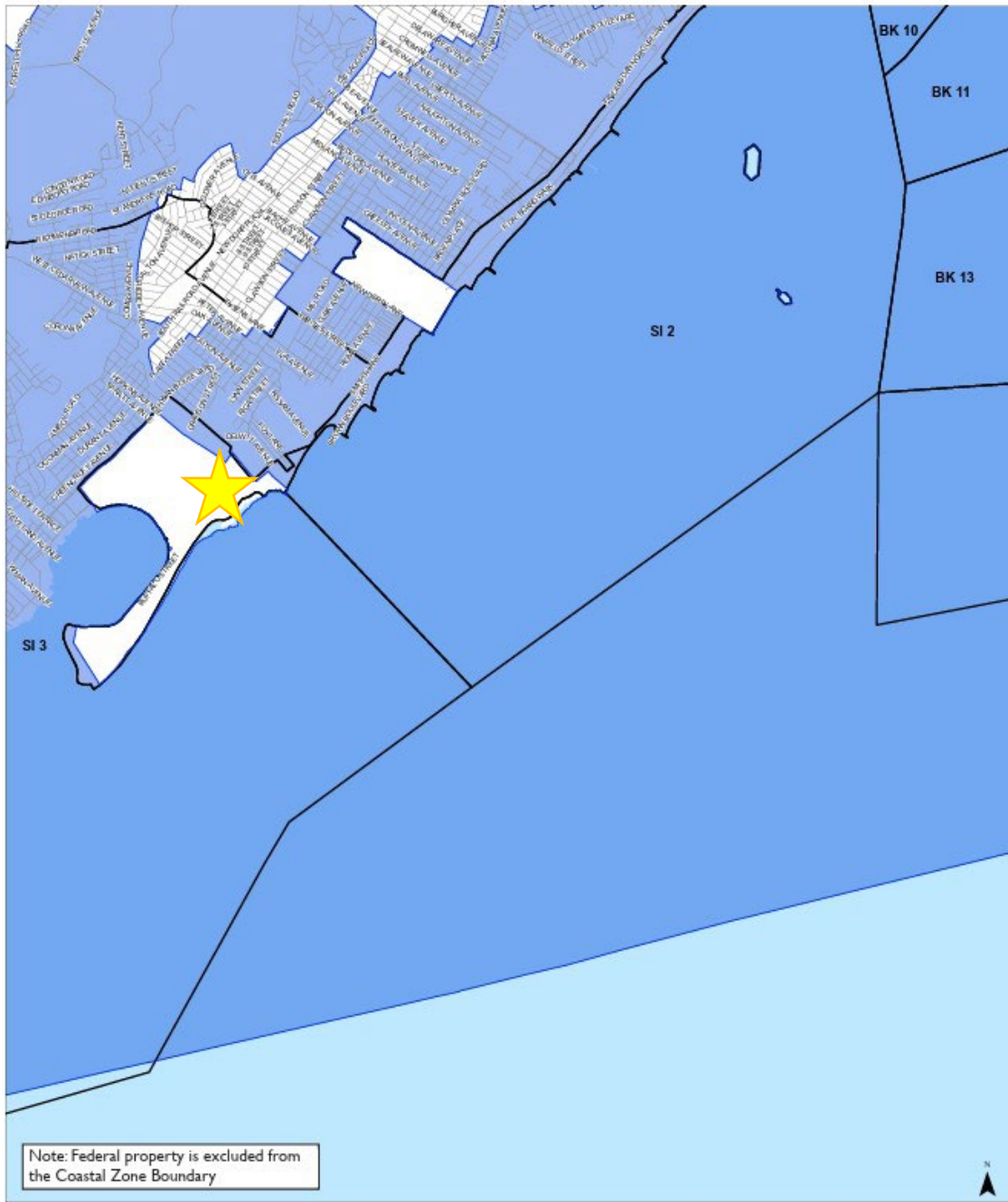
<b>Target Natural Community</b>	<b>Elevation Range (above mean sea level, AMSL)</b>	<b>Acreage (total, non-contiguous)</b>
Low Salt Marsh	-0.2 to 2.15 feet	11.5
High Salt Marsh	2.15 to 3 feet	4.5
Maritime Grassland	3 to 5 feet	4.5
Maritime Dune	Up to 10 feet	5.5
Maritime Shrubland	5+ feet	3
Maritime Woodland	6+ feet	1
<b>Total Vegetative Community Acreage Created</b>		<b>30</b>
<b>Rocky Intertidal Reef</b>	-8 to 1 feet	<b>8.1</b>

## 4 EXISTING CONDITIONS

The entire coastline of the south shore of Staten Island is designated a Federal CZMA boundary. The New York State CZMA boundary extends from the Upper Bay/Arthur Kill Region boundary along the eastern shoreline of Staten Island to the south passing by Ocean Breeze Park, Miller Field, and Great Kills Park before turning west through Oakwood Heights Station (NYS DOS 2022). The New York State CZMA boundary extends from the Upper Bay/Arthur Kill Region boundary along the eastern shoreline of Staten Island to the south passing by Ocean Breeze Park, Miller Field, and Great Kills Park before turning west through Oakwood Heights Station (NYS DOS 2022).



The NYC WRP boundary encompasses much of Richmond County, Staten Island, including the South Shore of Staten Island with the exception of Federal Property, on which this Site is located.



**Coastal Zone Boundary**

- Coastal Zone Boundary
- Community District Boundary



**D2**

## 5 COASTAL ZONE MANAGEMENT ACT EVALUATION

### 5.1 NEW YORK STATE COASTAL ZONE MANAGEMENT ACT POLICIES

The State of NY currently administers its federally approved coastal zone program (N.Y. Executive Law §910 et seq. [Consol. 1996]) through the NY State Department of State (NYSDOS). Pursuant to the Federal Coastal Zone Management Act (CZMA), NY State has defined its coastal zone boundaries and the policies to be utilized to evaluate projects occurring within the designated zones. In 1981, NY State adopted the Waterfront Revitalization and Coastal Resources Act, creating the NY State Coastal Management Program (CMP). The CMP embodies 44 policy statements supportive of the intent of the CZMA to promote a balance between economic development and coastal resource preservation and optimization.

*Table x. NY State CZMA Policies and their Applicability to the Oakwood Beach Actionable Element Site*

Policy	Statement	Planning Region – Lower Bay
		Oakwood Beach Actionable Element
1	Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational, and other compatible uses.	Y
2	Facilitate the siting of water dependent uses and facilities on or adjacent to coastal waters.	Y
3	Further develop the State's major ports of Albany, Buffalo, NY, Ogdensburg, and Oswego as centers of commerce and industry, and encourage the siting, in these port areas, including those under the jurisdiction of State public authorities, of land use and development which is essential to, or in support of, the waterborne transportation of cargo and people.	N/A
4	Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those traditional uses and activities which have provided such areas with their unique maritime identity.	N/A
5	Encourage the location of development in areas where public services and facilities essential to such development are adequate.	Y
6	Expedite permit procedures in order to facilitate the siting of development activities at suitable locations.	N/A
7	Significant coastal fish and wildlife habitats will be protected, preserved, and where practical, restored so as to maintain their viability as habitats.	Y

Policy	Statement	Planning Region – Lower Bay
		Oakwood Beach Actionable Element
8	Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bio-accumulate in the food chain, or which cause significant sublethal or lethal effect on those resources.	Y
9	Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks, and developing new resources.	N/A
10	Further develop commercial finfish, shellfish, and crustacean resources in the coastal area by encouraging the construction of new, or improvement of existing onshore commercial fishing facilities, increasing marketing of the State's seafood products, maintaining adequate stocks, and expanding aquaculture facilities.	N/A
11	Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.	N/A
12	Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.	Y
13	The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.	Y
14	Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.	Y
15	Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.	Y
16	Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only	Y

Policy	Statement	Planning Region – Lower Bay
		Oakwood Beach Actionable Element
	where the public benefits outweigh the long term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features	
17	Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.	N/A
18	To safeguard the vital economic, social and environmental interests of the State and of its citizens, proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the State has established to protect valuable coastal resource areas	Y
19	Protect, maintain, and increase the level and types of access to public water related recreation resources and facilities.	Y
20	Access to the publicly owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly owned shall be provided and it shall be provided in a manner compatible with adjoining uses.	Y
21	Water dependent and water enhanced recreation will be encouraged and facilitated and will be given priority over non-water-related uses along the coast.	Y
22	Development when located adjacent to the shore will provide for water-related recreation whenever such use is compatible with reasonably anticipated demand for such activities and is compatible with the primary purpose of the development.	N/A
23	Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the State, its communities, or the Nation.	Y
24	Prevent impairment of scenic resources of statewide significance.	Y
25	Protect, restore or enhance natural and man-made resources which are not identified as being of statewide significance, but which contribute to the overall scenic quality of the coastal area.	Y
26	Conserve and protect agricultural lands in the State's coastal area.	N/A
27	Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.	N/A

Policy	Statement	Planning Region – Lower Bay
		Oakwood Beach Actionable Element
28	Ice management practices shall not interfere with the production of hydroelectric power, damage significant fish and wildlife and their habitats, or increase shoreline erosion or flooding.	N/A
29	The development of offshore uses and resources, including renewable energy resources, shall accommodate NY's long-standing ocean and Great Lakes industries, such as commercial and recreational fishing and maritime commerce, and the ecological functions of habitats important to NY.	Y
30	Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to State and National water quality standards.	Y
31	State coastal area policies and management objectives of approved local Waterfront Revitalization Programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already overburdened with contaminants will be recognized as being a development constraint.	Y
32	Encourage the use of alternative or innovative sanitary waste systems in small communities where the costs of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.	N/A
33	Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.	Y
34	Discharge of waste materials into coastal waters from vessels subject to State jurisdiction will be limited so as to protect significant fish and wildlife habitats, recreational areas and water supply areas.	N/A
35	Dredging and filling in coastal waters and disposal of dredged material will be undertaken in a manner that meets existing State dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.	Y
36	Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of	N/A

Policy	Statement	Planning Region – Lower Bay
		Oakwood Beach Actionable Element
	such discharges; and restitution for damages will be required when these spills occur.	
37	Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics and eroded soils into coastal waters.	Y
38	The quality and quantity of surface water and groundwater supplies, will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.	N/A
39	The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural land, and scenic resources.	N/A
40	Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and shall conform to state water quality standards	N/A
41	Land use or development in the coastal area will not cause National or State air quality standards to be violated.	Y
42	Coastal management policies will be considered if the State reclassifies land areas pursuant to the prevention of significant deterioration regulations of the Federal Clean Air Act.	Y
43	Land use or development in the coastal area must not cause the generation of significant amounts of acid rain precursors: nitrates and sulfates.	Y
44	Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.	Y

Notes: Y – policy is applicable to Actionable Element and project will be compliant; N – policy is applicable to Actionable Element and project will not be compliant; N/A – policy is not applicable to the Actionable Element.

### 5.1.1 Development Policies (numbered and italicized)

(1) *Restore, revitalize, and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational, and other compatible uses.*

The Actionable Element is consistent with this policy because it supports the managing coastal storm risk for waterfront areas from impacts associated with sea level rise, storm surges, and coastal flooding through the

implementation of a CSRSM-focused complimentary NBS, identified as a wetland enhancement, dune restoration, and rock reef creation. As existing and proposed future land use will not change other than to restore degraded wetland habitat, the project will help to maintain the existing character of the area for existing and potential future uses. Further, the Actionable Element will support reducing risk to the environment and human development including the Great Kills Park to the adjacent north and west, the South Shore Staten Island project and Wastewater Treatment Plant to the east, and Lower Bay to the south, supporting anticipated continued recreational uses of this Marine Protected Area, and National Park Service property in the future. As such, the Actionable Element Site is consistent and compatible with the character of the area, will not adversely affect adjacent and upland views, will not cause further deterioration of the shoreline, and will support reduced adverse impacts to the community from potential future coastal storms similar to Hurricane Sandy.

(2) *Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.*

The Actionable Element is consistent with this policy because it supports managing coastal storm for to waterfront areas from impacts associated with sea level rise, storm surges, and coastal flooding through the implementation of a CSRSM-focused complimentary NBS, identified as a wetland enhancement, dune restoration, and rock reef creation. The Actionable Element will physically alter land along the shoreline through the restoration of a dune and placement of riprap to protect and prevent erosion; will alter sandy substrate in the offshore waters through the creation of rock reefs to protect and prevent erosion; and requires siting of water-dependent uses and facilities within the enhanced estuarine wetland, through the creation of tidal pools and network of tidal channels. The Action will not preempt the reasonably foreseeable development of water-dependent uses. The Actionable Element Site is designed to add to the public use and enjoyment of the water's edge, as well as reducing the extent of damage to coastal resources from strong storms similar to Hurricane Sandy.

(3) *Further develop the State's major ports of Albany, Buffalo, New York, Ogdensburg, and Oswego as centers of commerce and industry, and encourage the siting, in these port areas, including those under the jurisdiction of State public authorities, of land use and development which is essential to, or in support of, the waterborne transportation of cargo and people.*

The Actionable Element is not applicable to this policy.

(4) *Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those traditional uses and activities that have provided such areas with their unique maritime identity.*

The Actionable Element is not applicable to this policy.

(5) *Encourage the location of development in areas where public services and facilities essential to such development are adequate.*

The Actionable Element is consistent with this policy because it supports managing coastal storm risk for coastal areas from impacts associated with sea level rise, storm surges, and coastal flooding through the implementation of a CSRSM-focused complimentary NBS, identified as a wetland enhancement, dune restoration, and rock reef creation.

(6) *Expedite permit procedures in order to facilitate the siting of development activities at suitable locations.*

The Actionable Element is not applicable to this policy.

### **5.1.2 Fish and Wildlife Policies**

*(7) Significant coastal fish and wildlife habitats will be protected, preserved, and where practical, restored to maintain their viability as habitats.*

The Actionable Element is not located within a Designated Critical Habitat or NYSDEC-designated Critical Environmental Area (CEA) or a Significant Coastal Fish and Wildlife Habitat ([https://dos.ny.gov/significant-coastal-fish-wildlife-habitats?f\[0\]=filter\\_term%3A2306&page=0](https://dos.ny.gov/significant-coastal-fish-wildlife-habitats?f[0]=filter_term%3A2306&page=0)); however, the proposed action will restore degraded wetland habitat through the removal of non-native invasive common reed and create a vegetative mosaic with a network of tidal channels and/or pools, and native plant species, such as Spartina. Additionally, the proposed rock reefs would increase habitat complexity, species richness, and provide additional fish refuge. The Project may involve excavation and physical alteration of shore area through construction of restored dune. The Actionable Element will protect coastal habitat and reduce damage from coastal storms similar to Hurricane Sandy, which is in direct accord with this policy.

*(8) Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bio-accumulate in the food chain or which cause significant sublethal or lethal effect on those resources.*

The Actionable Element Site is consistent with this policy because it provides CSRM features that reduce risk of coastal storms in an area where there are Wastewater Treatment Plan effluents and a CERCLA site at Great Kills Park to the north, of which this site would provide a natural buffer to support reduced risk of flood damages where potential pollutants or hazardous wastes may be present and which could otherwise be impacted by sea level rise, storm surges, and coastal flooding.

As described in the Oakwood Beach Integrated Environmental Assessment Appendix, potential construction adverse effects, such as excavating, grading and associated soil erosion and sedimentation, will be minimized by employing construction BMPs and a site-specific SWPPP.

*(9) Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks, and developing new resources.*

This policy is not applicable because the Actionable Element Site, as it reduces risk from storm surges and coastal flooding and does not expand recreation areas or recreational uses (although, it will help to preserve them from destruction caused by future flood events). It should be noted that this Actionable Element Site is part of a Marine Protected Area and National Park Service property, of which is recreational, with natural and cultural significance.

*(10) Further develop commercial finfish, shellfish, and crustacean resources in the coastal area by encouraging the construction of new, or improvement of existing on-shore commercial fishing facilities, increasing marketing of the State's seafood products, maintaining adequate stocks, and expanding aquaculture facilities.*

This policy is not applicable because the Actionable Element Site, as it reduces risk from storm surges and coastal flooding and does not expand the coastal zone for commercial fishing or aquaculture resources. Additionally this Site is part of a Marine Protected Area that restricts recreational and commercial fishing.

### 5.1.3 Flooding and Erosion Hazards Policies

(11) *Buildings and other structures will be sited in the coastal area to minimize damage to property and the endangering of human lives caused by flooding and erosion.*

This policy is not applicable because the Actionable Element Site, as it reduces risk from storm surges and coastal flooding and does not expand buildings or involve siting issues. However, this Actionable Element Site would help to minimize damage that sea level rise, storm surges, and coastal flooding can inflict on structures located in the coastal area, such as the South Shore of Staten Island project (currently in construction).

(12) *Activities or development in the coastal area will be undertaken to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.*

This Actionable Element Site will require physical alteration of onshore and nearshore coastal area; is located in flood and erosion hazard areas; and will affect beaches/dunes; however, this Actionable Element Site would minimize damage to natural areas and property from flooding and erosion naturally through removal of non-native invasive common reed, followed by wetland enhancement, dune restoration, and rock reef creation, including a new tidal channel network providing a better quality habitat sustaining the natural qualities of the area. Associated construction related damages will be temporary and/or avoided and minimized to the extent possible by employing construction BMPs and a site-specific SWPPP to maintain their viability. This Actionable Element CSRM focused Nature Based Solution is consistent with this policy because it reduces coastal storm risk from storms benefit shoreline communities by making long-term improvements to, or creating new, natural protective features such as coastal wetlands and shoreline habitats.

(13) *The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.*

This Actionable Element is consistent with this policy because it reduces coastal storm risk from impacts associated with sea level rise, storm surges, and coastal flooding well beyond 30 years. Erosion control and bank stabilization measures are proposed as part of the Action, including coir fiber mats and riprap, and other erosion control measures to be identified in preconstruction, engineering, and design phase of the project.

(14) *Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.*

This Actionable Element is consistent with this policy because it provides CSRM features that are designed to minimize impacts associated with sea level rise, storm surges, and coastal flooding while also minimizing induced flooding and erosion. This Actionable Element will incorporate construction BMPs and measures to address erosion.

(15) *Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.*

This Actionable Element Site is consistent with this policy because construction of CSRM features would be temporary. Where excavation or dredging is necessary to construct a feature, the duration and area of construction would be limited to avoid significantly interfering with natural coastal processes. Management and mitigation actions and incorporate BMPs will avoid significant impacts on coastal processes.

*(16) Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only where the public benefits outweigh the long term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features.*

This Actionable Element Site is consistent with this policy, because it provides CSRM-focused Nature Based Features that reduce the risk to the surrounding area and supports flood management for communities from impacts associated with sea level rise, storm surges, and coastal flooding. The economic impacts associated with construction and operation of the shore-based and in-water features are significantly lower than the cost to repair damages reasonably anticipated to occur from coastal storms similar to Hurricane Sandy. Benefits to the human and natural environments outweigh the expenditures of public funds.

*(17) Non-structural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.*

This policy is not applicable to this Actionable Element Site, as the only practicable Alternative at this location is a Nature-Based Solution. The Sites existing condition land use is vacant land comprised of a low value wetland, largely dominated by common reed. However, the larger Comprehensive Plan includes structure measures as primary features, with complimentary nature-based solutions and nonstructural measures where appropriate relevant to the existing conditions of the NYNJHAT Study Area.

*(18) To safeguard the vital economic, social and environmental interests of the State and of its citizens, proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the State has established to protect valuable coastal resource areas.*

This Actionable Element Site is consistent with this policy, because it provides CSRM features that reduce the risk of damage to valuable coastal resource areas from impacts associated with sea level rise, storm surges, and coastal flooding. The Draft Integrated FR/Tier 1 (Programmatic) EIS considered how the Comprehensive Plan Alternatives and TSP measures impact the social, cultural, economic and environmental interests of the region and their citizens and avoid adversely affecting the valuable coastal resource areas. This Integrated Interim Response FR/EA also addresses these interests.

#### **5.1.4 Public Access Policies**

*(19) Protect, maintain, and increase the level and types of access to public water- related recreation resources and facilities.*

This Actionable Element Site is consistent with this policy, because it provides CSRM features that reduce the risk of damage to the existing public water-related recreation resources and facilities from impacts associated with sea level rise, storm surges, and coastal flooding. Additionally, a pathway utilized for public access, as well as operations and maintenance, will be created on the western side of the Site, connecting the existing Great Kills Parking Lot to a bike/walking path.

Constructing the Actionable Element Site measures may have a temporary impact on recreation resources by disrupting access to ensure the safety of active construction work sites, but these impacts would end once construction is completed. To further limit construction impacts, BMPs would include limiting construction hours to standard allowable hours and informing the communities of the construction safety measures and schedule. Beneficial long-term impacts on recreation would occur through stabilization of beach areas currently used for recreation, protecting recreation resources from large storm events and sea level rise. Long-term benefits to recreational resources include increase in the size of recreational beach areas, protection of beaches, and protection of natural habitats, such as dunes.

*(20) Access to the publicly-owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly-owned shall be provided and it shall be provided in a manner compatible with adjoining uses.*

This Actionable Element Site is consistent with this policy, as the public-nature of the site will not be changed, and will continue to be provided in a manner compatible with preexisting and adjoining uses. Access to public will be restricted temporarily during construction for safety; however, access to publicly-owned lands will be restored once construction is complete.

#### **5.1.5 Recreation Policies**

*(21) Water-dependent and water-enhanced recreation will be encouraged and facilitated and will be given priority over non-water-related use along the coast.*

This Actionable Element Site is consistent with this policy because it provides CSRM features that reduce risk to public water-related recreation resources and facilities, including beach areas currently used for recreation, from impacts associated with sea level rise, storm surges, and coastal flooding. Beneficial long-term impact on recreation would occur through stabilization of beach areas currently used for recreation.

*(22) Development when located adjacent to the shore will provide for water-related recreation whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development.*

This policy is not applicable, as the Actionable Element provides CSRM features to minimize impacts associated with sea level rise, storm surges, and coastal flooding, and does not involve development. However, the Actionable Element would help to minimize the damage that sea level rise, storm surges, and coastal flooding can inflict on buildings and structures located in the coastal area.

#### **5.1.6 Historic and Scenic Resources Policies**

*(23) Protect, enhance and restore structures, districts, areas or sites that are of significance in the history, architecture, archaeology or culture of the State, its communities, or the nation.*

The Actionable Element Site is consistent with this policy because it provides CSRM features that reduce risk to structures or sites that are of historic, archeological, architectural or cultural significance, from impacts associated with sea level rise, storm surges, and coastal flooding. Consultation with NYSHPO will be conducted for selected project measures to determine whether site-specific cultural resource surveys are warranted, and should impacts be anticipated, the appropriate actions to minimize or mitigate such impacts.

*(24) Prevent impairment of scenic resources of statewide significance.*

This Actionable Element Site is consistent with this policy, as the wetland enhancement and dune restoration will provide improvements to the viewshed at this location, and the proposed rock reefs would only be visible at low tide and the impact to viewshed would be minimal and similar to the existing rip rap along the beach.

(25) *Protect, restore or enhance natural and man-made resources which are not identified as being of statewide significance, but which contribute to the overall scenic quality of the coastal area.*

This Actionable Element Site is consistent with this policy, as the wetland enhancement and dune restoration will provide improvements to the viewshed at this location, and the proposed rock reefs would only be visible at low tide and the impact to viewshed would be minimal and similar to the existing rip rap along the beach.

(26) *Conserve and protect agricultural lands in the State's coastal area.*

This policy is not applicable as there are no agricultural lands in the vicinity of the Actionable Element Site.

### **5.1.7 Energy and Ice Management Policies**

(27) *Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.*

This policy is not applicable, as the Actionable Element Site does not involve the siting and construction of energy facilities.

(28) *Ice management practices shall not interfere with the production of hydroelectric power, damage significant fish and wildlife and their habitats, or increase shoreline erosion or flooding.*

This policy is not applicable, as the Actionable Element Site does not involve ice management.

(29) *The development of offshore uses and resources, including renewable energy resources, shall accommodate New York's long-standing ocean and Great Lakes industries, such as commercial and recreational fishing and maritime commerce, and the ecological functions of habitats important to New York.*

The Actionable Element Site is consistent with this policy, as the creation of offshore rock reefs protects and enhances the ecological functions of habitats important to New York. The proposed intertidal rock reef converts approximately 8.7 acres of existing homogenous sandy substrate to intertidal rock reef that will provide quality habitat alternatives to support diverse species. The rock reefs would increase habitat complexity and species richness, providing habitat for a variety of marine algae and invertebrates, additional foraging habitat for shorebirds, and would provide additional fish refuge. The reefs would also provide coastal storm risk management benefits through the attenuation of wave energy, shielding the restored dune from storm-induced erosion and extending renourishment intervals while providing erosion protection to the enhanced wetland feature and existing ecologically sensitive areas along the shorefront.

### **5.1.8 Water and Air Resources Policies**

(30) *Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to state and national water quality standards.*

This Actionable Element Site is consistent with this policy, as the action does not involve discharge of toxic or hazardous substances. Construction of measures would require BMPs and SWPPP to minimize soil erosion and sedimentation of run-off. Additionally, construction related to the in-water features would not affect the water

classification or water quality standards in the project area, as determined by the 404(b)(1) evaluation provided in the CWA Subappendix.

*(31) State coastal area policies and management objectives of approved local waterfront revitalization programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already overburdened with contaminants will be recognized as being a development constraint.*

This Actionable Element Site considers state coastal and local waterfront revitalization programs, policies and management objectives, such as those of the NY State CMP and the NYC WRP. The Actionable Element would not affect the water classification or modify water quality standards in the project area, as determined by the 404(b)(1) evaluation provided in the CWA Subappendix; therefore, it is consistent with this policy.

*(32) Encourage the use of alternative or innovative sanitary waste systems in small communities where the costs of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.*

This policy is not applicable, as the Actionable Element Site does not involve the use of sanitary waste systems in small communities.

*(33) Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

This Actionable Element Site is consistent with this policy because construction activities for all shore-based measures will include BMPs and a site-specific SWPPP, which minimize impacts to coastal waters from soil erosion and sedimentation of run-off. Additional specific avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this Study phase, and the preconstruction, engineering and design phase of the project.

*(34) Discharge of waste materials into coastal waters from vessels subject to State jurisdiction will be limited so as to protect significant fish and wildlife habitats, recreational areas and water supply areas.*

This policy is not applicable, as the Actionable Element Site does not involve discharging waste materials into coastal waters from vessels.

*(35) Dredging and filling in coastal waters and disposal of dredged material will be undertaken in a manner that meets existing State dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.*

The Actionable Element Site is consistent with this policy, as the placement of rock to create offshore rock reefs will include BMPs, which will minimize the impacts to coastal waters and aquatic species. Additional specific avoidance and minimization efforts and mitigation for unavoidable impacts will be evaluated in this Study phase, and the preconstruction, engineering, and design phase of the project.

*(36) Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.*

This policy is not applicable, as the Actionable Element Site does not involve shipment and storage of petroleum or other hazardous materials.

*(37) Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics and eroded soils into coastal waters.*

The Actionable Element Site is consistent with this policy as previously described, will include the use of best management practices and erosion control measures, as well as the development of a SWPPP to prevent discharges, minimize erosion, and sediment suspension during construction.

*(38) The quality and quantity of surface water and groundwater supplies will be conserved and protected, particularly where such waters constitute the primary or sole source of water supply.*

This policy is not applicable, as the Actionable Element Site does not require or involve impacting the quality or quantity of surface water and groundwater supplies.

*(39) The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within coastal areas will be conducted in such a manner so as to protect groundwater and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural land, and scenic resources.*

This policy is not applicable, as the Actionable Element Site does not involve the transport, storage, treatment and disposal of solid wastes.

*(40) Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and shall conform to state water quality standards.*

This policy is not applicable, as the Actionable Element Site does not involve effluent discharges from steam electric generating or industrial facilities.

*(41) Land use or development in the coastal area will not cause national or State air quality standards to be violated.*

This Actionable Element Site is consistent with this policy, as land use and development in the coastal area will not cause National or State air quality standards to be violated. A Clean Air Act analyses and Record of Non-Applicability (RONA) for General Conformity is provided in the CAA Subappendix. The Actionable Element Site construction emissions are below the applicable de minimis thresholds and will not trigger General Conformity and will be in compliance with the State Implementation Plan (SIP).

*(42) Coastal management policies will be considered if the State reclassifies land areas pursuant to the prevention of significant deterioration regulations of the federal Clean Air Act.*

See response to Policy 41. This Actionable Element Site considers current coastal management policies, and will be in compliance with the Clean Air Act and this policy (see CAA SubAppendix).

*(43) Land use or development in the coastal area must not cause the generation of significant amounts of acid rain precursors: nitrates and sulfates.*

See response to Policy 41. This Actionable Element Site considers current coastal management policies, and will be in compliance with the Clean Air Act and this policy (see CAA SubAppendix).

*(44) Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.*

This Actionable Element Site is consistent with this policy, as it provides CSRM features that reduce risk to tidal and freshwater wetlands and their benefits from the adverse effects associated with sea level rise, storm surges, and coastal flooding. Construction will have temporary adverse effects to the existing low value estuarine wetland; however, those effects will be minimal as the site is currently dominated by non-native invasive common reed. Following construction, beneficial effects will supersede those temporary adverse effects as the wetland will be enhanced with a vegetative mosaic of low and high salt marsh, situated behind a restored dune and riprap to preserve and protect the CSRM-wetland and surrounding land uses.

## 5.2 NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM (WRP)

New York City has established a coastal zone under the Waterfront Revitalization Program (WRP). The WRP includes 10 policy statements that apply to the City’s coastal zone, many of which are similar to the NYS CZMA policies. The City’s coastal zone map was reviewed to determine if this Actionable Element Site is collocated within the NYC WRP boundary.

As the site is designated as Federal property, the exclusion of Federal lands does not remove Federal agencies from the obligation of complying with the consistency provisions of section 307 of the Act when Federal actions on these excluded lands have spillover impacts that affect any land or water use or natural resource of the coastal zone within the purview of a state's management program. In excluding Federal lands from a State's coastal zone for the purposes of this Act, a State does not impair any rights or authorities that it may have over Federal lands that exist separate from this program.

The table below lists each NYC WRP policies and their applicability to the Actionable Element Site.

*Table B1-2. NY City WRP Policies and their Applicability to the Actionable Element Site*

Policy	Statement	Lower Bay Planning Region
		Oakwood Beach Actionable Element Site
1	Support and facilitate commercial and residential redevelopment in areas well-suited to such development.	N/A
2	Support water-dependent and industrial uses in NYC coastal areas that are well-suited to their continued operation.	N/A
3	Promote use of NYC’s waterways for commercial and recreational boating and water-dependent transportation centers.	Y
4	Protect and restore the quality and function of ecological systems within the NYC coastal area.	Y
5	Protect and improve water quality in the NYC coastal area.	Y

Policy	Statement	Lower Bay Planning Region
		Oakwood Beach Actionable Element Site
6	Minimize loss of life, structures and natural resources caused by flooding and erosion and increase resilience to future considerations created by climate change.	Y
7	Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials and industrial materials that may pose risks to the environment and public health and safety.	Y
8	Provide public access to and along NYC's coastal waters.	Y
9	Protect scenic resources that contribute to the visual quality of the NYC coastal area.	Y
10	Protect, preserve and enhance resources significant to the historical, archaeological, and cultural legacy of the NYC coastal area.	Y

Notes: Y – policy is applicable to the Actionable Element Site and will be compliant; N – policy is applicable to the Actionable Element Site and will not be compliant; N/A – policy is not applicable to the Actionable Element Site.

*(1) Support and facilitate commercial and residential redevelopment in areas well-suited to such development.*

This policy is not applicable, as the Actionable Element Site is part of the Great Kills Park, National Park Service property and does not involve commercial and residential redevelopment.

*(2) Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.*

This policy is not applicable, as the Actionable Element Site is part of the Great Kills Park, National Park Service property and does not involve supporting water-dependent industrial uses.

*(3) Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation centers.*

The Actionable Element Site is consistent with this policy, as its goals are to reduce the risk of flooding to flood prone areas, thereby protecting the City's existing public water-related recreation resources and facilities. Beneficial long-term impacts on recreation would occur through stabilization of beach areas currently used for recreation, protecting recreation resources from large storm events and sea level rise.

*(4) Protect and restore the quality and function of ecological systems within the New York City coastal area.*

The Actionable Element Site is consistent with this policy because it provides CSRSM features that reduce the risk of impacts to the quality and function of ecological systems from impacts associated with sea level rise, storm surges, and coastal flooding. The project further restores the quality and function of wetland habitat, through the removal of non-native invasive phragmites and replacement with a vegetative mosaic of native wetland habitat. The rock reefs would increase habitat complexity and species richness, providing habitat for a variety of marine algae and invertebrates, additional foraging habitat for shorebirds, and would provide additional fish refuge. The reefs would also provide coastal storm risk management benefits through the attenuation of wave energy, shielding the restored dune from storm-induced erosion and extending renourishment intervals while providing erosion protection to the enhanced wetland feature and existing ecologically sensitive areas along the shorefront.

*(5) Protect and improve water quality in the New York City coastal area.*

The Actionable Element Site is consistent with this policy because it provides CSRSM features that reduce the risk of impacts to the quality and function of ecological systems from impacts associated with sea level rise, storm surges, and coastal flooding. The project further restores the quality and function of wetland habitat, through the removal of non-native invasive phragmites and replacement with a vegetative mosaic of native wetland habitat. Temporary impacts to water quality will result from the construction, such as turbidity and sediment suspension; however, these impacts will be reduced through the implementation of best management practices and turbidity curtains. Water quality is anticipated to return to baseline conditions after construction activities are completed.

Implementation of the TSP will not inhibit future improvements to water quality in areas where water quality is currently degraded.

*(6) Minimize loss of life, structures and natural resources caused by flooding and erosion and increase resilience to future considerations created by climate change.*

The Actionable Element Site is consistent with this policy because it provides CSRSM features that reduce the risk of impacts to the quality and function of ecological systems from impacts associated with sea level rise, storm surges, and coastal flooding. The project further restores the quality and function of wetland habitat, through the removal of non-native invasive phragmites and replacement with a vegetative mosaic of native wetland habitat. A restored dune with elevations up to 10-feet will further minimize loss of natural resources caused by flooding. Erosion prevention measures such as rip rap and coir fiber mats would support reduced erosion and increase resilience. The rock reefs would increase habitat complexity and species richness, providing habitat for a variety of marine algae and invertebrates, additional foraging habitat for shorebirds, and would provide additional fish refuge. The reefs would also provide coastal storm risk management benefits through the attenuation of wave energy, shielding the restored dune from storm-induced erosion and extending renourishment intervals while providing erosion protection to the enhanced wetland feature and existing ecologically sensitive areas along the shorefront.

*(7) Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials and industrial materials that may pose risks to the environment and public health and safety.*

The Actionable Element is consistent with this policy because it provides CSRSM features that reduce risk of coastal storms in areas where potential pollutants or hazardous wastes may be present and which could otherwise be impacted by storm surges, RSLC and coastal flooding.

Construction-related temporary impacts from excavating, soil erosion, and sedimentation, will be minimized by employing construction BMPs and a site-specific SWPPP.

*(8) Provide public access to and along New York City's coastal waters.*

The Actionable Element Site is consistent with this policy, as its goals are to reduce the City's risk of flooding, including those lands immediately adjacent to the water's edge that provide public access to coastal waters. Beneficial long-term impacts on public access would occur through stabilization of beach areas currently used for recreation, protecting recreation resources from large storm events and sea level change. The Actionable Element Site will not prevent access to these publicly-owned lands.

*(9) Protect scenic resources that contribute to the visual quality of the New York City coastal area.*

The Actionable Element Site is consistent with this policy, as it provides CSRSM features that reduce the risk to scenic resources, which contribute to the visual quality of the NYC coastal area, from impacts associated with sea level rise, storm surges, and coastal flooding. Additionally, the wetland enhancement and dune restoration will provide improvements to the viewshed at this location. The proposed rock reefs would only be visible at low tide and the impact to the viewshed would be minimal, and is similar to the existing rip rap along the beach.

*(10) Protect, preserve and enhance resources significant to the historical, archaeological, and cultural legacy of the New York City coastal area.*

The Actionable Element Site is consistent with this policy, as it provides CSRSM features that reduce risk to resources significant to the historical, archaeological, and cultural legacy of the NYC coastal area, from impacts associated with storm surges, RSLC, and coastal flooding.

## 6 EFFECTS AND CONSEQUENCES

### Adverse Effects

To determine the Action's consistency with the policies of the NYS Coastal Management Plan (NYSCMP, as well as New York City's WRP, a Federal Consistency Assessment was completed (CZMA Subappendix A). As indicated on the assessment form and supporting documentation, the recommended CSRМ-focused wetland enhancement is consistent with federal, state and local coastal zone management policies.

Direct impacts of construction would result in temporary impacts within the CZMA zone through the alteration of topography, bathymetry and vegetative communities at the Site. Some of the individual active construction effects are not consistent with the NYS/NYC during construction; however, the Actionable Element in itself is consistent with the spirit and intent of the CZMA to "preserve, protect, develop and where possible, to restore or enhance the resources of the [N]ation's coastal zone." After construction and enhancement of the CSRМ-focused wetland, dune, and reefs, the project fulfills the two programs' objectives in the long-term. The project would result in the complete removal of non-native phragmites, which largely dominates the site, and replace with native wetland plants including *Spartina* to redevelop the low salt marsh of the wetland. This would result in temporary removal of habitat during construction. Re-establishment of the wetland may also include the removal of native species that are intermixed with the phragmites, in order to develop the tidal channel network, low salt marsh, and dunes proposed. Large trees throughout the site may be left in place, or removed and replaced in kind, or better, depending on their size and ability to thrive in the restored wetland bounds. Any vegetation or tree removal will be done in accordance with best management practices, as well as Federal and State regulations for removal and replacement. The construction of the reefs would alter the existing sandy bottom habitat and result in temporary increases in noise, vibrations, and sediment resuspension. Fish are expected to move to areas of nearby suitable habitat and avoid active construction, returning once construction is complete.

No direct or indirect adverse effects from operation and maintenance of the Site are anticipated to CZMA, as the site would continue to be monitored for establishment of the native habitat, to prevent the return on non-native habitat, preserving the quality of coastal wetland habitat for wildlife present. Maintenance may include non-native plant management, such as herbicide application and removal which could temporarily disturb terrestrial vegetation to eliminate non-native or invasive species, but would be negligible given that procedures would be established to avoid such impacts.

### Beneficial Effects

The proposed project would remove non-native Phragmites, and replace with native habitat, inclusive of a new network of tidal channels more suitable for an estuarine wetland habitat, providing additional areas for wildlife to forage and shelter. With the conversion to native habitat, the wetland would be better quality habitat for wildlife and fish with the tidal channel and native salt marsh plantings. The increased function and capacity of the CSRМ wetland would be designed to function as a nature-based coastal storm risk management feature that could more naturally support the absorption of flood damages, and would be more readily able to function as a natural CSRМ buffer between the coast and surrounding communities. The creation of offshore rock reefs would increase habitat complexity and species richness and provide additional fish refuge. The reefs would provide CSRМ benefits through the attenuation of wave energy, shielding the dune from storm-induced erosion and extending renourishment intervals while providing erosion protection to the enhanced wetland feature. Once constructed, measures would provide a managed risk to New York's coastal zone at this Actionable Element Site, particularly during large storm events, as well as delay the effects of flood and erosion damages associated with, and potential compounded overtime by, RSLC.

Increased benefits would be observed from a reduced fire risk that can have direct and indirect effects to the Oakwood Beach neighborhood, wildlife, and fish, such as air quality concerns, smoke, fire damage, and storm damage related pollution.

## **7 COASTAL ZONE MANAGEMENT ACT CONSISTENCY DETERMINATION**

This CZMA consistency evaluation considered the implementation of the Actionable Element Site Action, the applicability of Federal, State, and Local CZMA regulations in order to make a consistency determination. This Actionable Element Site is consistent with all applicable policies of New York State CZMA and NYC WRP.

## **8 LIST OF PREPARERS AND CONTRIBUTORS**

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